Leveling the Playing Field: Achieving Equity and Eliminating Racial/Ethnic Disparities in Your Practice

Glenn Flores, MD, FAAP
Distinguished Chair of Health Policy Research
Medica Research Institute
Overview: Goals of Today’s Presentation

- Describe demographics of racial/ethnic minorities in America and Hennepin County
- Summarize variety of racial/ethnic disparities in children's health and healthcare
- Identify 7 steps you can take in your practice to eliminate racial/ethnic disparities and achieve equity in pediatrics
Background

- Racial/ethnic minority children comprise 48% of US children, equivalent to 35.3 million
- Census projections indicate that minority children will outnumber white children by 2018
- From 2000-2010, white children in America declined by 4.3 million, whereas Latino and Asian/Pacific Islander (API) children increased by 5.5 million
- Indeed, all growth in child population in America from 2000 to 2010 attributable to population increases in children who are Latino, API, multiracial, or “some other race” besides white
- In 2011, for first time in nation’s history, minority births (50.4%) outnumbered white births (49.6%)
Background

- In Hennepin County, minority children comprise 46% of children, equivalent to over 123,000
- African-Americans largest racial/ethnic group of children in Hennepin Co, comprising 18% of county’s children, or about 49,000
- Latinos constitute 12%, or about 32,000
- Asians/Pacific Islanders account for 8%, or about 23,000
- American Indians/Alaska Natives account for 0.7%, or 1,877
- Multiracial children comprise 8%, or about 21,000
- White children account for 54%, or about 145,000
Background

- Extensive body of literature (Flores G, *Pediatrics* 2010;125:e979-e1020) documents racial/ethnic disparities in children’s health and healthcare
  - Extensive
  - Pervasive
  - Persist over time
Background

- Children’s disparities occur across spectrum of health and healthcare, including in
  - Mortality
  - Access to care and use of services
  - Prevention and population health
  - Health status
  - Adolescent health
  - Chronic diseases
  - Special healthcare needs
  - Quality of care
  - Organ transplantation
Disparities for African-American (AA) Children

Mortality

- Overall childhood death rates consistently higher for AA children
- National data for 43-year period revealed
  - Marked crude mortality disparities in young children 1-4 years old (twice that of white children) and older children 5 to 14 years old
  - Increases in mortality disparity ratio in most recent 10-year period
US Childhood Death Rates
(Singh & Yu, *AJPH* 1996)

**FIGURE 1**—US death rates for children 1 through 4 and 5 through 14 years of age, by race and sex: 1950 through 1993.

Source. Data were derived from the National Vital Statistics System, 1950 through 1993. The 1993 data are provisional, based on a 10% sample of deaths. Data for Blacks prior to 1968 were actually for non-Whites and are thus conservative estimates of the "true" death rates for Black children.
Mortality Disparities for AA Children

- Studies show significantly higher mortality rates for AA children versus white children in:
  - Detroit tri-county area for males and older females (10-19 years old)
  - Among children without congenital anomalies in state of Michigan
- AA children also experience higher risks of death from swimming pool drowning, especially in public pools, with drowning rate in hotel/motel pools disproportionately higher.
Mortality Disparities for AA Children

- Major disease-specific mortality disparities exist
  - Acute lymphoblastic leukemia (ALL)
  - Median age at death for Down syndrome
  - Congenital heart defects (both fatality rate and lower average age at death)
  - In-hospital death after congenital heart surgery
- Example: compared with white children, odds of death for AA children after congenital heart surgery = 1.76 (95% CI, 1.2-2.5) (adjusting for baseline risk/condition, gender, income, and geographic region)
Disparities in Prevention and Population Health: AA Children

- Breastfeeding significantly less likely, whether measured by ever breastfed, proportion exclusively breastfed, or proportion receiving any human milk
- As young children, higher odds of living in households without
  - Stair gates
  - Cabinet safety latches or locks
  - Hot-water thermostat settings turned down
- Substantially higher firearm injury rate
- Lowest immunization rates for primary immunization series, and substantially greater delays and later mean age for multiple immunization categories and doses
Chicago Children Receiving Late Vaccines


