Blood-Pressure Reduction in Black Barbershops

Non-Hispanic black men
• Highest HTN-related death rate in the U.S.
• Less physician interaction with lower HTN treatment & control rates than black women, thus necessitating community outreach

Health outreach to barbershops
• Prior RCT: marginally lower BP when barbers checked BP and referred patrons with high readings to primary care, compared with when they distributed HTN pamphlets *

Victor RG et al., Arch Intern Med, 2011; Rader F et al., Am J Cardiol, 2013
**Aim** - to develop an effective intervention which links health promotion by barbers to drug therapy by pharmacists, and evaluate efficacy in a cluster RCT.

Randomized black male patrons with uncontrolled HTN by barbershop

**Intervention Group**
- Barbers promoted follow up w/ specialty-trained pharmacists.
- Pharmacists met patrons monthly at the barbershops:
  - Checked BP
  - Prescribed medications (collaborative practice)
  - Monitored electrolytes
  - Sent progress notes to PCPs

**Control Group**
- Barbers promoted:
  - follow up w/ PCPs
  - lifestyle modification

**Primary Outcome:**
△ systolic BP at 6 months
**Intervention Group**

**Medication Protocol**

**Goal**: in-barbershop BP < 130/80 mmHg = new 2017 ACC/AHA/ASH guidelines

**Step 1.** CCB *plus* ARB or ACEI
- amlodine *plus* irbesartan

**Step 2.** *add* thiazide-type diuretic
- indapamide

**Step 3.** *add* aldosterone antagonist
- spironolactone

**Plasma electrolytes at the point of care**
## Primary Outcome: Systolic BP

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>Control</th>
<th>Intervention Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N = 132</td>
<td>N = 171</td>
<td>Group Difference*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(95% CI)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>p-value*</td>
</tr>
<tr>
<td><strong>Systolic BP, mmHg</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline</td>
<td>152.8</td>
<td>154.6</td>
<td></td>
</tr>
<tr>
<td>6-months</td>
<td>125.8</td>
<td>145.4</td>
<td></td>
</tr>
<tr>
<td>Change</td>
<td>-27.0</td>
<td>-9.3</td>
<td><strong>-21.6</strong></td>
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<td>(-14.7 to -28.4)</td>
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<td>&lt;0.001</td>
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</tbody>
</table>
# Secondary Outcome

<table>
<thead>
<tr>
<th>BP goal attained at 6 months, n(%)</th>
<th>Intervention</th>
<th>Control</th>
<th>RR (95% CI)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BP &lt; 130/80</td>
<td>84 (63.6%)</td>
<td>20 (11.7%)</td>
<td>5.7 (2.5 to 12.8)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

## BP Drugs at 6 Months

<table>
<thead>
<tr>
<th># of BP Drug Classes/Pt</th>
<th>Intervention, N = 132</th>
<th>Control, N = 171</th>
<th>Mean Difference (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ± SD</td>
<td>2.6 ± 0.9</td>
<td>1.4± 1.4</td>
<td>1.9 (1.3, 2.4)</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
Conclusions

• Medication management delivered in barbershops by specialty-trained pharmacists, as compared with standard management by PCP, resulted in much larger BP reductions in patrons of those shops who had hypertension.
• Because hypertensive black men often have many CVD risk factors, marked reductions in BP—if sustained using our approach and then initiated widely—might reduce high HTN-related disability & death among black men in the US.
Vest Prevention of Early Sudden Death Trial (VEST)
6.1.2. Primary Prevention of SCD in Patients with Ischemic Heart Disease

Recommendations for Primary Prevention of SCD in Patients With Ischemic Heart Disease

<table>
<thead>
<tr>
<th>COR</th>
<th>LOE</th>
<th>Recommendations</th>
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<tbody>
<tr>
<td>I</td>
<td>A</td>
<td>1. In patients with LVEF of 35% or less that is due to ischemic heart disease who are at least 40 days post-MI and at least 90 days post revascularization, and with NYHA class II or III HF despite GDMT, an ICD is recommended if meaningful survival of greater than 1 year is expected (1,2).</td>
</tr>
</tbody>
</table>

2017 ACC/AHA/HRS Guideline for Management of Patients With Ventricular Arrhythmias. JACC 2017
**Methods:** Study design

- Multi-center, randomized, open-label trial
- Participants enrolled within 7 days of hospital d/c with acute MI and EF \( \leq 35\% \)
- Randomized 2:1 to receive:
  - Wearable cardioverter defibrillator (WCD) + guideline-directed therapy or
  - Guideline-directed medical therapy alone
- MD’s & sites blinded to detected arrhythmias
- Crossovers & ICDs prohibited (except for secondary prevention during follow-up)
Methods: Outcomes

- Follow-up at 1 month & 3 months
- Search NDI at end of study
- Primary Outcome: SCD & death due to ventricular arrhythmias
- Secondary outcomes
  - Total mortality & Non-sudden death
  - Cause-specific death
  - Non-fatal outcomes
    - CV Hospitalizations
    - WCD compliance
    - Adverse events
Results: Outcomes, intention-to-treat

A Sudden + Ventricular Tachyarrhythmia Death

Log-rank $P = .18$

Cumulative Event Rate

Days Since Randomization

No. at Risk
Control Group 778
WCD Group 1524

Control

WCD
Conclusions

• The WCD did not statistically significantly reduce sudden death mortality

• The WCD **did** reduce total mortality in the first 90 days post-MI in patients with LVEF ≤35%
  – Relative risk reduction of 35.5%

• VEST represents the first randomized, controlled trial of the WCD

• Prescribing the WCD is reasonable to protect high-risk patients with a low LVEF post-MI until evaluation for an ICD at 40-90 days