Race and Ethnicity Reporting in Clinical Research and Its Role In Pragmatic Clinical Trials
February 28, 2014

Monique Anderson, MD
Medical Instructor
Duke Clinical Research Institute
Duke University Medical Center
Objectives

• BiDil Story
• Two key issues in RCTs
• Federal policies for Race/Ethnicity reporting in clinical research
• Impact of federal policies on RCT practices after the trial ends
• Considerations for PCTs in NIH HCS/PCORnet
## Early CHF trials: The path to AHeFT trial

<table>
<thead>
<tr>
<th>Trial</th>
<th>Intervention</th>
<th>Patient Population</th>
<th>Treatment Effect</th>
<th>Race Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>VHeFT I (1986)</td>
<td>Isosorbide Dinitrate + Hydralazine vs Prazosin + Placebo</td>
<td>N=642 EF &lt;45%+ ET</td>
<td>Death= NS through 5 yrs 2 yrs=25% RR</td>
<td>NR</td>
</tr>
<tr>
<td>VHeFT II (1991)</td>
<td>Enalapril vs Isosorbide Dinitrate/Hydralazine</td>
<td>N=804 EF&lt;45%+ ET Wh</td>
<td>Death= NS through 5 yrs 2yrs=28% RR</td>
<td>NR</td>
</tr>
<tr>
<td>SOLVD Treatment Trial (1991)</td>
<td>Enalapril vs Placebo</td>
<td>N=2569 patients CHF +EF &lt;= 35% White= 86.5% Blacks= 9.6% Other= 3.8%</td>
<td>Death: 16% RR Hospitalization: 22% RR</td>
<td>NR</td>
</tr>
<tr>
<td>SOLVD Prevention Trial (1992)</td>
<td>Enalapril vs Placebo</td>
<td>N=4228 Asymptomatic + EF&lt;=35% White= 81.1% Black= 14.5%</td>
<td>Death: 8%, NS Death+Incident CHF=29% Death+Hospitalization=20% RR</td>
<td>NR</td>
</tr>
</tbody>
</table>

NR=Not reported  
NS= Not significant  
1NEJM 1986; 314:1547-52  
2NEJM 1991; 325:303-10  
3NEJM 1991;325:293-302  
4NEJM 1992;327:685-91
VHeFT I: Retrospective race analysis

Fig. 2. Effects of treatment on survival in V-HeFT I. (A) Benefit of hydralazine-isosorbide dinitrate (HI) therapy in black patients (placebo [PL], n = 79; HI, n = 49; prazosin [PR], n = 52). (B) Absence of demonstrable treatment benefit in white patients (PL, n = 192; HI, n = 132; PR, n = 127).

180 blacks compared with 450 whites randomized to H-I vs prazosin vs placebo
Significant reduction in mortality for blacks but not for whites for H-I vs placebo
Fig. 3. Racial difference in effect of treatment on mortality in V-HeFT II. (A) Enalapril and hydralazine-isosorbide dinitrate (HI) show similar survival curves in black patients (enalapril, n = 106; HI, n = 109). (B) Enalapril exerts significant survival benefit in white patients (enalapril, n = 292; HI, n = 282).

215 blacks, 574 whites

No difference between enalapril vs HI for blacks, but whites have mortality benefit with enalapril.
Matched cohort from SOLVD trials to compare outcomes in black vs. white patients

Matched cohort design comparing Enalapril to placebo

800 black patients compared with 1196 white patients

Death:
No treatment effect differences by race for death

Hospitalization:
No treatment effect difference for blacks
44% RR for whites

Rethinking Clinical Trials
“The fact that large-scale trials of therapy for heart failure have been performed in preponderantly white populations has limited the ability of the medical community to assess the efficacy of current therapies in black patients. Thus, clinical trials in black patients ...appear to be warranted”
Combination of Isosorbide Dinitrate and Hydralazine in Blacks with Heart Failure

