Achieving Health Equity for Latinos: Building on Our Strengths

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National Institute on Minority Health and Health Disparities

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The content is solely the responsibility of the presenter and does not necessarily represent the official views of the National Institutes of Health.
Health Trends
U.S. Population Projections

- By 2030, 1 in 5 American will be 65+
- By 2044, more than half of Americans will belong to a non-White group – plurality
- By 2060, nearly 1 in 5 will be foreign born;
- Mixed race will increase from 2.5% to 6.2% - fastest growing


- By 2030, > 5 million LGBT adults age 60+

Patterson JG et al. 2017 LGBT Health; 4(2) DOI:10.1089/lgbt2017.00026
## Socio-demographic Characteristics of Latinos in the U.S., 2013

*MMWR, May 5, 2015*

<table>
<thead>
<tr>
<th>Race/Ethnic</th>
<th>% &lt; 12th gr</th>
<th>% LEP</th>
<th>% &lt; Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>8.3</td>
<td>1.6</td>
<td>11.1</td>
</tr>
<tr>
<td>Mexican</td>
<td>40.9</td>
<td>32.3</td>
<td>26.2</td>
</tr>
<tr>
<td>Puerto Rican</td>
<td>22.6</td>
<td>17.4</td>
<td>26.2</td>
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<tr>
<td>Cuban</td>
<td>21.0</td>
<td>39.6</td>
<td>20.0</td>
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<tr>
<td>Dominican</td>
<td>31.6</td>
<td>42.2</td>
<td>28.3</td>
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<tr>
<td>Central Am</td>
<td>44.9</td>
<td>48.7</td>
<td>23.3</td>
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</tbody>
</table>
Figure 2: Uninsured Rates Among Nonelderly Individuals by Race/Ethnicity, 2013-2017

Note: * Indicates statistically significant different from the White population at the p < 0.05 level. Persons of Hispanic origin may be of any race but are categorized as Hispanic for this analysis; other groups are non-Hispanic. Includes nonelderly individuals 0-64 years of age. NHOPi refers to Native Hawaiians and Other Pacific Islanders. AIAN refers to American Indians and Alaska Natives. Source: Kaiser Family Foundation analysis of 2013-2017 American Community Survey, 1-Year Estimates.
### Differences in selected CHRONIC DISEASE BURDEN for Non-Hispanic Whites vs. Hispanics

<table>
<thead>
<tr>
<th>Condition</th>
<th>Non-Hispanic Whites</th>
<th>Hispanics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>Cancer</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>High Blood Pressure</td>
<td>20%</td>
<td>17%</td>
</tr>
<tr>
<td>Poorly controlled High Blood Pressure</td>
<td>54%</td>
<td>68%</td>
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</tbody>
</table>

### Top Diseases and Risk Factors for Hispanics

#### Top Diseases
- **Cancer**: 2.7% US-born, 1.4% Foreign-born
- **Heart Disease**: 6.8% US-born, 3.6% Foreign-born

#### Risk Factors
- **Obesity**: 47.1% US-born, 36.3% Foreign-born
- **Cigarette Smoking**: 17.7% US-born, 10.3% Foreign-born

**Sources:**
- National Health Interview Survey, 2009-2013
- National Health and Nutrition Examination Survey, 2009-2012

Mean/100,000 population, *MMWR, May 5, 2015*

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>CA</th>
<th>Heart Disease</th>
<th>Stroke</th>
<th>Injuries</th>
<th>DM</th>
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</thead>
<tbody>
<tr>
<td>Whites</td>
<td>169.7</td>
<td>172.7</td>
<td>35.7</td>
<td>43.9</td>
<td>18.7</td>
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<tr>
<td>Mexican</td>
<td>123.8</td>
<td>129.2</td>
<td>35.5</td>
<td>28.7</td>
<td>33.8</td>
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<tr>
<td>Puerto Rican</td>
<td>140.8</td>
<td>171.5</td>
<td>33.3</td>
<td>32.9</td>
<td>33.7</td>
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<tr>
<td>Cuban</td>
<td>130.7</td>
<td>153.9</td>
<td>28.3</td>
<td>22.6</td>
<td>19.6</td>
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<tr>
<td>Latinos</td>
<td>122.2</td>
<td>128.7</td>
<td>31.7</td>
<td>28.0</td>
<td>28.3</td>
</tr>
</tbody>
</table>
Hispanic Community Health/Study of Latinos, 16,415 enrolled, 2008-2011, ages 18-74

Field Center Locations

San Diego
Chicago
Bronx
Miami
Chart 14: Percent with Coronary Heart Disease by Background

Source: Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Data Book
Chart 16: Percent with Stroke by Background

Source: Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Data Book
Trends in Cancer Incidence, 2000-2014

