Racial and Ethnic Differences in Veteran Health Care Experiences

Speaker: Leslie R.M. Hausmann, PhD
Co-Investigators: Shasha Gao, PhD
Maria K. Mor, MD
James H. Schaefer, Jr., MPH
Michael J. Fine, MD, MSc
Overview

• Background: Why we should study racial/ethnic differences in VA patient experiences
• Quick tutorial on within vs. between facility differences
• What the data tell us
Poll Question, Part 1

• Do you think patients of different races and ethnicities have different types of experiences in the VA Healthcare System?
  – Yes
  – No
  – Unsure
Poll Question, Part 2

• Do you think patients of different races and ethnicities have different types of experiences within your VA facility?
  – Yes
  – No
  – Unsure
BACKGROUND

Why we should study racial/ethnic differences in VA patient experiences
Background

• Patient-reported health care experiences are an important dimension of health care quality and are associated with health behaviors and outcomes

• VA regularly collects data on patient experiences to guide quality improvement efforts

• Comparing experiences of patients from different racial/ethnic groups can inform efforts to address potential disparities
• Limitations of prior studies of racial/ethnic differences in VA patient experiences:
  – Make black-white or minority-white comparisons without examining outcomes for specific minority groups
  – Compare mean ratings or proportion of highly positive ratings, which can mask differences
  – Do not distinguish whether racial/ethnic differences occur within or between medical facilities
QUICK TUTORIAL....

Everything (and more than) you ever wanted to know about within and between facility differences
What are “within facility” differences?

Facility 1: Generally Positive Experiences, No Race Differences
What are “within facility” differences?

<table>
<thead>
<tr>
<th>Facility 1: Generally Positive Experiences, No Race Differences</th>
<th>Facility 2: Generally Positive Experiences, Race Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>White</td>
</tr>
<tr>
<td>Black</td>
<td>Black</td>
</tr>
</tbody>
</table>

- Positive Experiences
- Negative Experiences
More “within facility” differences...

Facility 3: Less Positive Experiences, No Race Differences
More “within facility” differences...

Positive Experiences | Negative Experiences

Facility 3: Less Positive Experiences, No Race Differences
Facility 4: Less Positive Experiences, Race Differences
What are “between facility” differences?

Facility 5: Generally Positive Experiences, No Race Differences
What are “between facility” differences?

Facility 5: Generally Positive Experiences, No Race Differences
Facility 6: Less Positive Experiences, No Race Differences
Figure 4.
Black or African American Population as a Percent of County Population: 2010
(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/pl94-171.pdf)

Black or African American Alone
Figure 5.
Hispanic or Latino Population as a Percent of Total Population by County: 2010

(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)
Between facility race differences can happen if...

...most White patients go to facilities like this.

Generally Positive Experiences, No Race Differences, Fewer Black Patients

<table>
<thead>
<tr>
<th></th>
<th>Positive Experiences</th>
<th>Negative Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Number of Veterans

0 10 20 30 40 50 60 70 80 90 100
Between facility race differences can happen if...

...most White patients go to facilities like this...

...most Black patients end up in facilities like this

<table>
<thead>
<tr>
<th></th>
<th>Positive Experiences</th>
<th>Negative Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Generally Positive Experiences, No Race Differences, Fewer Black Patients

Less Positive Experiences, No Race Differences, More Black Patients
WHAT THE DATA TELL US
Study Aims

• Compare rates of negative and positive VA outpatient health care experiences across 4 racial/ethnic groups (non-Hispanic white, non-Hispanic black, Hispanic, and other)

• Determine whether differences occur within and/or between VA facilities
Patient Experience Data

• Outpatient Survey of Healthcare Experiences of Patients (SHEP) from Fiscal Year (FY) 2010
  – Mail-based survey conducted by the VA Office of Analytics and Business Intelligence
  – Based on Consumer Assessment of Healthcare Providers and Systems (CAHPS) health plan survey
  – Randomly samples active outpatients from all major VA Medical Centers (n = 140) and Community-Based Outpatient Clinics (CBOCs)/subsidiary facilities (n = 781) each month
## Domains of Health Care Experiences

