Objectives

• Describe cost of disparities in the US
• Describe Connecticut’s disparities analysis
• Discuss application of the results & next steps
Acknowledgments

• Original Analysis
  – David A. Mann MD, PhD. Cost of Disparity Analysis & Using Disparity Data for Policy presented on May 14, 2013 at the Connecticut DPH.

• DPH Reviewers of the Connecticut Analysis
  – Margaret Hynes, Justin Peng, Mehul Dalal, Lloyd Mueller, Jon Olson, Olga Armah
  – Chronic Disease Surveillance & Evaluation Committee (CHAPS)
  – Population Health Statistics & Surveillance Epidemiologists
  – Community Health & Prevention Section Epidemiologists & Program Staff
The Economic Burden of Health Inequalities in the United States

- Published September 2009 (www.jointcenter.org)
- The Joint Center for Political & Economic Studies
- Investigators: LaVeist, Gaskin & Richard
- From 2003-2006 there were $229.4 billion in direct medical costs from minority disparities
  - $57.35 billion/year
- 30.6% of direct costs for African Americans, Asians & Hispanics were due to disparities
Estimate Connecticut’s share of the $57.35B

- Used population statistics
- The cost of the disparity for the Black population in Connecticut should be between $550 million and $650 million a year
Acute Care Hospital Inpatient Discharge Database (HIDD)

• All 31 acute care hospitals are required by law to submit inpatient discharge data to OHCA
• Information taken from medical record abstracts and hospital bills
• *Data coded for billing purposes not for surveillance*
• Hospitalizations: discharges from the hospital
  – Number of discharges not unduplicated patients
• 2011 data
Calculating the Frequency Disparity

1. Calculate the ratio of the Black Hospital Discharge Rate to White Hospital Discharge Rate (in each age group)

2. Calculate Black % Excess (in each age group):
   \[
   \text{Black to White Hospital Discharge Rate Ratio} - 1 \div \text{Black to White Hospital Discharge Rate Ratio}
   \]

3. Calculate the Black excess hospital charges (in each age group & sum):
   \[
   \text{Black % Excess} \times \text{Black Total Charges}
   \]
Frequency Disparity - CT

- The excess charges from more hospital discharges among Black residents (frequency disparity) is $588 million.
Severity Disparity - CT

- Average charges of Black hospitalizations are higher than the average charges for Whites
- Difference in average charges multiplied by the non-excess Black discharges
  - Non-excess Black discharges = White discharge rate
  - $3,295 \times (11,358 \text{ discharges per 100,000 population})

$37 \text{ million}$
Black Total Excess Charges - CT

• Frequency Disparity + Severity Disparity
  – $588 million + $37 million

$625 Million in excess charges
36% of Black total charges
Hospital Charges vs. Cost

- Results are excess in hospital charges, not the actual cost of the hospitalization
- The amount of money a hospital charges the payer for services or supplies
  - Hospital charges may not include physician fees
- Charges are usually more than payments
Hospital Charges vs. Cost

• Hospital Ratio of Cost to Charge (RCC)
  – Ratio of total operating expense to the total of gross patient charges plus other operating revenue
  – A lower ratio is more favorable, since it indicates a greater difference between the cost and charges billed for providing patient services
  – 2011 Connecticut RCC = 0.38
Black Total Excess Cost (estimated) - CT

• RCC x Black Total Disparity (charges)
  – 0.38 x $625 million

Black Total Disparity (estimated cost) = $237 million
Limitations

• Race and ethnicity may be either self- or observer-reported
  – May be subject to misclassification

• The estimates may be conservative
  – Combines:
    • Conditions for which the minority population has higher hospital discharge rates and/or higher charges and
    • Condition for which the minority population has lower hospital discharge rates and/or lower charges

• The estimates are for one point in time
Next Steps

• Analyze more years of data
• Subset by payer (public and private)
• Subset by age
Application

• Improving quality and containing costs
• Engaging stakeholders in minority health initiatives
• Tracking progress in reducing disparities
Conclusion

• Black total excess charges in Connecticut are estimated to be about $625 million
• Black total excess hospital cost is estimated to be about $237 million
• These are conservative estimates with limitations
• Reducing health inequalities could result in cost savings as well as improved population health
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