HEALTH DISPARITIES CALCULATOR (HD*Calc): A TOOL TO MONITOR AND EVALUATE HEALTH DISPARITIES

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NATIONAL GOAL TO ELIMINATE HEALTH DISPARITIES

Eliminate Health Disparities
A *Healthy People* Overarching Goal

2000
- Reduce

2010
- Eliminate
  - A shift in programmatic priority; utilize population-based measures
  - Social justice; health for all people

2020
- Achieve health equity
- Eliminate disparities
- Improve the health of all groups
- Methods for measuring and monitoring health disparities
What is HD*Calc?

- Extends work published in 2005 & 2007 NCI monographs
- Generates multiple measures of disparity after importing data into the calculator software
- Accepts imported data (cross-sectional and trend data categorized by disparity groups)
  - Statistics may be calculated by NCI’s SEER*Stat software or any software (HD*Calc will import text or csv files)
WHAT CAN HD*CALC DO?

- Compare different measures of disparities by race/ethnicity, SES and geographic area quickly and accurately
- Graphically presents trends in data
- Easily export tables and graphs
# HD*Calc Health Disparity Measures

<table>
<thead>
<tr>
<th>Disparity Measure</th>
<th>Symbol</th>
<th>Absolute or Relative</th>
<th>Reference Group</th>
<th>All Social Groups</th>
<th>Reflect SES Gradient</th>
<th>Social Group Weighting</th>
<th>Inequality Aversion Parameter</th>
<th>Graphical Analogue</th>
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</thead>
<tbody>
<tr>
<td>Social Group Disparity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absolute Difference</td>
<td>AD</td>
<td>Absolute</td>
<td>Best</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
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<tr>
<td>Relative Difference</td>
<td>RD</td>
<td>Relative</td>
<td>Best</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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<td><strong>Slope Index of Inequality</strong></td>
<td>SII</td>
<td>Absolute</td>
<td>Average</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
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<tr>
<td>Relative Index of Inequality</td>
<td>RII</td>
<td>Relative</td>
<td>Average</td>
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<td>Yes</td>
<td>Yes</td>
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<td>Yes</td>
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<tr>
<td>Index of Disparity</td>
<td>ID_{isp}</td>
<td>Relative</td>
<td>Best</td>
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<td>No</td>
<td>No</td>
<td>No</td>
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</tr>
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<td>RCI</td>
<td>Relative</td>
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<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Between Group Variance</td>
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<td>Absolute</td>
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<tr>
<td>Theil Index</td>
<td>T</td>
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<td>Average</td>
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<td>Yes</td>
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<td>Mean Log Deviation</td>
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<td>Kunst-Mackenbach</td>
<td>RII_{KM}</td>
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<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

\*All those better off.

\*In the case of regression-with grouped data.
DIVERGING MEASURES: US PROSTATE CANCER MORTALITY, 1969-2005

Source: SEER*Stat Database, 2008
“...racial disparities in mortality from cancers potentially affected by screening and treatment increased over most of the interval since 1975.”
DIVERGING MEASURES OF INEQUALITY: ARE WE MAKING PROGRESS?

% Change in RD and excess RR for prostate cancer mortality

Rate Difference

Rate Ratio

26% Reduction

9% Increase

Source: SEER*Stat Database, 2008
TUTORIALS AND MONOGRAPHS

URL: http://www.seer.cancer.gov/hdcalc/index.html

Methods for Measuring Cancer Disparities: A Review Using Data Relevant to Healthy People 2010 Cancer-Related Objectives

Selected Comparisons of Measures of Health Disparities: A Review Using Databases Relevant to Healthy People 2010 Cancer-Related Objectives
HD*CALC AS AN EXTENSION OF SEER*STAT

- Surveillance, Epidemiology, and End Results (SEER) Program
  - U.S. population–based cancer registries
    - Diverse racial/ethnic and socioeconomic populations
    - SEER 18; 28% percent of the US
  - Managed by the National Cancer Institute
  - Established in response to National Cancer Act of 1971
  - Began collecting data on cancer cases January 1, 1973
- SEER*Stat is a software tool to access SEER research data
- SEER data can be imported into HD*Calc
- HD*Calc output is compatible with Joinpoint
SUMMARY

- HD*Calc can be used as an extension of SEER*Stat or a stand alone
- HD*Calc can enable researchers to more fully explore their own data and to understand the implications of different measures
- Choice of disparity measures will have an important impact on conclusions
  - Scale of measurement
  - How much to weight the data
  - Reference level
- Monitoring health inequalities requires both precise measurement and value judgments
  - A suite of health inequality measures is necessary to provide a complete description of the magnitude of inequality
HD*Calc Demonstration

- Training webinar
  - Live Demonstration of HD*Calc
  - PPT Presentations
  - Recordings and Transcripts

- Technical assistance: hdcalculator@imsweb.com

- Publication
  - American Journal of Public Health
ACKNOWLEDGEMENTS

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  - Information Management Services (IMS)
  - John Lynch, University of South Australia
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HD*Calc
Health Disparities Calculator

thank you