<table>
<thead>
<tr>
<th>Domain</th>
<th>Response format (numerical scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting needed care</td>
<td>never, sometimes, usually, always (1-4)</td>
</tr>
<tr>
<td>Getting care quickly</td>
<td>never, sometimes, usually, always (1-4)</td>
</tr>
<tr>
<td>Pharmacy services*</td>
<td>poor, fair, good, very good, excellent (1-5)</td>
</tr>
<tr>
<td>How well doctors and nurses communicate</td>
<td>never, sometimes, usually, always (1-4)</td>
</tr>
<tr>
<td>Shared decision making*</td>
<td>definitely yes, somewhat yes, somewhat no, definitely no (1-4)</td>
</tr>
<tr>
<td>Overall health care</td>
<td>worst possible - best possible (0-10)</td>
</tr>
<tr>
<td>Personal doctor or nurse</td>
<td>worst possible - best possible (0-10)</td>
</tr>
<tr>
<td>Specialist</td>
<td>worst possible - best possible (0-10)</td>
</tr>
</tbody>
</table>

*VA-specific domain. All other domains are from CAHPS
## Categorization of Domains

<table>
<thead>
<tr>
<th>Domain</th>
<th>Negative</th>
<th>Moderate</th>
<th>Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting needed care</td>
<td>1-2</td>
<td>2.5-3</td>
<td>3.5-4</td>
</tr>
<tr>
<td>Getting care quickly</td>
<td>1-2</td>
<td>2.5-3</td>
<td>3.5-4</td>
</tr>
<tr>
<td>Pharmacy services</td>
<td>1-2</td>
<td>3</td>
<td>4-5</td>
</tr>
<tr>
<td>How well doctors and nurses</td>
<td>1-2.3</td>
<td>2.5-3</td>
<td>3.5-4</td>
</tr>
<tr>
<td>communicate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared decision making</td>
<td>1-2.5</td>
<td>3</td>
<td>3.5-4</td>
</tr>
<tr>
<td>Overall health care</td>
<td>0-6</td>
<td>7-8</td>
<td>9-10</td>
</tr>
<tr>
<td>Personal doctor or nurse</td>
<td>0-6</td>
<td>7-8</td>
<td>9-10</td>
</tr>
<tr>
<td>Specialist</td>
<td>0-6</td>
<td>7-8</td>
<td>9-10</td>
</tr>
</tbody>
</table>
Independent Variables

• Self-reported respondent race/ethnicity (SHEP)
  – Categorized as non-Hispanic white, non-Hispanic black, Hispanic, and non-Hispanic other
  – Other included: Asian, Native Hawaiian/Pacific Islander, American Indian/Alaska Native, other, and multi-race

• Racial/ethnic composition of patient populations at respondents’ health care facilities
  – Proportion of patients in the 4 racial/ethnic groups who had an outpatient visit at each facility in FY 2010
  – Calculated from VA Medical SAS outpatient files
Patient Covariates

- Sex
- Age
- Rural versus urban residence
- VA priority group
- Self-reported health status (SHEP)
- Self-reported educational level (SHEP)
- Facility type: Major or non-major (CBOC/subsidiary) medical center
Analyses

• Compared unadjusted rates of negative, moderate, and positive experiences for each domain across racial/ethnic groups

• Used mixed effects multinomial regression models to examine within and between-facility racial/ethnic differences
  – Included random effect for each facility
  – Adjusted for patient characteristics

• Calculated risk differences between each minority group and whites, estimating confidence intervals using bootstrap approach
Analytic Sample

**Sampled:** 410,132 active VA outpatients

**Responded:** 218,110 (53.2%)

**Excluded:** 1326 from VA outside the 50 states
5325 with missing race/ethnicity

**Analytic Sample:** 211,459 (51.6%)
## Sample Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>White (N=167,928)</th>
<th>Black (N=20,910)</th>
<th>Hispanic (N=10,450)</th>
<th>Other (N=12,171)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>6%</td>
<td>10%</td>
<td>8%</td>
<td>10%</td>
</tr>
<tr>
<td>65 and older</td>
<td>49%</td>
<td>25%</td>
<td>28%</td>
<td>28%</td>
</tr>
<tr>
<td>Poor/fair health</td>
<td>37%</td>
<td>43%</td>
<td>40%</td>
<td>42%</td>
</tr>
<tr>
<td>High school or less</td>
<td>44%</td>
<td>41%</td>
<td>40%</td>
<td>29%</td>
</tr>
<tr>
<td>Urban</td>
<td>53%</td>
<td>78%</td>
<td>75%</td>
<td>61%</td>
</tr>
<tr>
<td>Non-major facility</td>
<td>43%</td>
<td>30%</td>
<td>40%</td>
<td>40%</td>
</tr>
</tbody>
</table>
### Unadjusted Rates of Positive, Moderate, and Negative Experiences

