Technology to Enhance Communication: Primary care and Health Counseling

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Issues

Too much to address in health risk counseling

Balance of how time is spent in health visit
Counseling to change Health Risk Behaviors

- Too much advice
- Advice on empty ears
- Not tailored to patient/parent priorities
- Key health risks of harm to patient not addressed
- Primary care clinicians rarely trained in effective approaches for health behavior counseling
Challenges in real practices

- EMR increases clinician data gathering burden
- Patient portal options rarely part of EMR and interface with clinical record poor
- Limited space
- Limited IT support in small ambulatory care sites
Key Functions of front line IT to enhance Health Counseling

- Inexpensive
- Flexible use at point of care
- Confidential
- Address the full range of issues that are part of child or adolescent health visit
- Data summarized for easy clinician determining priorities and agenda setting
- Dual function of screening for health risks and issues and guiding clinician health counseling
CECH Solutions

- Partnership with clinicians to develop screening tool
- Test and refine in primary care practice sites
- Tool for screening patients pre-visit and also for clinician use during the visit
- Point of service handheld computers:
  - Obesity risk counseling for well visits ages 4-10 years
  - Adolescent health visit counseling for multiple risks
Healthy Families PDA

- Designed to enhance consistency of counseling about obesity risks in children at well visit
  - More efficient care that addresses all key issues
- Prompt clinician to tailor counseling to family issues, interests in making change
- Provide clinicians with data about their entire population of children
Content

• 1) Parent concerns about development, behavior, school, and common health issues;

• 2) Safety topics, parental tobacco use, depression, social issues;

• 3) Obesity related topics: screen time, child/family diet and activity,

• parental interest, perceived importance and confidence in changing child’s eating and physical activity,
Healthy Families Screener

Parent screen examples

Clinician’s report:
Summary of Positive Responses

Clinician taps line with stylus

* Alerts clinician at risk responses
Outcomes

• Does use of the PDA change the counseling during the visit? How?
• Are parents satisfied with our counseling?
• Are parents motivated to make changes after our counseling?
# Results

## Topics Discussed and Parent Satisfaction prior to and with Healthy Families PDA-based screener

<table>
<thead>
<tr>
<th>Topics Discussed</th>
<th>Satisfaction* with Discussion if discussed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-PDA</td>
</tr>
<tr>
<td><strong>During the visit the provider talked about:</strong></td>
<td></td>
</tr>
<tr>
<td>What child eats and drinks</td>
<td>93.1% (190)</td>
</tr>
<tr>
<td>Home screen time</td>
<td>68.0% (136)</td>
</tr>
<tr>
<td>Child's exercise</td>
<td>78.2% (158)</td>
</tr>
<tr>
<td>If wt and ht are ok for age</td>
<td>90.2% (184)</td>
</tr>
<tr>
<td>Discipline or Behavior</td>
<td>64.2% (129)</td>
</tr>
<tr>
<td>Development or school performance</td>
<td>79.9% (159)</td>
</tr>
</tbody>
</table>

* Very satisfied vs. somewhat satisfied & somewhat /very dissatisfied
## Results

### Univariate Model Predicting Parent View of likeliness of making change post visit*

<table>
<thead>
<tr>
<th></th>
<th>Child age</th>
<th>Discussed</th>
<th>PDA use</th>
<th>Discussion/PDA</th>
</tr>
</thead>
<tbody>
<tr>
<td>How likely are you to make changes to:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What your child eats and drinks</td>
<td>NS</td>
<td>0.02</td>
<td>NS</td>
<td>0.003</td>
</tr>
<tr>
<td>Your child’s physical activity</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>0.04</td>
</tr>
<tr>
<td>Time watching TV/DVD/Video/Games</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
<td>NS</td>
</tr>
<tr>
<td>Activities your family does together</td>
<td>NS</td>
<td>0.07</td>
<td>NS</td>
<td>0.03</td>
</tr>
<tr>
<td>Combined obesity behavior change score</td>
<td>NS</td>
<td>0.01</td>
<td>NS</td>
<td>0.03</td>
</tr>
</tbody>
</table>

