Impact of a nurse telephone intervention among high cardiovascular risk health fair participants

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Learning Objectives

• Discover health care seeking behavior following a health fair, among individuals who are found to be at high cardiovascular risk
• Learn the impact of a follow up telephone intervention in this population, on patient/provider interaction
• Learn of their barriers to seeking care
The intervention concept

• Because cardiovascular (CV) disease is still the leading cause of death in the US and Colorado, and yet most people are unaware of their risk\(^1\)

• And health fairs are enormously popular, generating over 100,000 participants each year in Colorado

• And lifestyle changes could prevent over 90% of cardiovascular disease\(^2\)…
What if we...

• Provide global cardiovascular risk screening at health fairs, based on the Framingham heart study, through interactive, interesting kiosks and then...
Call them back!

• At one month following the fair, call the participants who were found to be at high risk
  – To see if they have seen their health care provider
    • If they have, what kind of CV preventive care did they receive?
  • If they haven’t, what barriers do they identify?
And Call Them Again

• At **three** months after the fair, call those high CV risk participants who had not seen a provider by the first call
  – To find out if they have since seen the health care provider
    • If they had, what kind of preventive CV care did they receive
    • If they hadn’t, what barriers do they identify?
Population

• In 2006, 4489 9Health Fair participants utilized the kiosk CV risk assessment
  – 529 (12%) were identified to be at high CV risk (Framingham Risk Score ≥20%)

  – The nurse contacted 447 high risk participants
    • This became our final analysis cohort
High CV Risk Participants

- Mean age 69± 8.3 years
- 88% Caucasian
- 82% Male
- 99% English speaking
- 75% some college
- 14% current smoker
- BMI 28.4 ± 6
- FRS 29.4 ± 9.5
- 14% diabetes
- 62% hypertension
- 47% high cholesterol
- 17% prior hx of CVD
Results

- At the completion of the telephone intervention, 59% of contacted participants saw a health care provider and an additional 9% had a pending appointment.
- 84% discussed CV risk at their health care visit.
- Approximately 30% saw a health care provider immediately following the fair.
- 41% of the remaining high risk participants saw a health care provider by the second telephone call.
**Self-reported outcomes of health care visit among participants who saw a health care provider**

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Saw Provider (n=262)</th>
<th>Saw Provider Before 1 Month Call (n=124)</th>
<th>Saw Provider After 1 Month Call (n=128)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Started new CV medication</td>
<td>79 (30.2%)</td>
<td>23 (18.5%)</td>
<td>53 (41.4%)</td>
</tr>
<tr>
<td>Aspirin</td>
<td>5 (6.3%)</td>
<td>3 (13%)</td>
<td>2 (3.8%)</td>
</tr>
<tr>
<td><strong>Cholesterol medication</strong></td>
<td>41 (51.9%)</td>
<td>8 (34.8%)</td>
<td>30 (56.6%)</td>
</tr>
<tr>
<td>Anti-hypertensive medication</td>
<td>37 (46.8%)</td>
<td>11 (47.8%)</td>
<td>24 (45.3%)</td>
</tr>
<tr>
<td>Cardiovascular medication</td>
<td>9 (11.4%)</td>
<td>2 (8.7%)</td>
<td>7 (13.2%)</td>
</tr>
<tr>
<td>Increased dose of CV medication</td>
<td>40 (15.3%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discussed 'Heart Health'</td>
<td>221 (84.4%)</td>
<td>88 (71.0%)</td>
<td>123 (96.1%)</td>
</tr>
<tr>
<td>Discussed dietary changes</td>
<td>198 (75.6%)</td>
<td>85 (68.5%)</td>
<td>103 (80.5%)</td>
</tr>
<tr>
<td>Discussed exercise</td>
<td>196 (74.8%)</td>
<td>81 (65.3%)</td>
<td>105 (82.0%)</td>
</tr>
<tr>
<td>Discussed smoking cessation</td>
<td>1 (2.7%)</td>
<td>0 (0.0%)</td>
<td>1 (5.6%)</td>
</tr>
</tbody>
</table>
Barriers to seeing the doctor

• 68% of participants gave reasons related to knowledge, attitudes and behaviors

• 13% of participants cited health care access

• Approximately 25% reported health care system issues – such as delayed lab results from the fair
What kind of knowledge, attitudes and behaviors?

• Some other message contradicted the risk assessment
  – “My blood pressure doesn’t usually run that high”
  – “My cholesterol is fine”

• “Why should I? I don’t need to see a doctor”

• “I already know what to do about my health”

• “I just forgot about it”
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Motivational Interviewing

• Components utilized in the telephone intervention
  – Open ended questions to improve discussion focus
    • What did you think of the risk assessment?
  – Supportive reflecting of participants’ perceptions
    • You didn’t trust the assessment because you didn’t know your cholesterol numbers
  – Reinforcement of change talk
    • You don’t want to take medication, so you would consider some diet changes
Discussion point #1

• 59% of high CV risk health fair participants did follow up with a health care provider but
  – That leaves 41% that didn’t

• Risk communication literature describes an “optimistic bias” among individuals engaged in high risk behavior (such as smoking, unprotected sex).⁴
Optimistic Bias

• People with the highest risk tend not to believe risk messaging\(^4\)

• In fact, they believe their risk to be average or below average, when compared to others

• Optimistic bias \textit{increases} for problems that are believed to be preventable by individual action

• These biases are extremely resistant to change\(^5,6\)
Elements of the Intervention

- Target specific characteristics at the individual level
- Messages to specific behavior change
- Sustained impact through follow up calls
- Level of interest played a role
Discussion point #2

- The telephone intervention showed a significant impact on the patient/provider interaction
  - 20% more participants were started on a new CV medication, following the telephone call
  - 25% more participants discussed heart health with their provider, following the telephone call
  - Approximately 15% more participants discussed lifestyle modification such as diet and exercise
Field Notes- or Things We Didn’t Measure, but Should Have

• Movement in readiness to change
  – Not everyone went to the doctor, but some people did impressive things
    • Hyperlipidemic, hypertensive individual without health insurance at first call, had health insurance by second call and was awaiting appointment

• Wives take responsibility for husbands’ health
  – They eavesdropped on the phone call
  – They refused to put the husband on the phone until they heard what this was about
  – They got on the phone and thanked us

• 8 people reported heart attacks or cardiac procedures in between the health fair and our first telephone call
Limitations

• Descriptive project with no control group, and short follow up period
• Barriers were evaluated by field notes rather than a systematic qualitative study design
• Many fair goers did not know their cholesterol results, and so had their values imputed by our computer program, so the risk assessment accuracy was lessened.
• Limited application of motivational interviewing techniques
Conclusion

• A telephone intervention following a risk assessment can improve the participant’s awareness of CV risk, and improve the quality of the patient/provider interaction.

• Barriers to seeking follow up health care in this population are more heavily related to knowledge, and thus risk messaging should be tailored and specific.

• Motivational interviewing should be further studied to evaluate its role in this type of intervention.
Acknowledgements

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References