<table>
<thead>
<tr>
<th>Service</th>
<th>Positive</th>
<th>Moderate</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Needed Care</td>
<td>55%</td>
<td>31%</td>
<td>14%</td>
</tr>
<tr>
<td>Getting Care Quickly</td>
<td>53%</td>
<td>32%</td>
<td>15%</td>
</tr>
<tr>
<td>Pharmacy Services</td>
<td>75%</td>
<td>17%</td>
<td>8%</td>
</tr>
<tr>
<td>Communication</td>
<td>79%</td>
<td>16%</td>
<td>5%</td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>67%</td>
<td>19%</td>
<td>14%</td>
</tr>
<tr>
<td>Overall Health Care</td>
<td>55%</td>
<td>29%</td>
<td>16%</td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td>68%</td>
<td>20%</td>
<td>12%</td>
</tr>
<tr>
<td>Specialist</td>
<td>63%</td>
<td>23%</td>
<td>14%</td>
</tr>
</tbody>
</table>
Unadjusted Racial/Ethnic Differences: Access

Getting Needed Care

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>13</td>
<td>17</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>31</td>
<td>31</td>
<td>29</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>56</td>
<td>52</td>
<td>53</td>
<td>46</td>
</tr>
</tbody>
</table>

Getting Care Quickly

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>14</td>
<td>19</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>32</td>
<td>30</td>
<td>28</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>54</td>
<td>51</td>
<td>52</td>
<td>45</td>
</tr>
</tbody>
</table>

Pharmacy Services

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>6</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>17</td>
<td>22</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>77</td>
<td>68</td>
<td>69</td>
<td>67</td>
</tr>
</tbody>
</table>

Legend:
- Negative
- Moderate
- Positive
# Unadjusted Racial/Ethnic Differences: Communication

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Communication</th>
<th>Shared Decision Making</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>80%</td>
<td>67%</td>
</tr>
<tr>
<td>Black</td>
<td>77%</td>
<td>65%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>77%</td>
<td>67%</td>
</tr>
<tr>
<td>Other</td>
<td>71%</td>
<td>63%</td>
</tr>
</tbody>
</table>

- **Communication**
  - White: 80%
  - Black: 77%
  - Hispanic: 77%
  - Other: 71%

- **Shared Decision Making**
  - White: 67%
  - Black: 65%
  - Hispanic: 67%
  - Other: 63%

Legend:
- Light Grey: Negative
- Medium Grey: Moderate
- Dark Grey: Positive
Unadjusted Racial/Ethnic Differences: Overall Ratings

<table>
<thead>
<tr>
<th></th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Health Care</td>
<td>57</td>
<td>50</td>
<td>54</td>
<td>47</td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td>69</td>
<td>65</td>
<td>68</td>
<td>62</td>
</tr>
<tr>
<td>Specialist</td>
<td>65</td>
<td>59</td>
<td>63</td>
<td>56</td>
</tr>
</tbody>
</table>

- **Unadjusted Racial/Ethnic Differences**
- **Overall Ratings**

- **White**
- **Black**
- **Hispanic**
- **Other**

Legend:
- **Negative**
- **Moderate**
- **Positive**
# Black-White Risk Differences (RD)

<table>
<thead>
<tr>
<th>Domain of Care</th>
<th>Negative</th>
<th></th>
<th>Positive</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Within</td>
<td>Between</td>
<td>Within</td>
<td>Between</td>
</tr>
<tr>
<td>Getting Needed Care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting Care Quickly</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacy Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Health Care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- = Significant RD of 2% or more favoring minority group
- = Significant RD of less than 2% favoring minority group
- = Non-significant RD
- = Significant RD of less than 2% favoring whites
- = Significant RD of 2% or more favoring whites
Black-White Risk Differences (RD)