- Prostate, colorectal, and lung rates are decreasing among all groups
- Breast cancer rates flat overall and may be slight increase for Latinas
- Stomach and cervix cancers decreasing and Latinos remain higher
- Liver and Bile Duct cancer increasing in all except A/PI; Latinos 2nd highest
- Brain, testicular: Latinos higher, rates increasing
### Differences in the 10 leading causes of death, NON-HISPANIC WHITES vs HISPANICS

<table>
<thead>
<tr>
<th>Non-Hispanic Whites</th>
<th>Hispanics</th>
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</thead>
<tbody>
<tr>
<td>1. Heart Disease</td>
<td>1. Cancer</td>
</tr>
<tr>
<td>2. Cancer</td>
<td>2. Heart Disease</td>
</tr>
<tr>
<td>3. Chronic Lower Respiratory Diseases</td>
<td>3. Unintentional Injuries</td>
</tr>
<tr>
<td>5. Stroke</td>
<td>5. Diabetes</td>
</tr>
<tr>
<td>6. Alzheimer's Disease</td>
<td>6. Chronic Liver Disease &amp; Cirrhosis</td>
</tr>
<tr>
<td>7. Diabetes</td>
<td>7. Chronic Lower Respiratory Diseases</td>
</tr>
<tr>
<td>8. Influenza &amp; Pneumonia</td>
<td>8. Alzheimer's Disease</td>
</tr>
<tr>
<td>9. Suicide</td>
<td>9. Influenza &amp; Pneumonia</td>
</tr>
</tbody>
</table>

*Types of kidney diseases—Nephritis, Nephrotic Syndrome & Nephrosis

**SOURCES:** Vital Statistics Cooperative Program, Mortality Data Files, 2013.
## Cigarette Smoking in the U.S., 2016

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
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<tbody>
<tr>
<td>White</td>
<td>17.8%</td>
<td>15.5%</td>
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<tr>
<td>Black</td>
<td>20.2%</td>
<td>13.5%</td>
</tr>
<tr>
<td>Latino</td>
<td>14.5%</td>
<td>7.0%</td>
</tr>
<tr>
<td>AI/AN</td>
<td>29.3%</td>
<td>34.3%</td>
</tr>
<tr>
<td>Asian</td>
<td>14.0%</td>
<td>4.6%</td>
</tr>
<tr>
<td>Multiple race</td>
<td>27.7%</td>
<td>22.9%</td>
</tr>
<tr>
<td>9th to 11th Grade</td>
<td>35.1%</td>
<td>26.2%</td>
</tr>
<tr>
<td>High school graduate</td>
<td>23.1%</td>
<td>16.5%</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>9.1%</td>
<td>6.4%</td>
</tr>
</tbody>
</table>

*National Health Interview Survey, MWWR-January 19, 2018; 67(2);53-59*
Chart 38: Percent of Current Cigarette Smokers by Background

Source: Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Data Book
Obesity & Overweight Rates for Adults, by Race/Ethnicity, California, 2017

<table>
<thead>
<tr>
<th>Location</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian/Native Hawaiian and Pacific Islander</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>58.1%</td>
<td>72.9%</td>
<td>71.8%</td>
<td>39.0%</td>
</tr>
</tbody>
</table>

Chart 36: Percent with Obesity by Background

Source: Hispanic Community Health Study/Study of Latinos (HCHS/SOL) Data Book
## Life Expectancy in the U.S., 2014

<table>
<thead>
<tr>
<th></th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whites</td>
<td>76.5</td>
<td>81.1</td>
</tr>
<tr>
<td>Blacks</td>
<td>72.0</td>
<td>78.1</td>
</tr>
<tr>
<td>Latinos</td>
<td>79.2</td>
<td>84.0</td>
</tr>
<tr>
<td>Total in 2017</td>
<td>76.1</td>
<td>81.1</td>
</tr>
</tbody>
</table>
Trends in Premature Mortality
U.S. 1999-2014, age 25-64

- Marked annual decrease in premature mortality among Latinos (−3.2%), Blacks (−3.9%) and Asian/PI (−2.6%)
- Decline in cancer deaths, HIV and heart disease from improved care
- AI/AN highest mortality; Blacks second

Epidemiologic Paradox in Latinos

- Outcomes are better than expected based on the known standard predictive risk factors
- Low SES does not always translate to worse outcomes
Innovations
To Reduce Health Disparities
Technological Innovations

- Tablet-Based
- Wearables
- EMAs via Smartphones
Expanded Reach of HIT

- Cellular plans reach 90% of world’s population and almost 80% of global rural populations
- As of Jan 2017, 95% of American adults own a mobile phone (77% smartphones)
- IOM: “HIT provides an opportunity for engaging populations not historically well served by the traditional health community.”
- Facilitates access to health information and control over their own health in underserved populations