*Scale 1 to 5; 1 very likely to 5 very unlikely

Controlled for practice site. Practice site significant for exercise (p=.02) and combined behaviors (p=.01)
Impact of Clinician Discussion* on Parent Intent to Change**

Linear regression analyses conducted separately within PDA and non-PDA groups

PDA Enhanced Visit  
Beta = .32  p < .002

Usual Care  
Beta = .18  p < .02

*Clinician Discussion: Number of obesity related topics discussed

**Parent Intent to Change: Number of obesity related behaviors planning to change
Healthy Teens PDA

• Comprehensive Adolescent Health Screener
• Assesses teen motivational status when health risks are present
• Clinical tool
• Recruitment of population with specific risks for participation in clinical trial to enhance health behavior
• Practice level data base of patients screened
  – Access individual patient record
  – Review of patterns of risk of adolescents in the practice
Issues covered with the PDA Screener

• Health Concerns, Social and Medical History
• Nutrition, Physical Exercise and Eating disorders
• School, Home Environment and Safety Issues
• Tobacco, Alcohol and Drug Use
• Sexuality and Relationships
• Mental Health, Abuse, and conduct issues

• 66 Questions
  – Up to 25 additional questions if have risks
Healthy Teens Screener: Adolescent screen view
Healthy Teens Screener: Clinician Data Summary Screen

![DS Reports - Result](image)
Outcomes: Interaction with teen

More teens felt their discussion was confidential
- 84% with PDA vs. 61% prior to PDA*

More teens felt their provider listened very carefully to them during the visit
- 88% during PDA use vs. 63% before PDA* rated their provider as listening very carefully to them (1 on a 7 point likert scale)

More teens were very satisfied overall with the visit
- 88% during PDA use vs. 64% before PDA* rated visit satisfaction as 1 on a 7 point scale

*p < .01
Changes at Visit but Afterwards?
Changes in Teen Behaviors

• After the visit were more likely to list multiple nutrition/exercise changes they were planning

• After 6 months adolescents* who had a Healthy Teens visit using the PDA had significantly increased the number of days of exercise/week

*92 teens with usual care vs. 136 teens with PPA use
Use of Technology to support counseling and change efforts

- Integration of both inexpensive point of service technology and post visit use of technology to change
  - 1) adolescent daily exercise
  - 2) tobacco use

- TXT ME AHRQ Health IT grant
  - Input of primary care clinicians
  - Consult of health behavior and social marketing experts
  - Teen advisors
Clinician Prompts to tailor counseling

- What’s upside to exercising more? Downside? What will be different if exercise more? What exercise have you enjoyed?
- Expand why exercise important to T. What’s upside of not changing? Downsides if not exercise more? Convey your belief that can do it. Offer help when ready to change
- Praise desire to exercise more. Help pick exercise -- when & where? Help solve barriers to plan. How can parents support?
- Praise prior attempts and successful changes Convey your belief that can do it
Technology relevant to youth
TXT ME

• Messages to reinforce interest in changing health behavior
  – Phase one: exercise
  – Phase two: smoking

• Internet access to other peers trying to make changes
  – Facebook
  – Ning
Text Messaging Approach

- Developed by youth, social marketing consultant
- Content specific to gender
- Message frequency

- Algorithm of delivery
  - Priming for 3 days
  - 10 days building up exercise
  - Check if any changes by text
    - Two week loop to get started again if no change
  - Four weeks of texts
  - One week preparing to maintain exercise habits
Message Framing

• Gain not loss framed
• Theme in messages throughout the day
• Address common barriers
• Use of humor
• Links to other exercise resources on internet
• Focused on short exercise routines, can fit into daily life
Stay Tuned for the results of our clinical trial next year
Also available at our network website

• Individual practice data online with capacity to query and download data on individual or group of patients
• Brief PDA screener for 4 to 10 year old well child visit for parents
  – Covers concerns, development, safety, expanded questions re obesity risk behaviors

Software and information available at
  http://www.cancer.dartmouth.edu/cech/

Palm PDAs can be purchased online from secondary vendors

Next year will have web based version available for use on netbooks, I touch and other platforms