<table>
<thead>
<tr>
<th>Domain of Care</th>
<th>Negative Within</th>
<th>Negative Between</th>
<th>Positive Within</th>
<th>Positive Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Needed Care</td>
<td>0.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting Care Quickly</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacy Services</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>-0.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Health Care</td>
<td>0.6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td>-0.3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialist</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Significant RD of 2% or more favoring minority group
- Significant RD of less than 2% favoring minority group
- Non-significant RD
- Significant RD of less than 2% favoring whites
- Significant RD of 2% or more favoring whites
# Black-White Risk Differences (RD)

<table>
<thead>
<tr>
<th>Domain of Care</th>
<th>Negative Within</th>
<th>Negative Between</th>
<th>Positive Within</th>
<th>Positive Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Needed Care</td>
<td>0.4</td>
<td>1.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting Care Quickly</td>
<td>0.6</td>
<td>1.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pharmacy Services</td>
<td>0.5</td>
<td>0.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>-0.1</td>
<td>0.37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>1.0</td>
<td>0.46</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Health Care</td>
<td>0.6</td>
<td>1.18</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td>-0.3</td>
<td>0.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialist</td>
<td>0.8</td>
<td>1.34</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **= Significant RD of 2% or more favoring minority group**
- **= Significant RD of less than 2% favoring minority group**
- **= Non-significant RD**
- **= Significant RD of less than 2% favoring whites**
- **= Significant RD of 2% or more favoring whites**
<table>
<thead>
<tr>
<th>Domain of Care</th>
<th>Negative Within</th>
<th>Negative Between</th>
<th>Positive Within</th>
<th>Positive Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Needed Care</td>
<td>0.4</td>
<td>1.34</td>
<td>1.7</td>
<td></td>
</tr>
<tr>
<td>Getting Care Quickly</td>
<td>0.6</td>
<td>1.64</td>
<td>1.9</td>
<td></td>
</tr>
<tr>
<td>Pharmacy Services</td>
<td>0.5</td>
<td>0.98</td>
<td>-3.3</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>-0.1</td>
<td>0.37</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>1.0</td>
<td>0.46</td>
<td>-0.9</td>
<td></td>
</tr>
<tr>
<td>Overall Health Care</td>
<td>0.6</td>
<td>1.18</td>
<td>-0.1</td>
<td></td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td>-0.3</td>
<td>0.66</td>
<td>-0.2</td>
<td></td>
</tr>
<tr>
<td>Specialist</td>
<td>0.8</td>
<td>1.34</td>
<td>-1.1</td>
<td></td>
</tr>
</tbody>
</table>

- Significant RD of 2% or more favoring minority group
- Significant RD of less than 2% favoring minority group
- Non-significant RD
- Significant RD of less than 2% favoring whites
- Significant RD of 2% or more favoring whites
## Black-White Risk Differences (RD)

<table>
<thead>
<tr>
<th>Domain of Care</th>
<th>Negative Within</th>
<th>Negative Between</th>
<th>Positive Within</th>
<th>Positive Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Needed Care</td>
<td>0.4</td>
<td>1.34</td>
<td>1.7</td>
<td>-2.27</td>
</tr>
<tr>
<td>Getting Care Quickly</td>
<td>0.6</td>
<td>1.64</td>
<td>1.9</td>
<td>-2.24</td>
</tr>
<tr>
<td>Pharmacy Services</td>
<td>0.5</td>
<td>0.98</td>
<td>-3.3</td>
<td>-2.54</td>
</tr>
<tr>
<td>Communication</td>
<td>-0.1</td>
<td>0.37</td>
<td>0.7</td>
<td>-0.69</td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>1.0</td>
<td>0.46</td>
<td>-0.9</td>
<td>-0.48</td>
</tr>
<tr>
<td>Overall Health Care</td>
<td>0.6</td>
<td>1.18</td>
<td>-0.1</td>
<td>-1.28</td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td>-0.3</td>
<td>0.66</td>
<td>-0.2</td>
<td>-0.84</td>
</tr>
<tr>
<td>Specialist</td>
<td>0.8</td>
<td>1.34</td>
<td>-1.1</td>
<td>-1.83</td>
</tr>
</tbody>
</table>

