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Ranking Methods

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Ranking System

This section describes the logic behind our ranking system, the weighting scheme we employ, and the measures we use to create the Rankings. For a more technical description of this process, please see our [working paper](#). Details regarding the actual calculations of summary scores and ranks can be found in the section, [Calculating Scores and Ranks](#).

The County Health Rankings are based on a [conceptual model of population health](#) that includes both Health Outcomes (length and quality of life) and Health Factors (determinants of health). These Outcomes and Factors are broken down into a number of components that are broken down further into subcomponents we call Focus Areas.

After developing the Rankings model, the next step in creating the Rankings is to establish weights for each component in the model and find appropriate measures. The process for choosing weights and measures was guided by:

- Review of the literature around the impact of various factors on health outcomes
- Ability for factors to be modified through community action
- Review of America's Health Rankings methodology and indicators
- Availability and reliability of indicators at the county level throughout the nation

Analysis

Feedback from a panel of technical experts

The Rankings are based on summary composite scores calculated from the individual measures. We calculate and rank eight different summary composites:

1. Overall Health Outcomes
2. Health Outcomes – Length of life
3. Health Outcomes – Quality of life
4. Overall Health Factors
5. Health Factors – Health behaviors
6. Health Factors – Clinical care
7. Health Factors – Social and economic factors
8. Health Factors – Physical environment

The overall Health Outcomes summary score is a weighted composite of Length of life (50%) and Quality of life (50%). The overall Health Factors summary score is a weighted composite of four components: Health behaviors (30%), Clinical care (20%), Social and economic factors (40%), and Physical environment (10%). Note that the component weights for Health Outcomes and Health Factors each add to 100%.

There is no one "correct" formula or "true" set of weights that perfectly represents the health of a community. Indeed, even a very good system by today's standards might not perform well over long periods of time or under all possible circumstances. County Health Rankings staff have used information from a wide variety of sources--scientific research, available data, expert opinion, statistical analysis--to arrive at a set of easy to understand weights that reasonably reflect the different components and determinants of health. Of course, they are not perfect, but we believe they are reasonable estimates supported by the best available evidence balanced with the availability of health data and interpretability.

Health Outcome Summary Score

To calculate the summary score for Health Outcomes, we combined scores for Length of life (50%) and Quality of life (50%) to produce 100% of the Health Outcomes summary score. The weights for specific measures were assigned based on relative importance within the factor and considerations of data reliability and availability. Within quality of life, we assign a higher weight to the low birthweight measure since this measure is based on a census of all live births whereas the other measures are based on a survey of a sample of the population.

Health Outcome Weights for the County Health Rankings

| Outcome | | |
|---------|------------|---|
| | Focus Area | Premature death |
| | Measure | Years of potential life lost before age 75 (50%) |
| | Focus Area | Quality of life |
| | Measure | Poor or fair health (10%) Poor physical health days (10%) Poor mental health days (10%) |
| | Focus Area | Poor birth outcomes |
| | Measure | Low birthweight (20%) |

Health Factors Summary Score

To calculate the summary score of health factors, weights were determined for each of the four major factors (Health behaviors, Clinical care, Social and economic factors, and the Physical environment) based on a review of the literature, expert opinion, and data analysis. Additional information is available about the methods used to determine these weights ([Working Paper on Assigning Determinant Weights](#)). The following weights were used to calculate the overall Health Factors summary score: Health behaviors (30%), Clinical care (20%), Social and economic factors (40%), and the Physical environment (10%). Like the Health Outcomes summary score, weights at each level sum to 100%.

The weights for specific measures were assigned based on relative importance within the factor and considerations of data reliability and availability. A table presenting the weights follows.

Health Factor Weights for the County Health Rankings

| | | |
|---------------|------------|--|
| Health Factor | | |
| | Focus Area | Smoking (10%) |
| | Measure | Adult smoking (10%) |
| | | |
| | Focus Area | Diet and exercise (10%) |
| | Measure | Adult obesity (5%) Food environment index (2%) Physical inactivity (2%) Access to exercise opportunities (1%) |
| | | |
| | Focus Area | Alcohol and drug use (5%) |
| | Measure | Excessive drinking (2.5%) Alcohol-impaired driving deaths (2.5%) |
| | | |
| | Focus Area | Sexual activity (5%) |
| | Measure | Sexually transmitted infections (2.5%) Teen births (2.5%) |
| | | |
| | Focus Area | Access to care (10%) |
| | Measure | Uninsured (5%) Primary care physicians (3%) Dentists (1%) Mental health providers (1%) |
| | | |
| | Focus Area | Quality of care (10%) |
| | Measure | Preventable hospital stays (5%) Diabetes monitoring (2.5%) Mammography screening (2.5%) |
| | | |
| | Focus Area | Education (10%) |
| | Measure | High school graduation (5%) Some college (5%) |
| | | |
| | Focus Area | Employment (10%) |
| | Measure | Unemployment (10%) |
| | | |
| | Focus Area | Income (10%) |
| | Measure | Children in poverty (7.5%) Income inequality (2.5%) |
| | | |
| | Focus Area | Family and social support (5%) |
| | Measure | Children in single-parent households (2.5%) Social associations (2.5%) |
| | | |
| | Focus Area | Community safety (5%) |
| | Measure | Violent crime (2.5%) Injury deaths (2.5%) |
| | | |

| | |
|------------|---|
| Focus Area | Air and water quality (5%) |
| Measure | Air pollution - particulate matter (2.5%) Drinking water violations (2.5%) |
| Focus Area | Housing and transit (5%) |
| Measure | Severe housing problems (2%) Driving alone to work (2%) Long commute - driving alone (1%) |