Graph showing the percent of children late for receiving vaccines, categorized by race and age.
Disparities in Health Status: AA Children

- Multiple studies document health-status disparities for AA children, whether for global health or specific conditions.
- Higher adjusted odds of fair or poor health and lower odds of excellent or very good health.
- Higher rates of activity and school limitations, and global stress.
- Significantly higher rates of stroke, invasive pneumococcal disease, and TB.
- HIV/AIDS disparities substantial, including largest percentages and numbers of new diagnoses in every age group and via perinatal transmission, as well as longer adjusted length-of-stays for those hospitalized.
Asthma Disparities: AA Children

- Highest asthma prevalence of any racial/ethnic group, and substantially higher than whites
  - Disparity has widened over time
- Substantially higher rates of asthma mortality, hospitalizations, ED visits, and office visits
  - Mortality and hospitalization disparities have worsened over time
Mean Annual Asthma Mortality (per 1,000,000) in US Children

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>1.2</td>
<td>1.0</td>
<td>2.0</td>
<td>2.4</td>
<td>2.2</td>
</tr>
<tr>
<td>AA</td>
<td>5.3</td>
<td>4.1</td>
<td>8.5</td>
<td>11.7</td>
<td>10.1</td>
</tr>
</tbody>
</table>

Disparities in Mental Health and Healthcare: AA Children

- Attention-deficit/hyperactivity disorder (ADHD) disparities: under-diagnosis, under-treatment, and
  - Lower adjusted odds of evaluation, receiving a diagnosis, and receiving medication or treatment
  - Higher proportions of parents with negative expectations about treatment helpfulness
- Autism disparities:
  - Receive diagnosis of autism 1.4 years later than whites
  - In mental-health treatment mean of 13 months longer than whites before receiving autism diagnosis
Disparities in Quality of Care: AA Children

In children with end-stage renal disease:

- Significantly more likely to receive hemodialysis rather than peritoneal dialysis and to receive inadequate hemodialysis dose
- Substantially less likely than whites to be activated on kidney transplant waiting list
- Less likely to receive preemptive kidney transplants
- Receive fewer living transplants and more cadaveric transplants
Disparities in Quality of Care: AA Children

- AA heart-transplant patients have
  - Double the odds of graft failure
  - Lower graft survival rates
  - Median graft survival time = 6 years lower
  - Median age at heart transplant = 5 years greater
  - Higher likelihood of HLA mismatch
- Undergo bidirectional Glenn and Fontan procedures at significantly older ages, among those with cardiovascular disease
AA Disparities in Graft Failure for Heart-Transplant Patients

Mortality Disparities for Asian/Pacific Islander (API) Children

- Hawaiian children have 50% higher crude mortality rate than white children
Disparities in Access and Use of Services: API Children

- Greater adjusted odds of
  - Having no usual source of care
  - No visit to physician or other healthcare provider in past year
  - Going >1 year since last physician visit
- Lower adjusted number of physician visits in past year
- Higher adjusted odds of appendicitis rupture
- Among children with cancer, Pacific Islanders had significantly greater odds of death, untimely treatment, not completing treatment as recommended, and loss to follow up
Disparities in Prevention and Population Health: API Children

- Data from Minnesota reveal triple the crude firearm injury rate of whites
- Highest proportion of elevated blood lead concentrations in Rhode Island, and only racial/ethnic group whose rate increased over time
- Higher adjusted odds of overweight among Pacific Islander, Filipino, and Asian children
- Slower adjusted 1-mile run/walk times in most age groups
- Lower calcium intake—lowest of any racial/ethnic group
Disparities for Adolescent APIs

- Compared with white adolescents, API adolescents have lower adjusted odds of
  - Seatbelt use
  - Sunscreen use
  - Weekly physical activity
- But greater adjusted daily hours of TV/video-game screen time
Disparities in Health Status: API Children

- Higher adjusted likelihood than whites of fair or poor health status
- Data from state of Hawaii reveal
  - Filipino and Chinese boys have highest rates of leukemia
  - Chinese boys have highest ALL rate
Disparities in Mental Healthcare: API Children

