

**University of Wisconsin
School of Medicine and Public Health**



The County Health Rankings Model of Population Health

Institute of Medicine
January 21, 2010
Washington DC



Outline

- Background and rationale
- The Wisconsin *County Health Rankings*
- The “Wisconsin Model” for Population Health
- Next steps

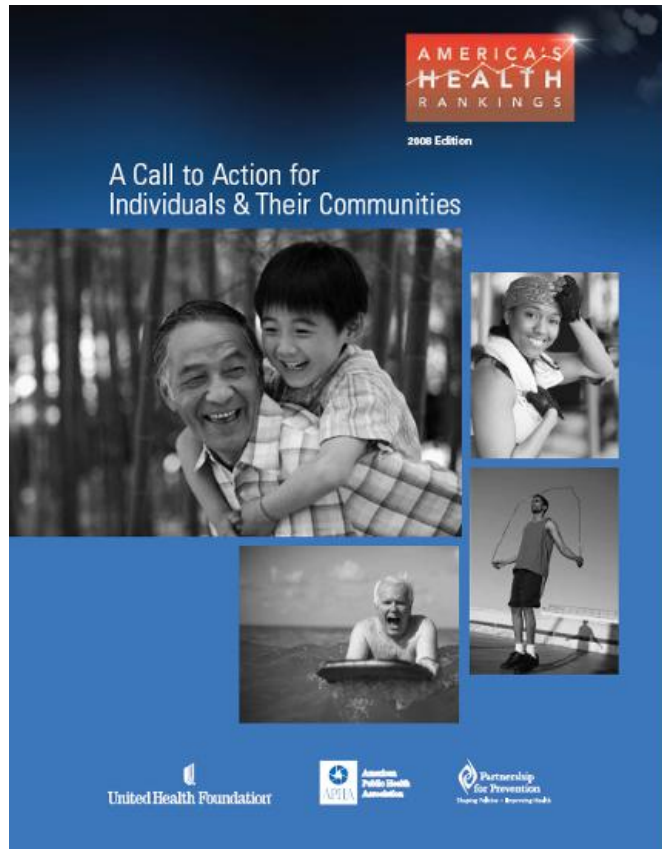


Rationale

- Research has discovered the multiple determinants of health
- New approaches are needed to address contemporary public health problems (e.g., obesity, mental disorders, violence)
- Public reporting of health data can spark attention and mobilize communities (“Independent Watchdogs”)



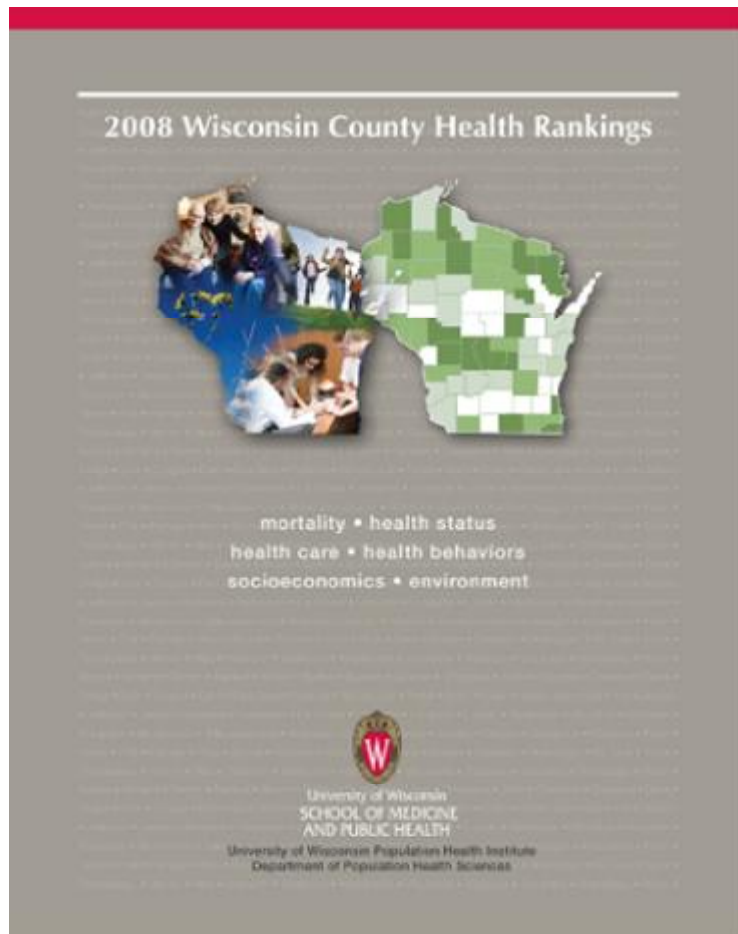
America's Health Rankings



- Launched in 1990
- Ranks the overall health of all 50 states
- Garneres widespread attention by the media and policy makers