Anne L. Taylor, M.D., Susan Ziesche, R.N., Clyde Yancy, M.D., Peter Carson, M.D., Ralph D’Agostino, Jr., Ph.D., Keith Ferdinand, M.D., Malcolm Taylor, M.D., Kirkwood Adams, M.D., Michael Sabolinski, M.D., Manuel Worcel, M.D., and Jay N. Cohn, M.D., for the African-American Heart Failure Trial Investigators*

• 1050 black patients with NYHA class III or IV CHF randomized to Bidil (fixed isosorbide dintrate + hydralazine dose) vs placebo
• Standard of care = Diuretic + ACE or ARB+ beta-blocker
• Primary outcome = Death + hospitalization+ Δ QOL

Trial stopped early for BiDil benefit

43% RR
FDA Approves BiDil Heart Failure Drug for Black Patients

The Food and Drug Administration (FDA) approved BiDil (bye-DILL), a drug for the treatment of heart failure in self-identified black patients, representing a step toward the promise of personalized medicine.

Heart failure is a condition in which the heart is weakened and does not pump enough blood. It can be caused by a variety of damage to the heart, including heart attacks, high blood pressure, and infections.

The approval of BiDil was based in part on the results of the African-American Heart Failure Trial (A-HeFT). The study, which involved 1,050 self-identified black patients with severe heart failure who had already been treated with the best available therapy, was conducted because two previous trials in the general population of severe heart failure patients found no benefit, but suggested a benefit of BiDil in black patients. Patients on BiDil experienced a 43% reduction in death and a 39% decrease in hospitalization for heart failure compared to placebo, and a decrease of their symptoms of heart failure.

"Today's approval of a drug to treat severe heart failure in self-identified black population is a striking example of how a treatment can benefit some patients even if it does not help all patients," said Dr. Robert Temple, FDA Associate Director of Medical Policy. "The information presented to the FDA clearly showed that blacks suffering from heart failure will now have an additional safe and effective option for treating their condition. In the future, we hope to discover characteristics that identify people of any race who might be helped by Bidil."
Clinical trials:
Two fundamental questions

1. How generalizable are the study results?

2. Is the magnitude of treatment effect consistent across key subgroups?
Generalizability issues

• Health outcomes poorer as a function of race, ethnicity, sex, and/or SES

• Traditionally, women, minorities, elderly, and lower SES groups underrepresented in clinical trials

• Observational studies show major disparities in the clinical use of treatment strategies shown to be beneficial in RCTs
Issues with heterogeneity of treatment effect

• Primary way of discerning if there are treatment differences across subgroups is statistical interaction testing\(^1,3\)
• Studies often do not achieve the target sample sizes to test even the primary hypothesis.
• Most clinical trials too small to test treatment effect differences across subgroups
  • 65% of all clinical trials registered in ClinicalTrials.gov <100 patients\(^2\)
  • When hypothesized subgroup differences are not found, it does not mean they do not exist.\(^1\)
  • When unanticipated subgroup differences are found, it is hard to know what they mean.\(^1\)
• When HTE present, recommendation to not over-emphasize, but view as explanatory

\(^1\)Yusuf, S. et al. JAMA; 1991; 266:1
\(^2\)Califf, R. et al. JAMA, 2012; 307(17):1838-184
\(^3\)Wang, R et al. NEJM, 2007;357:2189-2194
NIH policies on minority inclusion and HTE

1977
- OMB statistical policy 15

1993
- NIH Revitalization Act
  - Directs the NIH to establish guidelines for inclusion of women and minorities in clinical research
  - Established Office of Minority Health and Office of Women’s Health

1994
- NIH Guidelines on The Inclusion of Women and Minorities as Subjects in Clinical Research
  - Inclusion of minorities to be addressed in funding proposals and annual progress reports
  - Phase III trials must examine HTE where applicable

1997
- OMB standards revised

2000
- Guidelines updated
  - Research Plan, Progress Reports, Competitive Renewal Apps, Final Progress Reports to include plan for and data on subgroup analyses
  - Subgroup analyses strongly encouraged to be REPORTED in all publication submissions

2001
- NIH Policy on Reporting Race and Ethnicity Data: Subjects in Clinical Research
  - OMB revised standards adopted by the NIH
  - Inclusions Guidelines Updated to reflect OMB categories
# NIH Inclusion Policy: Additional guidance on HTE