- Lower adjusted odds of
  - Any mental-health service use
  - Outpatient mental-health service use
  - 24-hour-care service use (i.e., inpatient, residential, group-home, or alcohol/drug abuse treatment)
Disparities in Quality of Care: API Children

- Lower overall quality of primary-care scores
- Lower PCP interpersonal relationship scores
- Lower scores for specific primary-care services
- Lower adjusted primary-care quality scores for 4 elements of care among API parents interviewed in English and 6 elements of care among API parents for whom primary language spoken at home not English
- Among those hospitalized for pneumonia, API children have lower adjusted odds of bronchoscopy and mechanical ventilation, longer adjusted length of stay, and higher adjusted charges
Mortality Disparities for Latino Children

- Puerto Rican children 1-4 years old have higher crude mortality rate than their white counterparts
- Latinos have higher drowning rate in neighborhood pools and pool drowning rates in general for male adolescents
- Higher adjusted risks of death for those with ALL and after congenital heart surgery
### Mortality Disparities for Latino Children with ALL

Table 3. Multivariate Cox Regression Analysis for Risk of Death, by Diagnosis Period

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>Diagnosis Years 1973-1999 (N = 4952)</th>
<th>Diagnosis Years 1990-1999 (N = 2025)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HR (95% CI)</td>
<td>HR (95% CI)</td>
</tr>
<tr>
<td></td>
<td>P Value</td>
<td>P Value</td>
</tr>
<tr>
<td>White</td>
<td>Reference</td>
<td>Reference</td>
</tr>
<tr>
<td>Black</td>
<td>1.49 (1.2-1.8)</td>
<td>1.50 (1.0-2.2)</td>
</tr>
<tr>
<td></td>
<td>&lt;.001</td>
<td>.03</td>
</tr>
<tr>
<td>Asian</td>
<td>1.10 (0.9-1.3)</td>
<td>1.28 (0.9-1.9)</td>
</tr>
<tr>
<td></td>
<td>.32</td>
<td>.21</td>
</tr>
<tr>
<td>Native American</td>
<td>1.80 (1.2-2.6)</td>
<td>1.90 (0.8-4.6)</td>
</tr>
<tr>
<td></td>
<td>.002</td>
<td>.16</td>
</tr>
<tr>
<td>Hispanic</td>
<td>1.39 (1.2-1.6)</td>
<td>1.83 (1.4-2.4)</td>
</tr>
<tr>
<td></td>
<td>&lt;.001</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Disparities in Access and Use of Services: Latino Children

- Multiple studies document wide range of disparities in access to care and use of services for Latino children, including greater adjusted odds of:
  - Uninsurance
  - No usual source of care or healthcare provider
  - No physician visit in past year
  - Going ≥1 year since last physician visit
  - Not being referred to specialist
  - Perforated appendicitis
  - Never/only sometimes getting medical care without long waits
  - Getting timely routine care or phone help
Disparities for Adolescent Latinos

- Latina female adolescents
  - Uninsurance
  - Perpetrating violence
  - Being victim of violence
  - Those 15-19 years old have crude birth rate about 3 times higher than white counterparts and highest of any racial/ethnic group
Disparities in Birth Rate: Latinas

Birth Rates (Live Births) per 1,000 Females Aged 15–19 Years, by Race and Hispanic Ethnicity, select years

- All
- Non-Hispanic White
- Non-Hispanic Black
- American Indian/Alaska Native
- Asian/Pacific Islander
- Hispanic

Disparities in Health Status: Latino Children

- National data reveal higher adjusted likelihood of fair or poor health
- Twice the percentage of whites of new HIV/AIDS diagnoses among those <13 years old, in perinatal transmission, and among other pediatric cases
- Higher crude incidence rate of TB
- Both Mexican-American and Puerto Rican children have higher adjusted odds of fair or poor health
Asthma Disparities: Latino Children

