Data Sources, Analysis and Interventions

Wisconsin County Health Rankings

Germaine to the development of the Waupaca County Department of Health

and Human Services 2008 Community Needs Assessment were the Wisconsin

County Health Rankings and the Wisconsin County Health Rankings Full Report,

2007 and 2008. Though their titles imply they represent just two years of data, they

are actually compilations of statistical information from multiple sources spanning

the years from 1999 to the present. Produced by the University of Wisconsin

Population Health Institute, their purpose is to "summarize the current health of

each county population and the current distribution of key factors that determine

future health" (Taylor KW, Athens JK, Bookse BC, O'Connor CE, Jones NR,

Remington PL. 2008. p. 1). An illustration of data sources utilized in the

development of the Wisconsin County Health Rankings can be found in Table 1.

The Model of Population Health Improvement, developed by Kindig &

Stoddart (2003), seen in Illustration A, describes the foundation on which the

Wisconsin County Health Rankings are built. Athens et al. (2008) found

"This model shows that health outcomes in a population are the
result of a set of health determinants and the distribution
of these determinants across the population. These
determining factors may be positively or negatively affected
by interventions or policies that alter their distribution in the community.
Thus, counties and cities have the ability to improve the health
of their communities through the implementation of
effective policies." (p. 1)

Illustration B depicts the relationship of programs/policies and health

determinants to eventual health outcomes. It also indicates the "weight", or

importance, given to each category of health determinant and health outcome as it

relates to the final "product". There are only two categories of health outcomes:

Premature Mortality as indicated by "years of potential life lost" (YPLL) and

General Health Status (self-reported "fair" or "poor" health). Each is "weighted" equally at 50%.
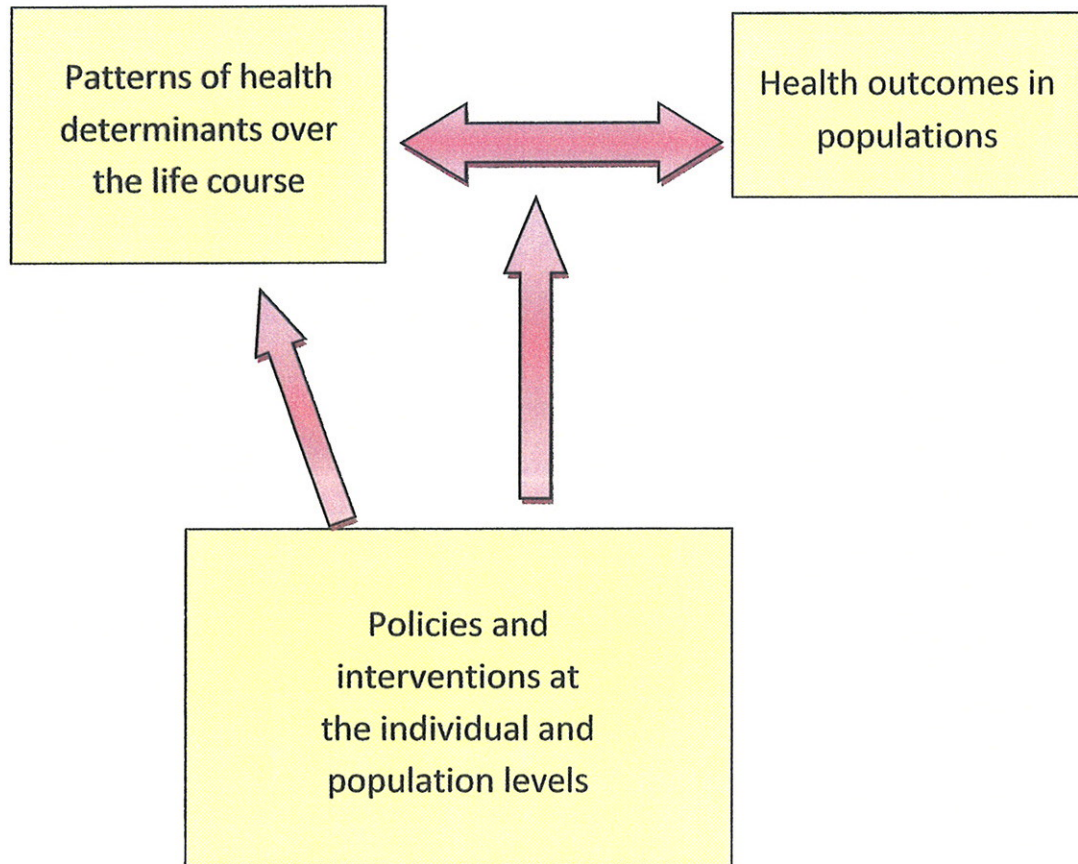
The categorization of health determinants is more complex with Health Behaviors and Socioeconomic Factors each comprising 40% of determinants thus capturing 80% importance in determining health. Health Care and Physical Environment comprise 10% importance each, as determinants of health, thus having 20% influence. To dissect the effect of each health determinant even more, subcategories of determinants (such as "access to care", "education", and "air quality") have also been "weighted".