Wisconsin County Health Rankings



- Annual publication since 2003
- Modeled after *America's Health Rankings*
- Ranks the summary “health” of all 72 counties
- Uses existing data

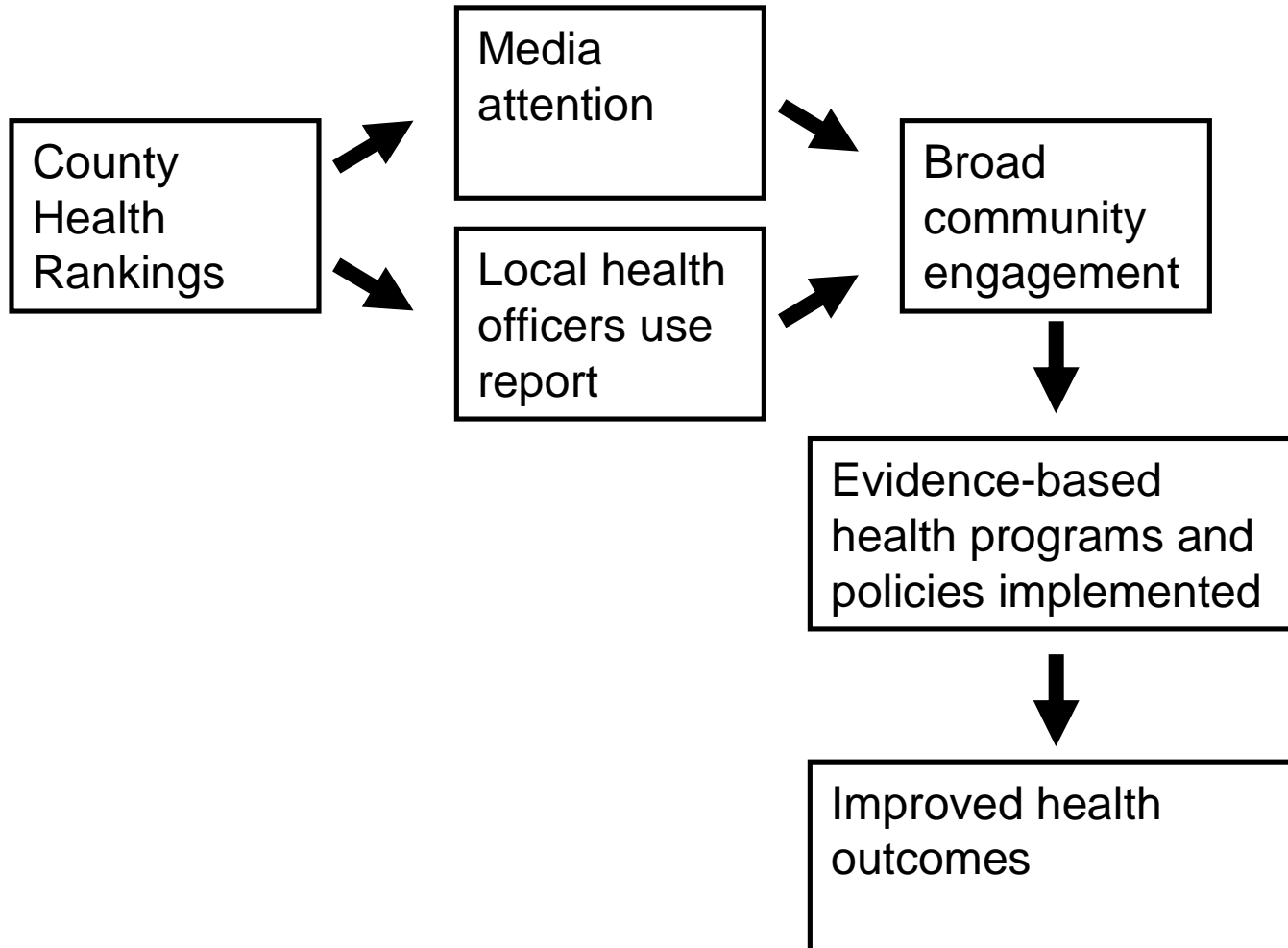


Why County Health Rankings?