- Higher asthma prevalence than white children
- Substantial increase in Latino asthma prevalence over time
- Particularly high asthma prevalence among Puerto Ricans (highest of any racial/ethnic group or subgroup)
- Higher adjusted odds of asthma ED visits, hospitalizations, activity limitations, need for urgent care in past 12 months, and higher potential asthma burden (diagnosed plus possible but undiagnosed asthma)
- Lower adjusted odds of inhaled steroid use and daily anti-inflammatory medications
Disparities in Mental Health and Healthcare: AA Children

- Significantly higher unmet need for mental healthcare
- Lower odds of any mental-health visit, outpatient visits, antidepressant prescriptions, and receiving treatment from mental-health specialist for any condition, behavior problems, or depression
- Higher odds of developmental delays
- Lower odds of being diagnosed with externalizing behavioral disorders
- Lower odds of use of mental-health services among children being investigated for possible abuse or neglect and among Medicaid-eligible teenagers in substance-abuse treatment
Disparities in Mental Health and Healthcare: AA Children

- Substantially lower adjusted odds of receiving ADHD diagnosis or stimulant prescriptions during outpatient primary-care visits
- Young Latino children have higher adjusted odds of
  - Being read to less than every day
  - Having fewer numbers of children’s books in household
  - Family never eating lunch or dinner together
Disparities for Latino Children with Special Healthcare Needs

Many disparities documented include higher adjusted odds of:

- Uninsurance
- No usual source of care
- Parental dissatisfaction with care
- Unmet medical-care needs
- No physician visit in the past year and fewer visits/year
- Inadequate time and information from provider
- Difficulties receiving specialty referrals
- Family members reducing/stopping employment because of child’s condition
- Not receiving family-centered care, and experiencing problems with ease of use of healthcare services
Mortality Disparities for American Indian/Alaska Native (AI/AN) Children

- Higher age-specific crude mortality rate (vs. whites), both in national and urban samples
- Higher adjusted risk of death among those with ALL
Disparities in Use of Services: AI/AN Children

- Higher adjusted odds than white children of going ≥1 year since last physician visit
Disparities in Prevention and Population Health: AI/AN Children

- Firearm injury rate more than 7 times higher than for white children
- Higher adjusted odds of overweight and obesity
- Slower adjusted 1-mile run/walk time
- Lower calcium intake among boys
Disparities for Adolescent AIs/ANs

- Females have higher risks than their white counterparts of needing but not getting medical care and of perpetrating violence.
- Birth rate for AI/AN female adolescents 2-3 times higher than that of whites.
- Males have higher risk of:
  - Skipping breakfast
  - Poor/fair health status
  - Perpetrating violence
Disparities in Health Status: AI/AN Children

- Higher adjusted odds than white children of poor or fair health
- Highest prevalence of these suboptimal health ratings of any racial/ethnic group
Disparities in Mental Health and Healthcare: AI/AN Children

- Within 6 months of new depression episode, lower adjusted odds than white children of
  - Any antidepressant prescription being filled
  - Any mental-health visit or antidepressant prescription filled
- For those in substance-abuse treatment, lower adjusted likelihood of mental-health services use
### Table 2. Likelihood of Filling an Antidepressant Prescription or Having a Mental Health Visit Within 6 Months of New Episode of Depression*

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>No. of Subjects (n = 1435)</th>
<th>Any Antidepressant Prescription Filled</th>
<th>Any Mental Health Visit</th>
<th>Any Mental Health Visit or Antidepressant Prescription Filled</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>1048</td>
<td>Referent</td>
<td>Referent</td>
<td>Referent</td>
</tr>
<tr>
<td>Native American</td>
<td>154</td>
<td>0.22 (0.12-0.41)</td>
<td>0.63 (0.36-1.09)</td>
<td>0.29 (0.18-0.46)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>90</td>
<td>0.45 (0.30-0.69)</td>
<td>0.61 (0.40-0.93)</td>
<td>0.42 (0.30-0.61)</td>
</tr>
<tr>
<td>Black</td>
<td>48</td>
<td>0.68 (0.37-1.28)</td>
<td>0.75 (0.37-1.50)</td>
<td>0.65 (0.36-1.17)</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>19</td>
<td>0.76 (0.29-1.97)</td>
<td>1.37 (0.50-3.71)</td>
<td>0.88 (0.35-2.20)</td>
</tr>
<tr>
<td>Other</td>
<td>76</td>
<td>0.62 (0.37-1.02)</td>
<td>1.15 (0.68-1.96)</td>
<td>0.55 (0.35-0.88)</td>
</tr>
</tbody>
</table>

