Success of Mailed FIT in the United States

WEO FIT for Screening Expert Working Group
May 5th, 2017

Samir Gupta, MD, MSCS, AGAF
Staff Physician, Veterans Affairs San Diego Healthcare System
Associate Professor, UC San Diego
s1gupta@ucsd.edu  @samirguptaGI
No Disclosures/Conflicts of Interest
**Context**

- Most screening in the US is opportunistic, relying on primary care visits to offer screening
  - Does not optimize screening rates
    - Relies on clinic visit
    - Often only colonoscopy is offered
- Mailed gFOBT and FIT have been studied and implemented to complement usual primary care, and optimize screening rates
Example randomized controlled trial

- Setting: Fort Worth, Texas
- Included patients 50 to 64, not up-to-date
  - Mean age 59, 60-65% Female, 23-27% Black, 25-29% Hispanic
  - Uninsured
- Interventions:
  - Usual care (n=3,898)
  - Mailed colonoscopy outreach (479)
  - Mailed FIT outreach (n=1,593)
    - FIT and colonoscopy outreach included telephone reminders, and processes to promote screening completion and follow up for responders
- Primary Outcome: any screening completion within 1 year

Results: Screening Completion

<table>
<thead>
<tr>
<th>Group</th>
<th>Patients (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usual Care (n=3,898)</td>
<td>12.1</td>
</tr>
<tr>
<td>Colonoscopy Outreach (n=479)</td>
<td>24.6</td>
</tr>
<tr>
<td>FIT Outreach (n=1,593)</td>
<td>40.7</td>
</tr>
</tbody>
</table>

p<0.0001 for all comparisons

Mailed FIT gives consistent results

• Similar study performed in Dallas Safety Net
  – Absolute increase over usual care associated with FIT outreach identical: 29%


• Meta-analysis of RCTs implementing mailed gFOBT or FIT outreach done last year
  – Included papers with usual care opportunistic screening in control arm

  Marquez E, Singh S, Gupta S. Gastroenterology, Vol. 150, Issue 4, S450; DDW 2016
Meta-Analysis of gFOBT or FIT outreach vs. usual care (n=11 studies)

<table>
<thead>
<tr>
<th>Test Offered</th>
<th>Study</th>
<th>Risk ratio</th>
<th>Lower limit</th>
<th>Upper limit</th>
<th>Events / Total</th>
<th>Risk ratio and 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIT</td>
<td>Singal 2015</td>
<td>1.98</td>
<td>1.81</td>
<td>2.18</td>
<td>1410 / 2400</td>
<td>355 / 1199</td>
</tr>
<tr>
<td>FIT</td>
<td>Gupta 2013</td>
<td>3.37</td>
<td>3.04</td>
<td>3.73</td>
<td>648 / 1593</td>
<td>471 / 3898</td>
</tr>
<tr>
<td>FIT</td>
<td>Myers 2013</td>
<td>1.19</td>
<td>0.73</td>
<td>1.94</td>
<td>117 / 312</td>
<td>12 / 38</td>
</tr>
<tr>
<td>FIT</td>
<td>Hendren 2013</td>
<td>2.26</td>
<td>1.43</td>
<td>3.57</td>
<td>43 / 114</td>
<td>21 / 126</td>
</tr>
<tr>
<td>FIT</td>
<td>Levy 2013</td>
<td>3.21</td>
<td>2.30</td>
<td>4.48</td>
<td>107 / 187</td>
<td>33 / 185</td>
</tr>
<tr>
<td>FIT</td>
<td>Myers 2007</td>
<td>1.37</td>
<td>1.16</td>
<td>1.63</td>
<td>185 / 386</td>
<td>135 / 387</td>
</tr>
<tr>
<td>FIT</td>
<td></td>
<td>2.10</td>
<td>1.50</td>
<td>2.95</td>
<td>2510 / 4992</td>
<td>1027 / 5833</td>
</tr>
<tr>
<td>FOBT</td>
<td>Green 2013</td>
<td>2.46</td>
<td>2.22</td>
<td>2.73</td>
<td>760 / 1174</td>
<td>307 / 1167</td>
</tr>
<tr>
<td>FOBT</td>
<td>Hoffman 2011</td>
<td>2.61</td>
<td>2.23</td>
<td>3.07</td>
<td>98 / 202</td>
<td>591 / 3184</td>
</tr>
<tr>
<td>FOBT</td>
<td>Coronado 2011</td>
<td>14.40</td>
<td>4.56</td>
<td>45.48</td>
<td>44 / 168</td>
<td>3 / 165</td>
</tr>
<tr>
<td>FOBT</td>
<td>Goldberg 2004</td>
<td>8.14</td>
<td>2.59</td>
<td>25.57</td>
<td>24 / 59</td>
<td>3 / 60</td>
</tr>
<tr>
<td>FOBT</td>
<td></td>
<td>3.26</td>
<td>2.41</td>
<td>4.41</td>
<td>958 / 1707</td>
<td>909 / 4674</td>
</tr>
</tbody>
</table>

Marquez E, Singh S, Gupta S. Gastroenterology, Vol. 150, Issue 4, S450; DDW 2016
Examples of implementation are expanding

• Kaiser Permanente Northern California
  Levin TR Gastrointest Endosc. 2016 Mar;83(3):552-4.
  – Over 500,000 FITs mailed annually, with >60% returned
  – Major contributor to achieving screening rate over 85%

• 3-year roll out of mailed FIT in Forth Worth
  – 25,184 kits mailed, 9,748 completed
  – 12 cancers, 364 with >1 adenoma removed
Achilles heels

• Repeat FIT
  – Not much data in US
  – Kaiser reported 75 to 85% FIT participation over 4 rounds Jensen CD Ann Intern Med. 2016 Apr 5;164(7):456-63.
  – Need data from safety-net populations

• Colonoscopy after abnormal FIT
  – In Fort Worth program, just 53% (642/1202) with abnormal FIT completed colonoscopy
  – But completion as high as 78% in Kaiser program
Summary

• Compelling evidence that mailed FIT improves CRC screening compared to usual care in the US
  – Might be the most consistent and powerful of all RCT strategies studied
  – Number needed to mail to achieve screening as low as 3

• Needs:
  – Widespread implementation
    • Resources/$$$
  – Research and interventions to address repeat testing and abnormal FIT follow up
Acknowledgements

• WEO
• Cancer Prevention and Research Institute of Texas PP100039 [Gupta, PI]; PP120229 [Argenbright, PI]
• National Cancer Institute U54CA132379 [Martinez, PI], U54CA132384 [Arredondo, PI], U54CA163308-01 [Skinner, PI]
• NIH NIH T32 DK007202 [Crowe, PI]
• Department of Veterans Affairs VA Merit Review 5 I01 HX001574-02 [Gupta, PI]
• Collaborators from Fort Worth and Dallas RCTs, and UCSD Meta-Analysis

s1gupta@ucsd.edu
@samirguptaGl