- Where we live matters to our health
- One of the greatest disparities in the U.S. is the variation of health between communities
- There is relatively little attention in the public or among policy makers to these disparities



Our Logic Model



What is unique about the *County Health Rankings?*

- Provides a measure of the overall health of each county in the United States
- Each county will:
 - get a snapshot of their overall health and the factors (i.e., determinants) that influence their health
 - be able to see how its health compares to that of other counties *in their state*, so they can see where they are doing well and where they could improve



Health Outcomes



Health Factors



Programs and
Policies



Health Outcomes

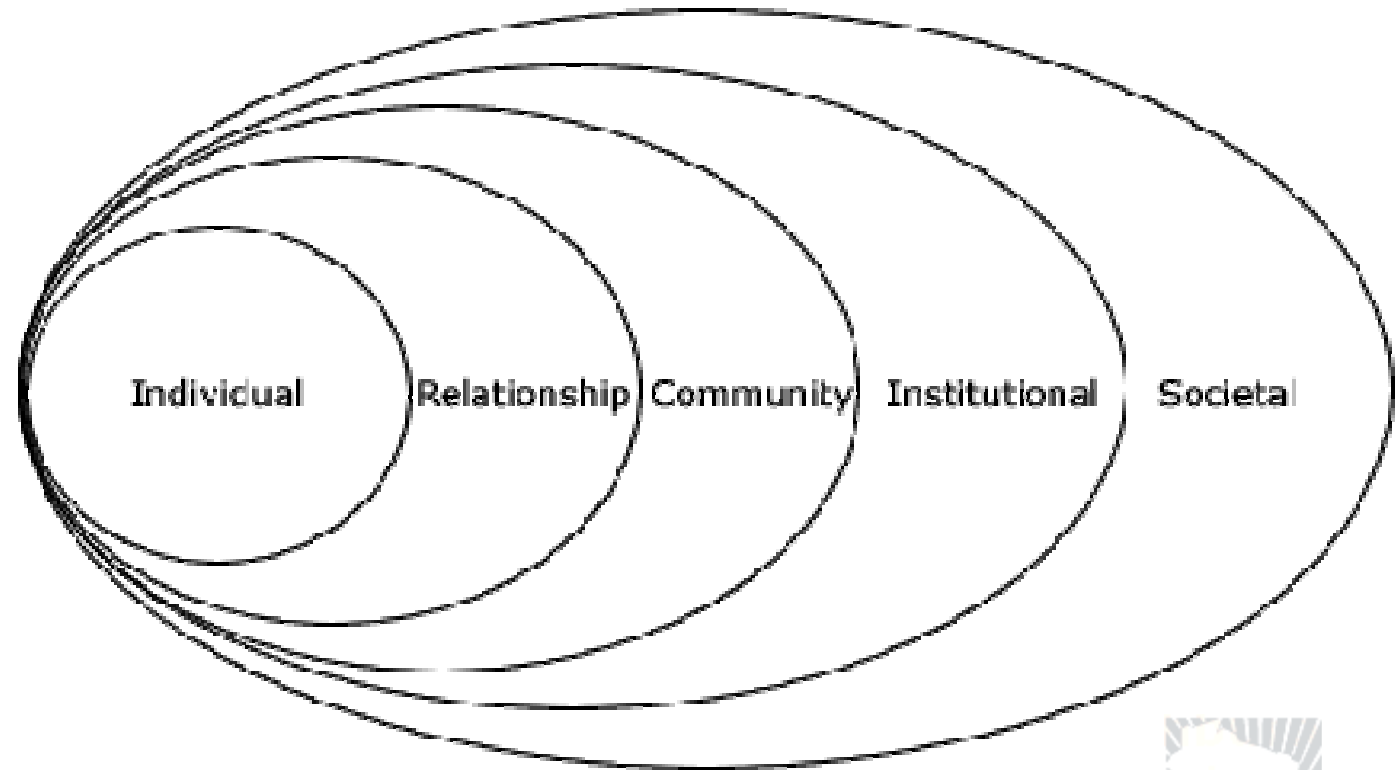


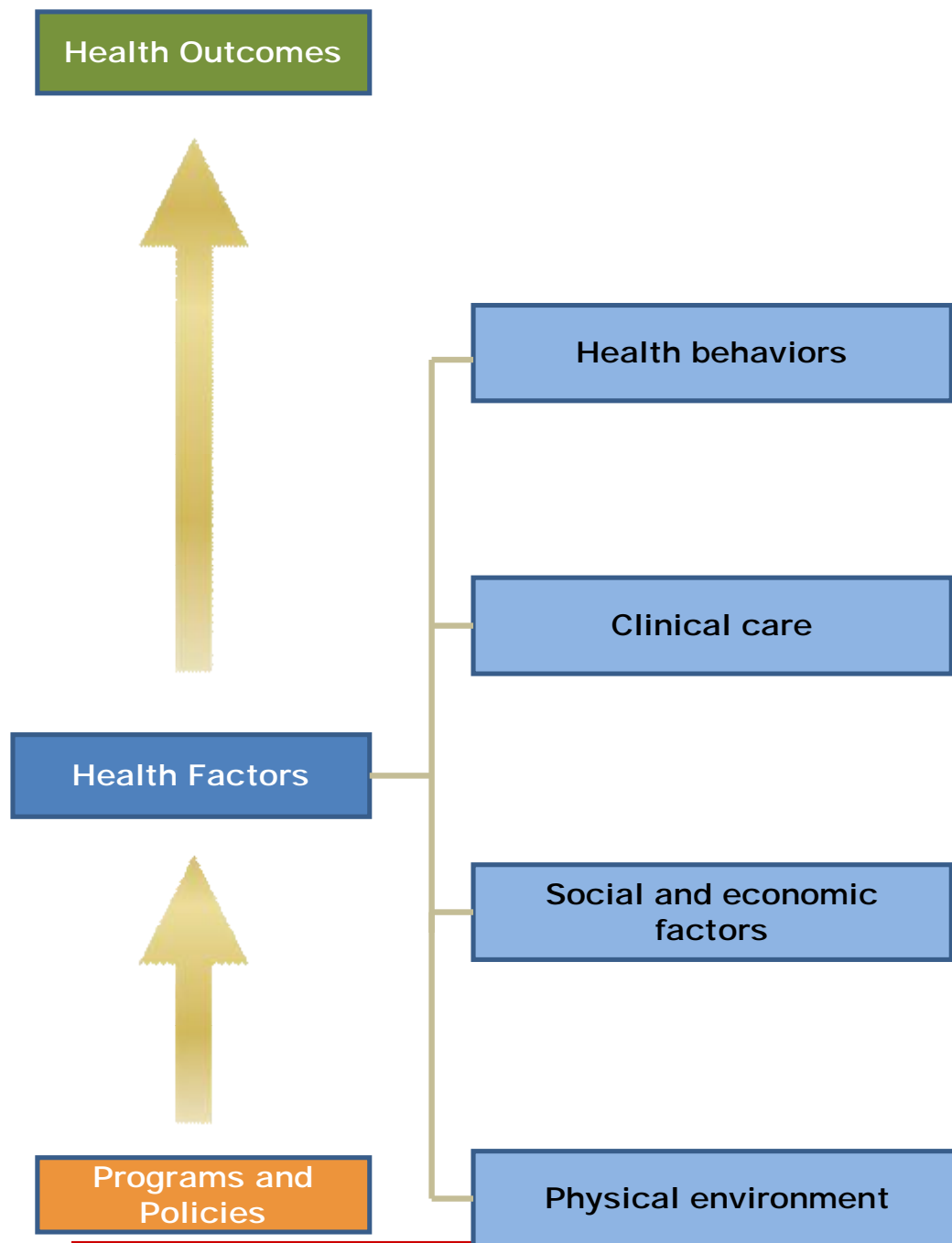
Health Factors

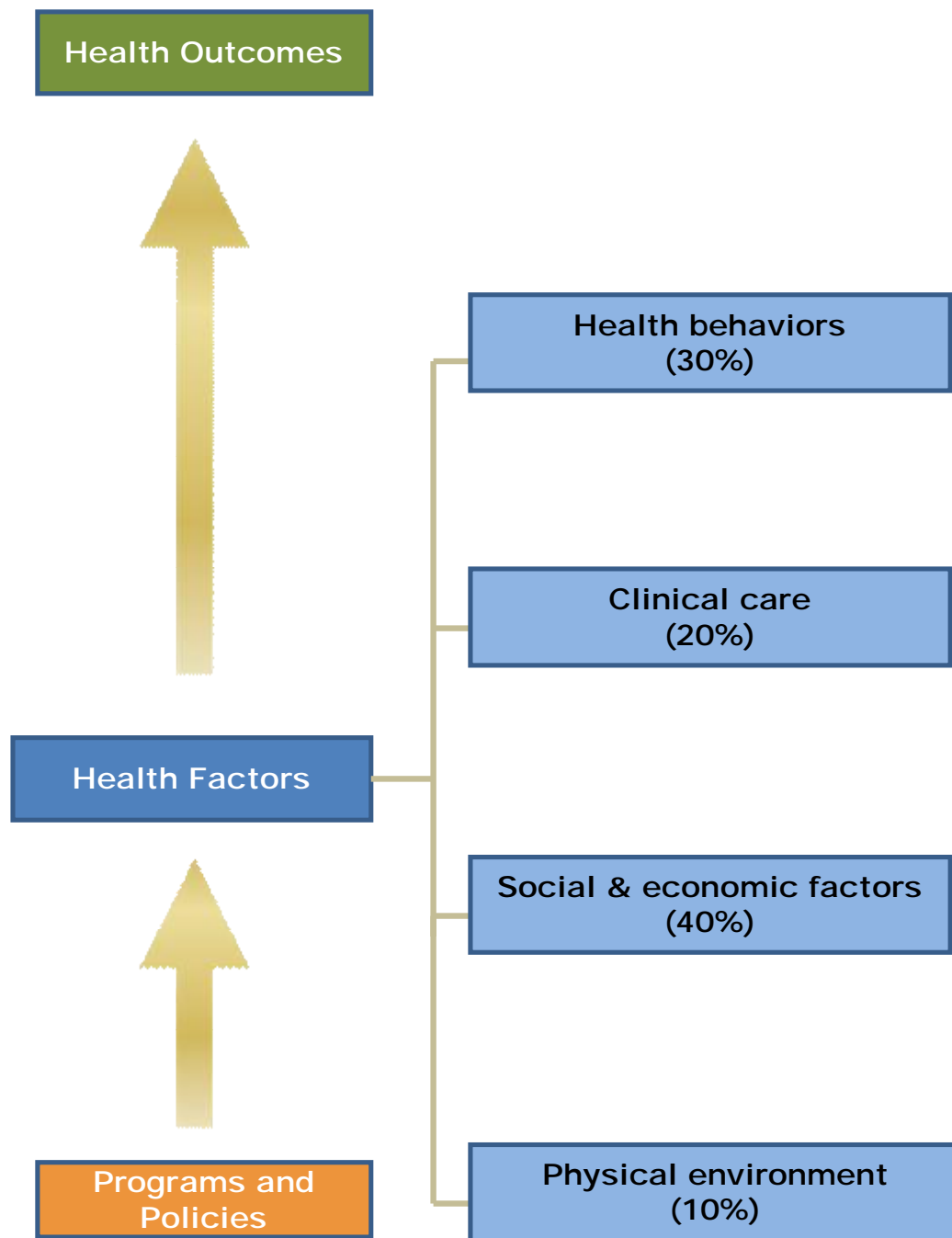


Programs and Policies

The social-ecological model of population health







Determining the Weights

- Historical perspective
- Review of the literature
- Ability to predict health outcomes
- Need to engage stakeholders



Historical Perspective

- 1930-1950: Sanitary revolution and improvements in **environmental health**
- 1950-1970: Increasing role of **health care**
- 1970-1990: Contribution of **health behaviors** (smoking/diet/exercise) increases
- 1990-present: **Social and economic** determinants
- Future: Role of the physical environment?



Review of the Literature

DISPARITIES & POLICY

The Case For More Active Policy Attention To Health Promotion

To succeed, we need leadership that informs and motivates, economic incentives that encourage change, and science that moves the frontiers.

*by J. Michael McGinnis, Pamela Williams-Russo, and
James R. Knickman*



Review of the Literature

- The oft cited McGinnis et al (2002) paper states: "...using the best available estimates, the impacts of various domains on early deaths in the US distribute roughly as follows:
 - genetic predispositions, about 30%;
 - social circumstances, 15%;
 - environmental exposures, 5%;
 - behavioral patterns, 40%; and
 - shortfalls in medical care, 10%."



