CVD Health Disparities and Appalachia

• Appalachian Kentucky is in the top 1% of the nation in cardiovascular disease (CVD) morbidity and mortality

• Individuals in Appalachian Kentucky have the highest rates of multiple CVD risk factors seen in any state

• Problem amplified by the distressed environment
  – County with the worst life expectancy in the U.S.
  – Of 13 counties in the U.S with a decreased life expectancy (1980 to 2014), 8 are in Appalachian Kentucky
  – Among the poorest counties in the U.S.

• There is a critical need to test sustainable CVD risk reducing interventions appropriate for Appalachia
Approach

• Lifestyle interventions reduce CVD risk by 44%
• Most effective when patients are given tools to engage in self-care
• Knowledge is necessary but not sufficient
  – interventions individualized to patients’ needs and barriers
• In medically under-served environments, CVD risk reduction must focus on lifestyle change
  – increase individuals’ self-care abilities
  – culturally appropriate
  – components that overcome barriers in such environments
Specific Aims and Results

1. Compare 4 and 12 month impact of HeartHealth intervention vs control on CVD risk factors selected by patients
   a. tobacco use
   b. blood pressure
   c. lipid profile
   d. HgA1c for diabetics
   e. body mass index
   f. depressive symptoms
   g. physical activity level

<table>
<thead>
<tr>
<th>Goal</th>
<th>Intervention</th>
<th>Control</th>
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<tbody>
<tr>
<td>tobacco use</td>
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<td>blood pressure</td>
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<tr>
<td>lipid profile</td>
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<td>HgA1c for diabetics</td>
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<td>body mass index</td>
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<td>depressive symptoms</td>
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<td>physical activity level</td>
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</table>

P values: <0.001, <0.001, 0.02, 0.002, 0.008
Specific Aims and Results

2. Compare 4 and 12 month impact on all CVD risk factors

- Significant reductions seen at 4 months in HeartHealth intervention compared to control groups and maintained at 12 months (seen regardless of gender, health literacy or depressive symptoms)
  - Body mass index
  - Blood pressure
  - Total and HDL cholesterol
  - Depressive symptoms
  - Overall Framingham risk score
- No changes seen in LDL or triglycerides
Conclusions

• Interventions like HeartHealth that focus on self-care of CVD risk factors and that are derived from collaboration with the community of interest are effective in medically underserved, socioeconomically distressed rural areas.

• The success of the intervention, ease of recruitment and high retention in the face of traditional obstacles to retention suggest community-based approaches should be used to develop, refine and test other needed interventions in rural, medically underserved, socioeconomically distressed areas to reduce health disparities.
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Reduction of Cardiovascular Disease Risk Factors in Rural, Medically-Underserved, Socioeconomically Distressed High-Risk Individuals: A Randomized Controlled Trial

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