Visit Notes on Patient Portals Highly Valued by Less Educated, Non-white Patients

- 6,913 patients at urban academic health center using patient portal
- Less educated patients – nearly 3x more likely than most educated (AOR 2.9, 95% CI 2.4-3.3) to report visit notes were extremely important to engage in care
- Non-white patients were twice as likely to report the same compared with whites (OR 2.0, 95% CI 1.5-2.7)

HIT Innovation to Close the Gap

- Standard measures need to be incorporated into the electronic health record
- Facilitate access to older, limited HL, LEP, through touch screen technology, family support, teaching as part of the visit
- Portal access to clinician and results with proxy if needed or in concordant language
- Develop video “doctor” communication for visual or hearing impairment, limited literacy, language other than English
Integrative Transdisciplinary Studies

- Biological Measures
- Area Measures
- Social Determinants
Biological Measures in MH/HD Research

- Physiological measures that focus on metabolic pathways: SBP, A1C, lipids
- Cortisol and HPA Axis: saliva, hair
- Inflammation: CRP, IL-6
- Allostatic load: groups 8-14 measures
- Telomere length
- Sleep quantity and quality
- Brain imaging
Area-Based Measures
Incorporation of SDOH in EHR

Response Rates to Selected Social-Needs Screening Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>% Positive</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Within the past 12 months, “the food I bought just didn’t last, and I didn’t have the money to get more.”</td>
<td>32%</td>
</tr>
<tr>
<td>2. Within the past 12 months, “I couldn’t afford to eat balanced or healthy meals.”</td>
<td>35%</td>
</tr>
<tr>
<td>3. Do you worry about having a safe place to live or being homeless?</td>
<td>13%</td>
</tr>
<tr>
<td>4. In the past month, have you had concerns about the condition or quality of your housing?</td>
<td>13%</td>
</tr>
<tr>
<td>5. Do you have difficulty arranging for transportation to or from your medical appointments?</td>
<td>26%</td>
</tr>
<tr>
<td>6. Do you need help finding ways to pay your utility bills?</td>
<td>23%</td>
</tr>
</tbody>
</table>

Data reflect response rates as of 03/04/2016.

NEJM Catalyst (catalyst.nejm.org) © Massachusetts Medical Society
Transdisciplinary - Multilevel

A. NEIGHBORHOOD ENVIRONMENT

Macroscale Built (examples)
- Transit access
- Walkability

Macroscale Social (examples)
- Social disorder
- Socio-economic deprivation

Microscale Built (examples)
- Sidewalks
- Street crossings

Microscale Social (examples)
- Aesthetics
- Surveillance

Interact

B. PHYSICAL ACTIVITY PATHWAY

Total accelerometer physical activity
- Transportation physical activity
- Recreation physical activity

Indirect

C. PSYCHOSOCIAL PATHWAY

Depression
- Chronic stress
- Anxiety
- Social support

Indirect

D. CARDIO-METABOLIC HEALTH

Primary - Composite score of waist circumference, systolic blood pressure, glucose, HDL-C, and triglycerides.

Secondary - Prevalent and incident metabolic syndrome
- Changes in/incidence of: adiposity/obesity; blood pressure/hypertension; lipids/dyslipidemia; glucose regulation/diabetes;

Advances in MH/HD Etiologic Research

- Incorporation of physiological measures that focus on metabolic and inflammatory pathways and interactions with behavior and environments
- Longitudinal studies that examine life course changes in SES, other exposures
- Systems modeling of complex intersectionalities
Collaborating for Health Equity
Trends
Community Health Worker Interventions

Systematic reviews support that CHW interventions improve:

- Glucose and lipid levels
- Systolic & diastolic blood pressure
- Physical activity
- Dietary behaviors
- Mental health

...especially in under-resourced areas

RCT of interactive, tailored web-based diabetes medication education and support tool delivered by CHWs using tablets in homes of Latino & African American patients vs same content in written format

Adherence, self-efficacy and HbA1c improved in both groups, but tablet/CHW group also had higher satisfaction and less distress

Lopez L et al 2015 J Diabetes Complications;30:554-60
Community Health Worker Interventions

- CHWs are an evidence-based approach for diverse populations
- Use of EHR to stratify populations by risk levels, target conditions then deploy CHWs
- Integration of CHW and family caregivers with health care teams
- CHWs provide education, support, linkages to community resources
- Biospecimen collection by CHWs for research
Health Care System Redesign

Issues

- Move to specialty care = fragmented care
- Capitated system where revenue is prepaid based on quality measures, but health care system is based on productivity
- Increase patient engagement w/o increased provider demand