- **Significant RD of 2% or more favoring minority group**
- **Significant RD of less than 2% favoring minority group**
- **Non-significant RD**
- **Significant RD of less than 2% favoring whites**
- **Significant RD of 2% or more favoring whites**
## Hispanic-White Risk Differences (RD)

<table>
<thead>
<tr>
<th>Domain of Care</th>
<th>Negative</th>
<th></th>
<th>Positive</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Within</td>
<td>Between</td>
<td>Within</td>
<td>Between</td>
</tr>
<tr>
<td>Getting Needed Care</td>
<td>0.5</td>
<td>1.24</td>
<td>3.6</td>
<td>-1.84</td>
</tr>
<tr>
<td>Getting Care Quickly</td>
<td>0.6</td>
<td>1.31</td>
<td>3.7</td>
<td>-1.88</td>
</tr>
<tr>
<td>Pharmacy Services</td>
<td>0.1</td>
<td>0.60</td>
<td>-1.9</td>
<td>-1.00</td>
</tr>
<tr>
<td>Communication</td>
<td>0.1</td>
<td>0.33</td>
<td>1.1</td>
<td>-0.99</td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>-1.4</td>
<td>0.50</td>
<td>1.7</td>
<td>-0.15</td>
</tr>
<tr>
<td>Overall Health Care</td>
<td>0.1</td>
<td>0.95</td>
<td>4.1</td>
<td>-1.25</td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td>0.1</td>
<td>0.34</td>
<td>3.3</td>
<td>-0.58</td>
</tr>
<tr>
<td>Specialist</td>
<td>0.6</td>
<td>0.65</td>
<td>3.0</td>
<td>-1.25</td>
</tr>
</tbody>
</table>

- Significant RD of 2% or more favoring minority group
- Significant RD of less than 2% favoring minority group
- Non-significant RD
- Significant RD of less than 2% favoring whites
- Significant RD of 2% or more favoring whites
### Other-White Risk Differences (RD)

<table>
<thead>
<tr>
<th>Dimension of Care</th>
<th>Negative Within</th>
<th>Negative Between</th>
<th>Positive Within</th>
<th>Positive Between</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting Needed Care</td>
<td>3.7</td>
<td>0.05</td>
<td>-3.8</td>
<td>-0.16</td>
</tr>
<tr>
<td>Getting Care Quickly</td>
<td>2.3</td>
<td>0.05</td>
<td>-3.9</td>
<td>-0.00</td>
</tr>
<tr>
<td>Pharmacy Services</td>
<td>2.1</td>
<td>0.05</td>
<td>-4.7</td>
<td>0.02</td>
</tr>
<tr>
<td>Communication</td>
<td>2.2</td>
<td>-0.01</td>
<td>-4.4</td>
<td>0.08</td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>2.0</td>
<td>-0.06</td>
<td>-2.1</td>
<td>0.02</td>
</tr>
<tr>
<td>Overall Health Care</td>
<td>4.0</td>
<td>0.05</td>
<td>-3.3</td>
<td>0.03</td>
</tr>
<tr>
<td>Personal Doctor or Nurse</td>
<td>2.5</td>
<td>-0.06</td>
<td>-2.1</td>
<td>0.09</td>
</tr>
<tr>
<td>Specialist</td>
<td>3.4</td>
<td>0.07</td>
<td>-3.4</td>
<td>-0.00</td>
</tr>
</tbody>
</table>

- Significant RD of 2% or more favoring minority group
- Significant RD of less than 2% favoring minority group
- Non-significant RD
- Significant RD of less than 2% favoring whites
- Significant RD of 2% or more favoring whites
Conclusions

• There are significant racial/ethnic differences in VA outpatient health care experiences, with unique patterns for each minority group
  – Most black-white differences favor whites and occur between facilities
  – For Hispanics, between-facility differences favor whites, but within-facility differences favor Hispanics
  – For other racial/ethnic respondents, within-facility differences consistently favor whites
Limitations

• Response rate of 53%
• Unable to examine differences for subgroups within the “other” racial/ethnic category
• Not clear whether findings are due to differences in patient expectations, survey response tendencies, and/or actual patient experiences
Implications

• VA should report patient health care experiences by individual racial/ethnic groups (vs. white/non-white)
• Reports need to take into account within-facility and between-facility differences
• Improvement efforts should target minority-serving VA facilities and specific domains
Acknowledgements