*All analyses adjusted for sex, age, sex × age interaction, Medicaid eligibility category, and rural or urban residence.
Disparities in Quality of Care: AI/AN Children

- Compared with the parents of white children, parents of AI/AN children gave
  - Lower adjusted scores for their child’s
    - Healthcare timeliness
    - Healthcare provider communication
    - Health-insurance plan service
  - Lower adjusted ratings for child’s personal doctor and health plan
Race/ethnicity data (as self-identified by parent) routinely should be collected on all children by practices, health systems, Medicaid/CHIP, managed-care organizations, and private insurers, so disparities can be identified, monitored, and targeted as part of QI efforts

- Given lack of significant change over time in total number of disparities, together with appearance of many new disparities (Flores & Lin *Int J Equity Health* 2013 Jan 22;12:10)
- Recommendation consistent with 2 recent IOM reports, proposals by disparities experts, and ACA (Section 4302)
- Disparities monitoring and public disclosure at least annually should be considered by practices, hospitals, health plans, Medicaid/CHIP, counties, and states
7 Steps: Eliminating Disparities and Achieving Equity in Your Practice

Ensure that every child has health insurance and medical and dental homes

- Because minorities children comprise 59% of uninsured children, although constituting only 48% of US children
- Latinos, AIANs, and African-Americans are significantly more likely to be uninsured and sporadically insured than white children
- Multiple disparities exist and have persisted in lack of personal doctor or nurse and in unmet dental needs
  - Underscores urgent need to ensure that every child has medical and dental home
7 Steps: Eliminating Disparities and Achieving Equity in Your Practice

Racial/ethnic disparities must be framed and addressed as quality-of-care issues

- Given substantial prevalence and persistence of children’s disparities
- As pointed out by experts (Beal AC. Health Affairs 2004;23:171-9) and recent IOM report (IOM. Child and Adolescent Health and Health Care Quality: Measuring What Matters. 2011)
- So disparities can be eliminated via rapid-cycle QI and practice coaching
7 Steps: Eliminating Disparities and Achieving Equity in Your Practice

Ensure and advocate for all children to have access to needed subspecialty care

- Children who need and receive care from subspecialist have significantly fewer ED visits and hospitalizations and greater likelihood of healthcare consistent with national practice guidelines than children not receiving needed subspecialty care

- But minority children significantly more likely than white children to have problems getting subspecialty care
7 Steps: Eliminating Disparities and Achieving Equity in Your Practice

Aim for your practice to attain highest level of cultural competency

- Bias still exists in pediatric care
  - In young children hospitalized for skull or long-bone fractures, minorities significantly more likely than whites to have skeletal survey performed (OR= 8.8) and be reported to CPS for suspected abuse (OR= 4.3) (Lane et al. JAMA 2002;288:1603-9)
  - In children and adults hospitalized for limb fractures, whites received significantly higher doses of narcotic analgesics (22 mg/day of morphine equivalents) than blacks (16 mg/day) and Latinos (13 mg/day) (Ng et al. Psychosom Med 1996;58:125-9)
Aim for highest level of practice cultural competency

- But study of predictors of asthma-care quality for Medicaid-insured children (Lieu et al. Pediatrics 2004;114:e102-10) found patients of practice sites with highest cultural competence scores less likely to underuse preventive asthma medications (OR, 0.15) and had significantly better parent ratings of overall quality of asthma care
7 Steps: Eliminating Disparities and Achieving Equity in Your Practice