Potential Solutions

- More integrated care and care coordination
- Build evidence on supportive services for SDOH and incentivize these
- Virtual care hubs outside of hospitals & clinics
- Improved communication & reach via patient portals
Health Care System Redesign

Multilevel Interventions

- CLINICAL DASHBOARDS
- DECISION SUPPORT
- TETHERED PATIENT PORTALS
- MHealth
- Community Health Workers
- Social Media

National Institute on Minority Health and Health Disparities
Flint Center of Health Equity Solutions
Area-Based Measures + CBPR

2 Interventions
Physical Activity/Healthy Eating + Mental Health

Community and Scientific Experts
Ranked Quality of Neighborhoods-
Weighted each Neighborhood Feature

GIS-Based Healthfulness Index

Spatially-Varying Healthfulness Index
Systems Science: Agent-Based Modeling of CVD Outcomes

- Impact of lifestyle: quitting smoking, increasing PA, promoting healthy diet, and reducing weight
- Outcome: long-term prevalence and incidence of MI and stroke across different age groups and geographic locations
- Each agent varies by 7 key behaviors/health factors (smoking, PA, diet, weight, cholesterol, BP, age, sex, history of MI or stroke)
- Validated model with BRFSS data
- Results: prevention intervention may have different effects on populations in different geographic areas
- Informs local public health efforts

Opportunities

- Immigration policies and mental health – individuals in states with more exclusionary policies had higher rates of poor mental health days (31 states using BRFSS data)
  

- Deferred Action for Childhood Arrivals (DACA) – DACA reduced likelihood of living in poverty, increased labor force participation, decreases unemployment, increases income among bottom

  Pope N. J Publ Econ 143 (2016) 98-114
Opportunities

- New Surgeon General in California: Dr. Nadine Burke Harris (pediatrician) – focus on early childhood and ACES
- Governor Newsom’s budget proposed > $1.7 billion in funding for expanded early childhood education and early interventions
- Nearly 85 percent of brain development occurs within the first three years of a child’s life
Income and Life Expectancy by County and Commuting Zone

- Life expectancy gap between the richest 1% and poorest 1% was 15 yrs for men, 10 yrs for women and the inequality is increasing
- Varies across local areas
- Smoking Obesity Exercise – highly correlated with inequalities

**BUT** Low-income residents live longer in areas with larger share of immigrants, college graduates and higher local expenditures

Source: Chetty, Raj
Health in All Policies – ChangeLab Solutions

- Innovative Partnerships
  - Government
  - Anchor institutions (universities, hospitals)
  - Businesses
  - Community organizations
- Coordinated Strategies – laws and policies that purposefully lead to health equity
- Local Cross-Sector Policy Change
PLACE-BASED APPROACHES
Policies that influence how the fundamental drivers of health inequity shape places and access to resources for health, safety, and well-being

<table>
<thead>
<tr>
<th></th>
<th>Structural Discrimination</th>
<th>Wealth &amp; Income</th>
<th>Opportunity</th>
<th>Power</th>
<th>Governance</th>
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<tbody>
<tr>
<td>Community land trusts</td>
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<tr>
<td>Community policing &amp; violence prevention</td>
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<td>Complete streets</td>
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<td>Fair-share laws (environmental justice)</td>
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<td>Housing first</td>
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<td>Housing rehabilitation loan &amp; grant programs</td>
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<td>Inclusionary zoning</td>
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<td>Participatory planning / people-centered engagement</td>
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<td>Limits on density of alcohol, cannabis, sugary drink, &amp; tobacco retailers</td>
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**EARLY CHILDHOOD DEVELOPMENT & EDUCATION**

Policies to ensure that every child has a fair start in life and to provide social protections and support for families

<table>
<thead>
<tr>
<th>Structural Discrimination</th>
<th>Wealth &amp; Income</th>
<th>Opportunity</th>
<th>Power</th>
<th>Governance</th>
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<tbody>
<tr>
<td>Child care subsidies</td>
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<td>Dropout prevention</td>
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<td>Equitable school discipline</td>
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<td>Trauma-informed social-emotional learning</td>
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<td>Universal preschool</td>
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<td>Change Levers</td>
<td>5 Fundamental Drivers of Health Inequality*</td>
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<tr>
<td>Collectivism</td>
<td>Structural discrimination</td>
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<tr>
<td>Altruism</td>
<td>Income inequality/poverty</td>
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<td>Faith &amp; hope</td>
<td>Limited opportunities</td>
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<tr>
<td>Si se Puede</td>
<td>Limited political power</td>
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<tr>
<td>Familism</td>
<td>Governance that limits meaningful participation</td>
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<tr>
<td>Neighborhood cohesion</td>
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<tr>
<td>Social networks</td>
<td>*ChangeLabSolutions</td>
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