• Funded by:
  – VISN 4 Center for Health Equity Research and Promotion Competitive Pilot Research Program (LIP 72-051)
  – VA HSR&D Career Development Award (RCD 06-287)

• The views expressed here are those of the authors and do not represent those of the Department of Veterans Affairs or the United States Government.
A First Look at Patient-Centered Medical Home Implementation for Minority Veterans: Room for Improvement

Susan E. Hernandez, MPA PhD Candidate
Research Associate, Seattle Center of Innovation for Veteran-Centered and Value-Driven Care at VA Puget Sound Health Care System
PhD Student, Health Services, School of Public Health, University of Washington
Outline

• Motivation
• Background
• Methods
• Results
• Limitations
• Acknowledgements
• Questions/Comments
Motivation:
Racial/Ethnic Disparities

• 2002 report documents disparities in healthcare
• Differences represent inequity in healthcare delivery—healthcare disparities
• Residential segregation contributes to healthcare segregation
• Hypothesis:
  – Disparities produced as a result of minorities receiving care at a small number of low quality facilities
Motivation:
Racial/Ethnic Disparities in the VA

• 2007 report documents healthcare disparities in the VA despite no insurance-related barriers
• Racial patterns of healthcare use in the VA are similar to patterns in the private sector
  – Small number of facilities care for majority of minority Veterans
• Hypothesis:
  – Disparities results from minorities disproportionately receiving care from low quality facilities
Audience Poll

Are you familiar with the patient-centered medical home?

Yes

No
Audience Poll

Are you familiar with Patient Aligned Care Teams (PACT)?

Yes

No
Background: The Patient-Centered Medical Home (PCMH)

- 1967 American Academy of Pediatrics describe PCMH for children with special health care needs
- 2002 Grumbach and Bodenheimer PCMH to design primary care in crisis
- 2007 Joint Principles released
- Heterogeneity in operationalization of PCMH
  - Common elements: whole-person care, enhanced provider-patient communication, prevention and health promotion, and patient-provider shared decision making
Background:
VA PCMH—Patient Aligned Care Teams

160 Medical Centers

802 Community-Based Outpatient Clinics (CBOC)

Over 5 million primary care patients
16.4 million primary care encounters annually
Background:

VA & Patient Aligned Care Teams (PACT)

Unique Features of the VA & PACT:

- Many components were adopted as part of the 1990s transformation to focus on primary care
- VA has a robust EMR system
- The VA explicitly defines the members of a team and sets specific staffing ratios
Background:
VA & Patient Aligned Care Teams (PACT)

Implementation was not uniform across the VA:
• Need to assess PACT implementation nationally across all facilities

# Map Data Items to Conceptual Model of PACT

## PACT Implementation Progress Index (Pi²)

<table>
<thead>
<tr>
<th>PACT GOALS</th>
<th>PI² domains</th>
<th>Source of data</th>
<th># of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accessible, continuous and coordinated care</td>
<td>Access</td>
<td>CAHPS-PCMH</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Continuity of care</td>
<td>CDW</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Coordination of care</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Team-based care</td>
<td>Delegation, staffing, team functioning, working to top of competency</td>
<td>Provider survey</td>
<td>18</td>
</tr>
<tr>
<td>Patient-centered care</td>
<td>Comprehensiveness</td>
<td>CAHPS-PCMH</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Self-management support</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Patient-centered care and communication</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Shared decision making</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>53</strong></td>
</tr>
</tbody>
</table>

Data Sources

Observational Cohort Study in 2012:

• Patient surveys: n= 75,101 Veterans
  – Consumer Assessment of Health Plans (CAHPS)-PCMH survey

• PACT Primary Care Personnel survey: n= 5,404 primary care staff

• Corporate Data Warehouse (CDW): n= >5.6 million Veterans
  – Administrative and clinical data

Construction of PACT Implementation Progress Index (Pi²)

- Generate z-scores for each item
- Average domain items
- Rank facility

Pi² score calculated for each facility:

$$\text{Pi}² \text{ score} = (\# \text{ of domains in the top quartile}) - (\# \text{ of domains in the bottom quartile})$$

Range from 8 to -8:

- High implementation: 5 to 8
- Low implementation: -8 to -5
Key Associations

 Sites with higher implementation as measured by Pi² had:

• Higher patient satisfaction
• Lower staff burnout
• Higher proportion of Veterans meeting criteria on multiple measures of quality
• Modestly lower rates of hospital admission for ACSCs

Project Goal

Project investigates whether Patient Aligned Care Teams (PACT) is implemented differently by facilities in relation to the percent of minority Veterans served at a facility.