The following pages discuss each major category of health determinant and its individual components. Tables illustrating composite data for each major health determinant precede each discussion section. Components of each health determinant are individually delineated. They are "weighted" according to importance as determinants of health and "ranked" in comparison to other Wisconsin counties. Percentages or numbers are also identified for each subcategory and these are listed for the years 2007 and 2008. They are then compared to the average in Wisconsin and to the Healthiest Wisconsin 2010 target. Each health determinant subcategory is also illustrated by quartile.

A table depicting the subcategories of health outcomes is also included. Quartile placement of health outcomes is the final table in the series.

Table 1

Table: Overview of Data Used in the *Rankings*

COMPONENT Category	Measure	Percent of Total Score	Data Source	Years of Data Used
HEALTH OUTCOMES				
Mortality	Years of Potential Life Lost	50	WISH	2004-2006
Morbidity	General Health Status	50	BRFSS, FHS	2001-2007, 2000-2006
HEALTH DETERMINANTS				
HEALTH CARE		10		
Access to Care	No Health Insurance	1.67	FHS	2000-2006
	Did Not Receive Needed Health Care	1.67	FHS	2000-2006
	No Recent Dentist Visit	1.67	FHS	2000-2006
Quality of Care	Poor Diabetic Care	1.67	Metastar	2005-2007
	No Biennial Mammography	1.67	Metastar	2005-2007
	Inpatient Quality of Care	1.67	US DHHS	2006-2007
HEALTH BEHAVIORS		40		
Tobacco	Cigarette Smoking	6	BRFSS	2001-2007
	Smoking During Pregnancy	6	WISH	2002-2005
Diet and Exercise	Physical Inactivity	4	BRFSS	2003, 2005, 2007
	Obesity	6	BRFSS	2001-2007
	Less Than 5 a Day	3	BRFSS	2001-2005, 2007
Alcohol Use	Binge Drinking	10	BRFSS	2001-2007
	Motor Vehicle Crash Occupancy	0.5	CODES	2003-2005
	MV Crash-Related ER Visits (On-Road)	0.5	WISH	2004-2006
	MV Crash-Related ER Visits (Off-Road)	0.5	WISH	2004-2006
High Risk Sexual Behavior	Teen Birth Rate	1	WISH	2003-2006
	Sexually Transmitted Disease	1	DHS	2003-2006
Violence	Violent Crime	1.5	OJA	2003-2006
SOCIOECONOMIC FACTORS		40		
Education	High School Noncompletion	6.67	DPI	2006-2007
	No High School Diploma	6.67	Census	2000
Income	Unemployment Rate	6.67	DWD	2007
	Children in Poverty	6.67	SAIPE	2005
Social Disruption	Divorce	6.67	Census	2000
	Single Parent Households	6.67	Census	2000
PHYSICAL ENVIRONMENT		10		
Air Quality	Air Quality Risk	3.33	EPA, DNR	1999, 2005-2007
Water Quality	Nitrate Levels in Water	3.33	DNR	2006-2007
Built Environment	Housing with Increased Lead Risk	0.56	Census	2000
	Lead Poisoned Children	0.56	DHS	2007
	Radon Risk	1.11	DHS	2006
	Method of Commuting: Driving Alone	1.11	Census	2000

Model of Population Health Improvement

Source: Kindig and Stoddart, 2003.[2]

STRUCTURE OF THE RANKINGS

Health Outcomes

Premature Mortality (50% of outcomes)
• years of potential life lost - YPLL

General health status (50% of outcomes)
• self-reported fair or poor health

Health care
(10% of determinants)

Access to care

Quality of care

Health behaviors
(40% of determinants)

Tobacco

Diet and exercise

Alcohol use

High risk sexual behavior

Violence

Health Determinants

Socioeconomic factors
(40% of determinants)

Education

Income

Social disruption

Physical environment
(10% of determinants)

Air quality

Water quality

Built environment

Programs and Policies