<table>
<thead>
<tr>
<th>Prior Data</th>
<th>HTE analysis required</th>
<th>Sufficient power needed to detect difference in subgroups</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support HTE by race/ethnicity</td>
<td>Mandatory</td>
<td>Yes</td>
</tr>
<tr>
<td>Neither support or negate HTE</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Does not support HTE</td>
<td>Encouraged</td>
<td>No</td>
</tr>
</tbody>
</table>
FDA Policies and Guidances for race and ethnicity reporting and HTE analyses

1988
- Guidelines for the Format and Content of Clinical and Statistical Sections of NDAs
  - Emphasized the importance of subgroup analyses, specified race and ethnicity subgroups should be analyzed

1998
- Demographic Rule- ½ NDAs have sufficient analyses
  - Sponsors of IND applications to submit annual demographics of enrolled population
  - NDA required to submit effectiveness and safety data for demographic subgroups

2005
- FDA Guidance for Industry: Collection of Race and Ethnicity Data in Clinical Trials
  - OMB Categories Recommended

2007
- FDAAA 801- Reporting of Basic Results Mandatory for Applicable Clinical Trials
  - Race and Ethnicity Reporting is Optional; Age and Sex Mandatory
NIH and FDA: Minimum OMB categories

- 2 ethnicity categories
  - Hispanic or Latino
  - Not Hispanic or Latino
- 5 race categories
  - American Indian or Alaska native
  - Asian
  - Black or African American
  - Native Hawaiian or Other Pacific Islander
  - White

- More than one category permitted to account for multiracial individuals

- Individuals also allowed to write in racial identity

- Self-Reporting or identification strongly recommended
• Do federal requirements for race/ethnicity reporting inform practices for reporting after the clinical trials have concluded?
  • ClinicalTrials.gov
  • Manuscripts
Mandatory results reporting to ClinicalTrials.gov

- ClinicalTrials.gov - maintained by NLM, all trials required to register prior to publication
- FDA Amendments Act (FDAAA) 2007
- Stemmed from a call for increased “clinical trial transparency” through public disclosure of key clinical trial information
  - Growing awareness of selective research publications
  - Selective reporting of outcomes in publications
- FDAAA
  - Mandates the registration and results reporting for certain clinical trials of drugs, biologics, and devices, regardless of funding source in ClinicalTrials.gov
  - Results required one year from the primary completion date, unless extension or certification granted by NIH director
  - Age and sex mandatory, race/ethnicity optional

Tse, T. CHEST 2009; 136:295–303
Objectives

• Examine degree of results reporting and time to reporting in ClinicalTrials.gov
• Examine degree of voluntary race and ethnicity reporting in ClinicalTrials.gov
• Determine factors associated with reporting race and ethnicity data
• Determine factors associated with OMB use
Clinical trial population: NLM algorithm for highly likely applicable clinical trials

All ClinicalTrials.gov studies as of 9/27/2013
50 states and 185 countries
N=152,611

“Withdrawn” Recruitment Status
N=2,462

Overall Recruitment Status not “Withdrawn”
N=150,149

Primary Completion Date <= Dec 2007*
N=27,364

Primary Completion Date > Dec 2007*
N=122,785

Study Type is not “Interventional”
N=25,155

Study Type is “Interventional”
N=97,630

Phase is “0” or “1”
N=14,503

Study is > Phase 1
N=82,049

((No intervention type is “Biological” or “Device” or “Drug” or “Genetic” or “Radiation”) OR
No facility/country is “United States” or missing)
AND
Study has no IND/IDE Protocol *
N=50,471

((At least one intervention type is “Biological” or “Device” or “Drug” or “Genetic” or “Radiation”) AND
At least one facility/country is “United States” or missing)
OR
Study has IND/IDE Protocol *
N=32,656

Studies highly likely to be ACTs
N=32,656
Analysis population

- Studies highly likely to be ACTs
  - N=32,656

- Overall recruitment status not “Completed” or “Terminated”
  - N=16,397

- Primary completion date \( \geq \) Sept 2012, or if missing, Completion date \( \geq \) Sept 2012
  - N=1,801