• Do facilities serving high proportions of minority Veterans have lower scores in the PACT Implementation Progress Index ($Pi^2$)?
Study Design

- Observational, facility-level
- Cross-sectional analysis of PACT implementation ($\text{Pi}^2$) for 2012
- Dependent variables: Overall implementation score and a score for each domain
- Key independent: Facilities categorized based on percent minority:
  - Low (<5.2%)
  - Medium (5.2%-25.8%)
  - High (>25.8%)
- Minorities
  - Black/African American, non-Hispanic; Hispanic; American Indian/Alaska Native, non-Hispanic; Asian/Native Hawaiian/Other Pacific Islander, non-Hispanic; and multiple race veterans
- Excluded facilities with <100 patients
Statistical Analysis

To estimate the relationship between overall $\pi^2$ and percent minority:

- Linear weighted least squares estimators of $\pi^2$ as a function of % minority at the facility
  - The number of patients at a facility to adjust for heteroskedasticity
- Ordered logit models
  - Five levels of implementation as a function of % minority at the facility
  - Estimated average adjusted predicted probabilities for each level of $\pi^2$
  - For each level of $\pi^2$, also calculated average marginal predicted probabilities
Statistical Analysis

Also tested how each Pi² domain was associated with % minority:

• Linear models with individual domain scores as the dependent variable

• Team based care domain we included only facilities with more than 5 respondents to the PACT Primary Care Personnel Survey (n=320 facilities)

All adjusted models controlled for mean age, proportion female, and mean Elixhauser score
Results:
Most Minority Veterans Received Care in High & Medium Minority Facilities
Results:
Facility Characteristics

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Low (&lt;5.2%)</th>
<th>Medium</th>
<th>High (&gt;=25.8%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>832</td>
<td>209</td>
<td>415</td>
<td>208</td>
</tr>
<tr>
<td>Age, (SD), years*</td>
<td>64.3(3.8)</td>
<td>66.4(2.7)</td>
<td>64.8(3.5)</td>
<td>61.3(3.5)</td>
</tr>
<tr>
<td>Percent Female, (SD)*</td>
<td>5.5(4.1)</td>
<td>3.8(1.0)</td>
<td>5.2(2.0)</td>
<td>7.9(1.0)</td>
</tr>
<tr>
<td>Percent White, (SD)*</td>
<td>79.0(18.4)</td>
<td>94.3(1.9)</td>
<td>84.5(6.8)</td>
<td>52.4(15.8)</td>
</tr>
<tr>
<td>Percent Black, (SD)*</td>
<td>10.1(13.3)</td>
<td>1.0(.8)</td>
<td>6.8(5.5)</td>
<td>25.6(17.4)</td>
</tr>
<tr>
<td>Percent Hispanic, (SD)*</td>
<td>4.8(10.5)</td>
<td>.7(.4)</td>
<td>3.0(3.0)</td>
<td>12.3(18.5)</td>
</tr>
<tr>
<td>Percent missing race/ethnicity, (SD)*</td>
<td>2.7(2.7)</td>
<td>2.0(1.7)</td>
<td>2.5(2.2)</td>
<td>4.1(3.8)</td>
</tr>
<tr>
<td>Elixhauser Score, (SD)</td>
<td>1.66(.030)</td>
<td>1.66(.036)</td>
<td>1.65(.028)</td>
<td>1.66(1.66)</td>
</tr>
<tr>
<td>Average Number of Patients, (SD)*</td>
<td>7211(7572)</td>
<td>3783(3613)</td>
<td>7217(6583)</td>
<td>10645(10329)</td>
</tr>
</tbody>
</table>

Note: ANOVA F* test, p<.001. The F* test is a modification of the standard F test that is much less sensitive to violations of the homogeneity of variance.
Results: Adjusted Analyses
Fewer Medium & High Minority Sites
Achieved Top Levels of Implementation

