The mCRC Team

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Multilevel barriers result in underutilization of CRC screening

**Patient barriers**

- Concerns about tests (pain, messy, embarrassing, difficult)
- Poor awareness of benefit of screening
- Lack of self-efficacy
- Low health literacy

**Healthcare provider & system barriers**

- Time pressures
- Multiple hand-offs in test ordering
- Lack of post-visit support
A potential mobile health, multilevel solution: mCRC

- **Patient**
  - Encourages screening
  - mPATH program

- **Provider/System**
  - Simplifies test ordering
  - Empowers clinic staff
  - "Self-Service" Protocols

- **Follow-up Support**
  - Assists patients at home
  - Links patients to clinic nurses
  - eSupport Text Messages

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Specific Aims

1) Test, in a patient-level RCT, the effect of the mCRC system on CRC screening rates among unscreened primary care patients

2) Determine whether mCRC improves intermediate outcomes, and whether these outcomes mediate the effects on test completion

3) Measure the additional cost of the mCRC system per patient screened
Mediation Model

Secondary Outcomes

Screening Recommendation and Referral

Patient knowledge
Patient attitudes/beliefs
Patient self-efficacy

Intent to receive screening

Patient activation
Cues to action

Patient request for screening

Screening discussion with HCP*

Appointment Scheduling

mPATH

Self-Service Protocols

Test Completion

eSupport

Primary Outcome

Self-efficacy
Cues to action

*HCP = Healthcare provider

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**Study Design**

- Stratified RCT
- Sample size = 530
- 80% power to detect 12% difference in screening rates

*PCP = Primary care provider*
Lessons Learned to Date
mPATH Pilot Testing

Is it time for you to have a routine screening test for colon cancer?

Yes
No
Not Sure

Now we will show you a short video about screening for colon cancer. To start the video, touch the PLAY button below.

It is important to get tested for colon cancer even if you don't have symptoms.
mPATH program was well received

<table>
<thead>
<tr>
<th>Patient Literacy Level</th>
<th>Low/Limited (n=8)</th>
<th>Adequate (n=32)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Able to complete program with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 episode of assistance or less</td>
<td>8 (100%)</td>
<td>28 (88%)</td>
</tr>
<tr>
<td>No assistance</td>
<td>7 (88%)</td>
<td>23 (72%)</td>
</tr>
<tr>
<td>Agreed with:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Program was easy to understand</td>
<td>8 (100%)</td>
<td>32 (100%)</td>
</tr>
<tr>
<td>I learned something important</td>
<td>6 (85%)</td>
<td>30 (97%)</td>
</tr>
<tr>
<td>Questions were easy to read</td>
<td>8 (100%)</td>
<td>32 (100%)</td>
</tr>
<tr>
<td>Buttons were easy to touch</td>
<td>7 (88%)</td>
<td>30 (94%)</td>
</tr>
<tr>
<td>Preferred the program to a brochure</td>
<td>7 (88%)</td>
<td>26 (87%)*</td>
</tr>
<tr>
<td>CRC screening knowledge after mPATH program†</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased quiz score</td>
<td>5 (63%)</td>
<td>15 (48%)</td>
</tr>
<tr>
<td>No change in quiz score</td>
<td>3 (38%)</td>
<td>15 (48%)</td>
</tr>
<tr>
<td>Decreased quiz score</td>
<td>0 (0%)</td>
<td>1 (3%)</td>
</tr>
</tbody>
</table>

*2 participants answered “don’t know” to the preference question
†Knowledge assessed by 5-item quiz
“The path to better health”
**Participant Demographics**  
(n = 27)

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male, n (%)</td>
<td>10 (37%)</td>
</tr>
<tr>
<td>Race</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>17 (63%)</td>
</tr>
<tr>
<td>White</td>
<td>10 (37%)</td>
</tr>
<tr>
<td>Age, range (mean)</td>
<td>50 – 73 years (56.6 years)</td>
</tr>
<tr>
<td>Low health literacy</td>
<td>8 (30%)</td>
</tr>
<tr>
<td>Overdue for screening</td>
<td>7 (26%)</td>
</tr>
</tbody>
</table>
eSupport Focus Groups: Main Themes

**Barriers to Screening**

- Having to drink the prep solution
- Fear of the procedure

**Features of Good Text Messages**

- Affirming (“glad you decided to be tested”)
- Supportive (“hang in there”)
- Informative

**Potential Concerns about Text Messages**

- Confidentiality (i.e., someone else could read their texts)
- No replies should be requested (i.e., texts should be unidirectional)
- Avoid “nagging” or “paternalistic” texts

**Desired eCommunication modalities**

- Important to have some choice (i.e., e-mail vs. text)
Next Steps

• Finalize specific eSupport messages and delivery process
• Start trial enrollment (spring 2014)
Questions/Comments?