- Primary completion date < Sep 2012, or if PCD missing, completion date < Sep 2012 or missing
  - N=14,458

- Primary completion date and completion date missing, and verification date \( \leq \) 2007 or \( \geq \) Sept 2012
  - N=1,131

- ANALYSIS POPULATION
  - Highly likely ACTs completed/terminated prior to Sept 2012
  - N=13,327
## Results for trials completed/terminated between 2008 - 2012

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>Number of trials</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any results reported</td>
<td>5110/13327</td>
<td>38.3%</td>
</tr>
<tr>
<td>Race and ethnicity reported</td>
<td>974/5110</td>
<td>19.1%</td>
</tr>
<tr>
<td>Recommended OMB standards</td>
<td>217/974</td>
<td>22.2%</td>
</tr>
<tr>
<td>Recommended + Acceptable OMB standards</td>
<td>292/974</td>
<td>29.9%</td>
</tr>
<tr>
<td>Characteristic</td>
<td>All trials N=13327</td>
<td>Results reported N=5110</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>--------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Primary purpose (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treatment</td>
<td>84.8</td>
<td>85.7</td>
</tr>
<tr>
<td>Prevention</td>
<td>7.7</td>
<td>7.9</td>
</tr>
<tr>
<td>Diagnostic</td>
<td>2.7</td>
<td>2.6</td>
</tr>
<tr>
<td>Other</td>
<td>4.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Intervention group (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Device</td>
<td>11.9</td>
<td>11.4</td>
</tr>
<tr>
<td>Biological</td>
<td>8.9</td>
<td>9.6</td>
</tr>
<tr>
<td>Drug</td>
<td>77.4</td>
<td>78.1</td>
</tr>
<tr>
<td>Other</td>
<td>1.9</td>
<td>0.9</td>
</tr>
<tr>
<td>Funding source (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>65.6</td>
<td>70.9</td>
</tr>
<tr>
<td>NIH</td>
<td>14.2</td>
<td>14.5</td>
</tr>
<tr>
<td>Other</td>
<td>20.2</td>
<td>14.6</td>
</tr>
<tr>
<td>Enrollment (from results data)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Median (25th - 75th)</td>
<td></td>
<td>84 (30- 291)</td>
</tr>
<tr>
<td>Overall recruitment status, (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Completed</td>
<td>83.5</td>
<td>93.9</td>
</tr>
<tr>
<td>Terminated</td>
<td>16.5</td>
<td>16.1</td>
</tr>
</tbody>
</table>
Cumulative percentage of trials reporting results versus months from primary completion date stratified by funding source

Median time to reporting, mos
- Overall: 17 (13-29)
- Industry: 16 (13-26)
- NIH: 23 (14-36)
- Other: 21 (14-30)
Cumulative percentage of trials reporting results versus months from primary completion date stratified by intervention type

Median time to reporting, mos
Overall 17 (13-29)
Device 17 (13-27)
Biological 17 (13-30)
Drug 17 (13-29)
Other 18 (13-20)
Factors associated with any race and ethnicity reporting among highly likely applicable clinical trials in ClinicalTrials.gov