Note: Average adjusted predicted probabilities after an ordered logit with ordered least squares and robust standard errors adjusted for mean age, proportion female and mean Elixhauser Score
* Differences relative to low minority facilities are statistically significant, p<.05
Results: Adjusted Analyses
Medium & High Minority Sites Scored Lower in 4 out of 8 Domains

- Access
- Continuity
- Care Coordination
- Comprehensiveness
- Self-Management
- PCC & Communication
- Shared Decision Making
- Team Functioning

Note: OLS model using weighted least square regression and robust standard errors adjusted for mean age, proportion female and mean Elixhauser Score. Team functioning domain included sites with at least 5 respondents, N=320.
Discussion

• While differences in $\text{Pi}^2$ are statistically significant, the clinical significance to minority veterans is not clear.

• Medium and high minority facilities scored lower in two out of the four domains comprising of items derived only from the CAHPS-PCMH patient experience survey.
  – Comprehensiveness, Self-Management
  – Medium minority facilities also scored lower in PCC & Communication

• Studies investigating the role of site care in the VA and disparities paint a mixed picture.
Limitations

• Cutoff points for percent minority of a facility are somewhat arbitrary
• Low response rate of the provider survey
• Cross-sectional analyses did not permit assessing change over time
Summary of Results

- Sites with higher percentages of minority patients had modestly less effective PACT implementation.
- Medium and high minority facilities overlapped with lower scores in three domains:
  - Care coordination, Comprehensiveness, and Self-management.
- Medium and high minority facilities had greater probability of being a low implementer and lower probability of being a high implementer.
- Further research is needed to:
  - Elucidate the relationship between the racial/ethnic composition of a facility and other characteristics that may impede or improve PACT implementation.
  - Determine whether less effective PACT implementation affects clinical and patient-centered outcomes for minority veterans.
Dissertation Committee

Paul L. Hebert, PhD (Chair)
Investigator, VA HSR&D Puget Sound Healthcare System
Research Associate Professor, Department of Health Services, University of Washington

David Grembowski, PhD
Professor, Department of Health Services, University of Washington
Professor, Department of Dental Public Health Sciences, University of Washington
Adjunct Professor, Department of Sociology, University of Washington

Robert J. Reid, MD, PhD
Associate Medical Director, Research Translation, Group Health Cooperative
Associate Investigator, Group Health Research Institute
Affiliate Associate Professor, Department of Health Services, University of Washington

Leslie L. Taylor, PhD
Mathematical Statistician, VA HSR&D Puget Sound Health Care System

Beth Devine, PhD (GSR)
Associate Professor, Department of Pharmacy, University of Washington
Adjunct Associate Professor, Department of Surgery, Department of Biomedical Informatics & Medical Education, UW Medicine
Adjunct Associate Professor, Department of Health Services, University of Washington
Acknowledgements

VA National PACT Evaluation
Paul L. Hebert
Karin Nelson
Edwin S. Wong
Leslie Taylor
Chuan-Fen Liu
Christian Helfrich
Idamay Curtis
John Messina
Nancy Sharp
Adam Batten
Haili Sun
Philip Sylling
Sophie Lo
Stephen D. Fihn

Mentors
Douglas A. Conrad
Diane Martin

UW-Health Services
Diana Siembor
Kitty Andert
Lauren Brackenbury
Leesa Brown

Funding
AHRQ R36 (HS023376-01)
AHRQ T32 (T32HS013853)
RA, Douglas A. Conrad
RA, VA

*Data for this report were developed by the national evaluation team at the PACT Demonstration Lab Coordinating Center and the VHA Office of Analytics and Business Intelligence. The VHA Office of Primary Care Operations is responsible for PACT implementation and the VHA Office of Patient Care Services is responsible for the PACT Demonstration Lab program.
Funding Disclaimer

• This project was funded under grant numbers (T32HS013853 & HS023376-01) from the Agency for Healthcare Research and Quality (AHRQ), U.S. Department of Health and Human Services. The opinions expressed in this document are those of the authors and do not reflect the official position of AHRQ or the U.S. Department of Health and Human Services.

• The views expressed in this presentation are those of the author and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States Government.
Selected References

Questions/Comments

• Leslie R.M. Hausmann, PhD
  leslie.hausmann@va.gov

• Susan E. Hernandez, MPA PhD Candidate
  Susan.Hernandez2@va.gov