Aim for highest level of practice cultural competency

- One model which has been well-received and considered useful in clinical practice and educational settings (Flores. J Pediatrics 2000;136;14-23) consists of five components:
  - Normative cultural values
  - Language issues
  - Folk illnesses
  - Patient and parent beliefs
  - Provider practices

- Model achieves cultural competency by resulting in recognizing and appropriately addressing cultural issues affecting care of patients and families in your practice
Aim for practice workforce diversity

- African-American (AA) patients with AA physicians more likely than those with non-AA physicians to rate physicians as excellent (AOR=2.4) and report receiving preventive care (AOR, 1.7) and all needed medical care (AOR=2.9) during the previous year (Saha et al. Arch Intern Med 1999;159:997-1004)

- Latino patients with Latino physicians more likely than those with non-Latino physicians to be very satisfied with healthcare overall (AOR, 1.7) (Saha et al. Arch Intern Med 1999;159:997-1004)

7 Steps: Eliminating Disparities and Achieving Equity in Your Practice

Leverage innovative, evidence-based interventions

- Rigorous evidence documents that intervening with community healthworkers (CHWs), promotores, or Parent Mentors (PMs) can reduce or eliminate many barriers and threats to children’s health and healthcare, through education, linking children and families to resources, providing social support, eliminating language barriers, and empowering parents; studies additionally indicate that such interventions are cost effective.

- RCTs document disparities actually can be eliminated, using innovative, family-centered, community-based interventions.
Leverage innovative, evidence-based interventions

- Solid evidence that CHWs, promotores, and PMs highly effective in managing childhood asthma, reducing miscarriages and low birth-weight rates, creating home environments more supportive of children’s early learning for mothers with low psychological resources, obtaining early-intervention services for young children, achieving high immunization rates, insuring uninsured children, identifying childhood food insecurity in border households, and increasing childhood pesticide poisoning knowledge and safe home-storage practices in farm-worker families
7 Steps: Eliminating Disparities and Achieving Equity in Your Practice

Leverage innovative, evidence-based interventions

- For minority asthmatic children, PMs significantly reduce wheezing, asthma exacerbations, ED visits, and missed parental work days, while improving parental self-efficacy, but cost $60/patient/month, and save $597/patient/year (Pediatrics 2009;124:1522-32)

- PMs significantly more effective than traditional methods in insuring uninsured minority children; obtaining insurance faster; renewing coverage; improving access to primary, dental, and specialty care; reducing unmet needs and out-of-pocket costs; achieving parental satisfaction and care quality; and sustaining long-term coverage, but cost $53/child/month, and save $6,045/child/yr (Pediatrics 2016;137(4) peds.2015-3519)
Leverage innovative, evidence-based interventions

- State of MN provides fee-for-service Medicaid payments for diagnosis-based education and care-coordination
  - All Medicaid recipients eligible
- >600 CHW certificate-holders in MN
- CHWs enrolled as non-billable providers
- Codes for CHW education and care-coordination: 98960-2
- Bill in 30-minute units: limit 4 units/24 hours; maximum 8 units per calendar month per recipient
- Provider types who can bill for CHWs: physician, APN, clinics, hospital, dentist, and FQHCs
Conclusions

- Racial/ethnic disparities in children’s health and healthcare
  - Extensive
  - Pervasive
  - Persist over time
- Each racial/ethnic group has unique set of disparities
Conclusions

- Disparities occur across spectrum of health and healthcare, including in:
  - Mortality
  - Access to care and use of services
  - Prevention and population health
  - Health status
  - Adolescent health
  - Chronic diseases
  - Special healthcare needs
  - Quality of care
  - Organ transplantation
Conclusions

- Using 7 steps, you can eliminate disparities and achieve equity in your practice
  - Routinely collect race/ethnicity data (as self-identified by parent) on all children, and regularly identify, monitor, and target disparities as part of QI efforts
  - Ensure that every child has health insurance and medical and dental homes
  - Frame and address disparities as quality-of-care issues
  - Ensure all children have access to subspecialty care
  - Aim for highest level of practice cultural competency
  - Pursue practice workforce diversity
  - Leverage innovative, evidence-based interventions