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Multivariable OR</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding source, vs. NIH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>0.72</td>
<td>(0.58 - 0.91)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Other</td>
<td>0.20</td>
<td>(0.13 - 0.31)</td>
<td></td>
</tr>
<tr>
<td>No US FDA oversight, vs. US FDA oversight</td>
<td>0.55</td>
<td>(0.44 - 0.68)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Phase, vs. Phase 4</td>
<td></td>
<td></td>
<td>0.004</td>
</tr>
<tr>
<td>Phase 1/Phase 2</td>
<td>0.62</td>
<td>(0.39 - 0.99)</td>
<td></td>
</tr>
<tr>
<td>Phase 2</td>
<td>1.15</td>
<td>(0.90 - 1.47)</td>
<td></td>
</tr>
<tr>
<td>Phase 2/Phase 3</td>
<td>1.1</td>
<td>(0.63 - 1.92)</td>
<td></td>
</tr>
<tr>
<td>Phase 3</td>
<td>1.0</td>
<td>(0.79 - 1.27)</td>
<td></td>
</tr>
<tr>
<td>Data monitoring committee, vs. Yes</td>
<td></td>
<td></td>
<td>&lt;.001</td>
</tr>
<tr>
<td>No</td>
<td>1.47</td>
<td>(1.22 - 1.77)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>1.25</td>
<td>(1.00 - 1.56)</td>
<td></td>
</tr>
<tr>
<td>Primary purpose, vs. Treatment</td>
<td></td>
<td></td>
<td>0.002</td>
</tr>
<tr>
<td>Prevention</td>
<td>0.51</td>
<td>(0.36 - 0.71)</td>
<td></td>
</tr>
<tr>
<td>Diagnostic</td>
<td>0.82</td>
<td>(0.46 - 1.44)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.97</td>
<td>(0.60 - 1.58)</td>
<td></td>
</tr>
<tr>
<td>Total enrollment[a], per doubling through 1000 participants</td>
<td>1.1</td>
<td>(1.05 - 1.16)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Intervention group, vs. Drug</td>
<td></td>
<td></td>
<td>0.008</td>
</tr>
<tr>
<td>Device</td>
<td>0.54</td>
<td>(0.37 - 0.78)</td>
<td></td>
</tr>
<tr>
<td>Biological</td>
<td>0.92</td>
<td>(0.70 - 1.20)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>0.51</td>
<td>(0.15 - 1.72)</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>0.6</td>
<td>(0.40 - 0.90)</td>
<td></td>
</tr>
</tbody>
</table>
## Factors Associated with OMB Reporting

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Multivariable OR</th>
<th>95% CI</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funding source, vs. NIH</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry</td>
<td>0.12</td>
<td>(0.07 - 0.20)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Other</td>
<td>0.48</td>
<td>(0.19 - 1.22)</td>
<td></td>
</tr>
<tr>
<td>Primary completion year, per year increase</td>
<td>1.31</td>
<td>(1.14 - 1.51)</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Study duration, per 3 months increase &lt;36 months</td>
<td>0.92</td>
<td>(0.87 - 0.97)</td>
<td>0.003</td>
</tr>
<tr>
<td>Data monitoring committee, vs. Yes</td>
<td></td>
<td></td>
<td>0.052</td>
</tr>
<tr>
<td>No</td>
<td>1.67</td>
<td>(1.07 - 2.62)</td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td>1.17</td>
<td>(0.65 - 2.10)</td>
<td></td>
</tr>
<tr>
<td>Total enrollment[a], per doubling through 1000 participants</td>
<td>0.88</td>
<td>(0.78 - 0.99)</td>
<td>0.033</td>
</tr>
</tbody>
</table>
Variability with race and ethnicity in customized categories

- Considerable confusion about Hispanic ethnicity
  - 26% trials omit Hispanic ethnicity altogether and choose OMB race categories
  - “Hispanic” listed twice as a race and ethnicity
  - Several trials answer only ethnicity question and do not report any race categories
- 26% use of “other” category
- Several trials listed non-OMB categories and non-granular HL7/CDC categories
Conclusions

• ~40% of highly likely ACT report results to ClinicalTrials.gov; reporting within a 12 month period is uncommon
  • Industry funded trials reports sooner than NIH funded trials.

• Only 1/5 of trials report race and ethnicity

• Only 1/5 of trials report OMB standards

• Considerable confusion exists regarding reporting of Hispanic ethnicity
Do investigators apply NIH regulations and expectations outside of the NIH?

### Table 3. Reporting of Subjects by Racial/Ethnic Groups

<table>
<thead>
<tr>
<th>Studies</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2004 (n = 69)</td>
<td>2009 (n = 86)</td>
<td>2004 (n = 69)</td>
</tr>
<tr>
<td>Studies with unknown number of subjects in given racial/ethnic group</td>
<td>17 (25)a</td>
<td>23 (27)</td>
<td>23 (33)</td>
</tr>
<tr>
<td>Studies reporting &lt;10% of subjects in given racial/ethnic group</td>
<td>0</td>
<td>0</td>
<td>9 (14)</td>
</tr>
</tbody>
</table>

a. Median

What about NIH expectations on HTE by race and ethnicity in manuscripts?

<table>
<thead>
<tr>
<th>Studies</th>
<th>General medicine</th>
<th>Oncology</th>
<th>Cardiovascular</th>
<th>Infectious disease</th>
<th>Obstetrics and gynecology</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis by race/ethnicity provided or variable included in model</td>
<td>4 (9)</td>
<td>5 (11)</td>
<td>1 (9)</td>
<td>4 (20)</td>
<td>0</td>
<td>2 (25)</td>
</tr>
<tr>
<td>Did not analyze by race/ethnicity but provided explanation</td>
<td>5 (11)</td>
<td>4 (9)</td>
<td>0</td>
<td>1 (5)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Did not include race/ethnicity in analysis or did not provide an explanation or both</td>
<td>36 (80)</td>
<td>35 (80)</td>
<td>10 (91)</td>
<td>15 (75)</td>
<td>3 (100)</td>
<td>6 (75)</td>
</tr>
<tr>
<td>Total</td>
<td>45 (100)</td>
<td>44 (100)</td>
<td>11 (100)</td>
<td>20 (100)</td>
<td>3 (100)</td>
<td>8 (100)</td>
</tr>
</tbody>
</table>

~80% of clinical trials do not report HTE analyses by race/ethnicity
Healthcare Systems Research: EHRs are incomplete and varying demographic reporting

- HITECH 2009 supports the adoption of EHRs
  - 72% of outpatient clinics have any EHR as of 2012
  - 85% of acute care hospitals possess an EHR to meet meaningful use

- Meaningful use: Core objectives
  - Age, sex, race/ethnicity, and language on >50% of patients in EHR
  - OMB categories a requirement

- Race and Ethnicity Imputation strategies
  - Census-derived data with surname analysis
  - Kaiser Permanente, Rand, Well Point

- Healthcare Research and Education Trust’s disparities toolkit
  - To assist hospitals and healthcare systems with education and implementation of standardized race/ethnicity categories
NIH Health Systems
Collaboratory and PCORnet potential

• Given larger, more representative populations in NIH HCS and PCORnet, a realistic appraisal of the value of reporting race and ethnicity is needed.

• If the consensus is that current federal laws and guidance's recommending race and ethnicity reporting should be continued, then more standardized approaches could vastly increase the amount of interpretable data.
Considerations for NIH Health systems Collaboratory and PCORnet

• Should federal agencies and PCORnet require the race and ethnicity reporting and should the use of OMB categories to allow aggregation and secondary analyses?

• Should demographic HTE analyses be required for large pragmatic trials funded through PCORnet and NIH?

• When EHR race and ethnicity data are missing, is there a role for race/ethnicity imputation?

• Should all network trials register and report results in ClinicalTrials.gov?
  • TiME, StopCRC, ABATE, PPACT, LIRE
Acknowledgements

- Robert Califf, MD
- Karen Chiswell, PhD
- Meredith Zozus, PhD
- Asba Tasneem, PhD
- James Topping, MS
- Deborah Zarin, MD
- Jonca Bull, MD
- Josephine Briggs, MD
- Wendy Weber, ND, PhD, MPH
- Catherine Meyers, MD

Research reported in this publication was supported by the Common Fund Research Supplements To Promote Diversity In Health Related Research under Award Number 3U54AT007748-02S1 and the Health Care Systems Research Collaboratory Coordinating Center under Award Number 1U54AT007748-01 the National Center for Complementary & Alternative Medicine, a center of the National Institutes of Health. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.
Specific aims: NIH Health Care Systems Common Fund diversity supplement

• Develop a catalogue of demographic (sex, age, race, ethnicity, SES, insurance) phenotypes and determine the accuracy of these measures in UH3s

• To develop approaches for examining heterogeneity of treatment effect of demographics in pragmatic clinical trials

• To determine the distribution of demographics for enrolled patients across all Collaboratory trials and to examine HTE
Cumulative percentage of trials reporting results versus months from primary completion date stratified by phase