Review of the Literature

- The 10% for health care comes from a
 - “A long-standing estimate by CDC that places the contribution of health care system deficiencies to total mortality at about 10%.”
- This "long standing estimate" (from DHHS, Public Health Service, “Ten Leading Causes of Death in the United States” Atlanta: Bureau of State Services, July 1980) is actually based on "expert" estimates



Analytic Perspective

- Develop model using measures of health determinants and outcomes (Athens et al)
- Outcomes: Mortality (YPLL) and self-reported health
- Determinants
 - Health behaviors
 - Health care
 - Societal factors
 - Physical environment



Methods

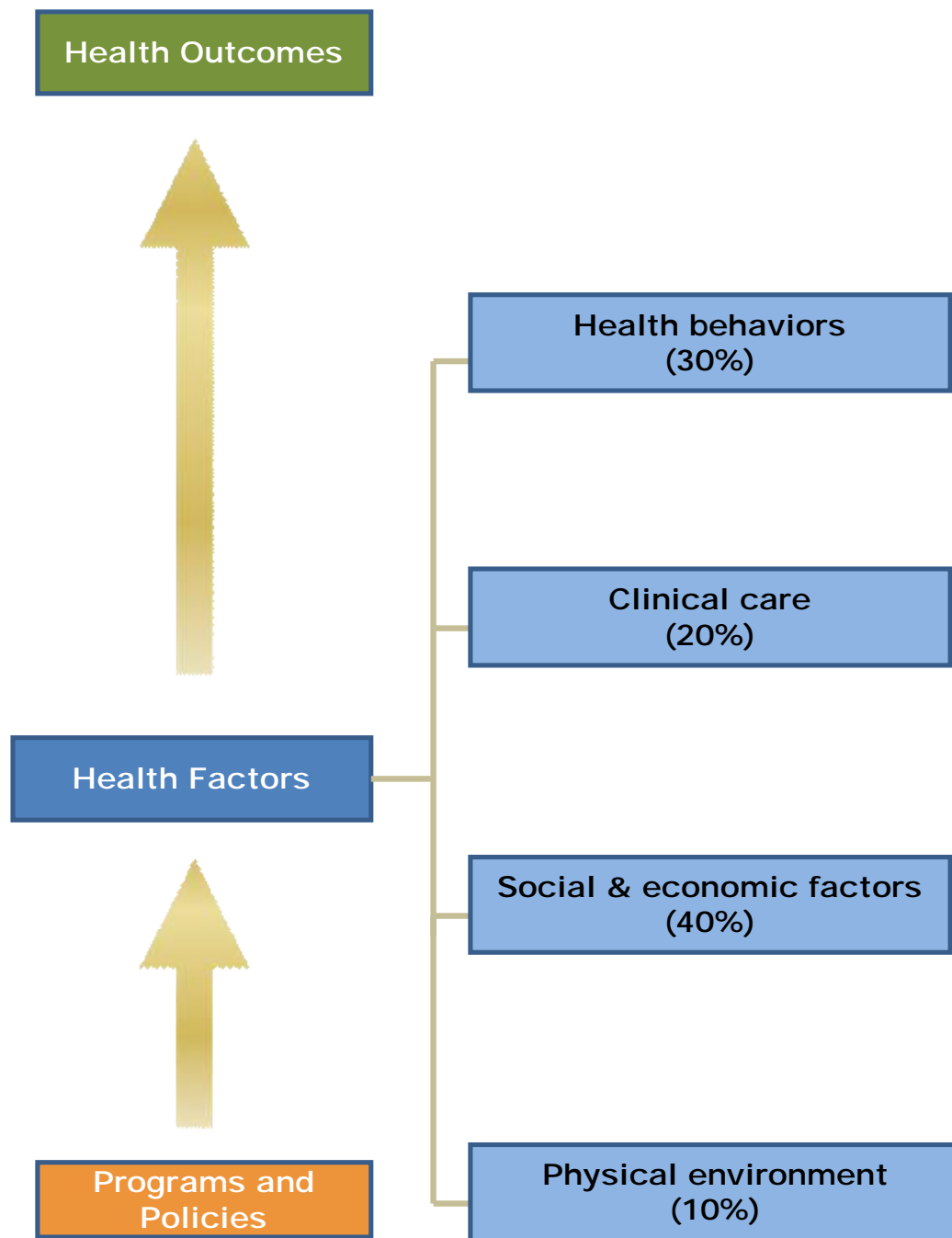
- Used factor analysis to investigate relationships among health determinants for 400 larger U.S. counties.
- Indicators grouped as expected, with some variables shifting between societal factors and health behaviors.

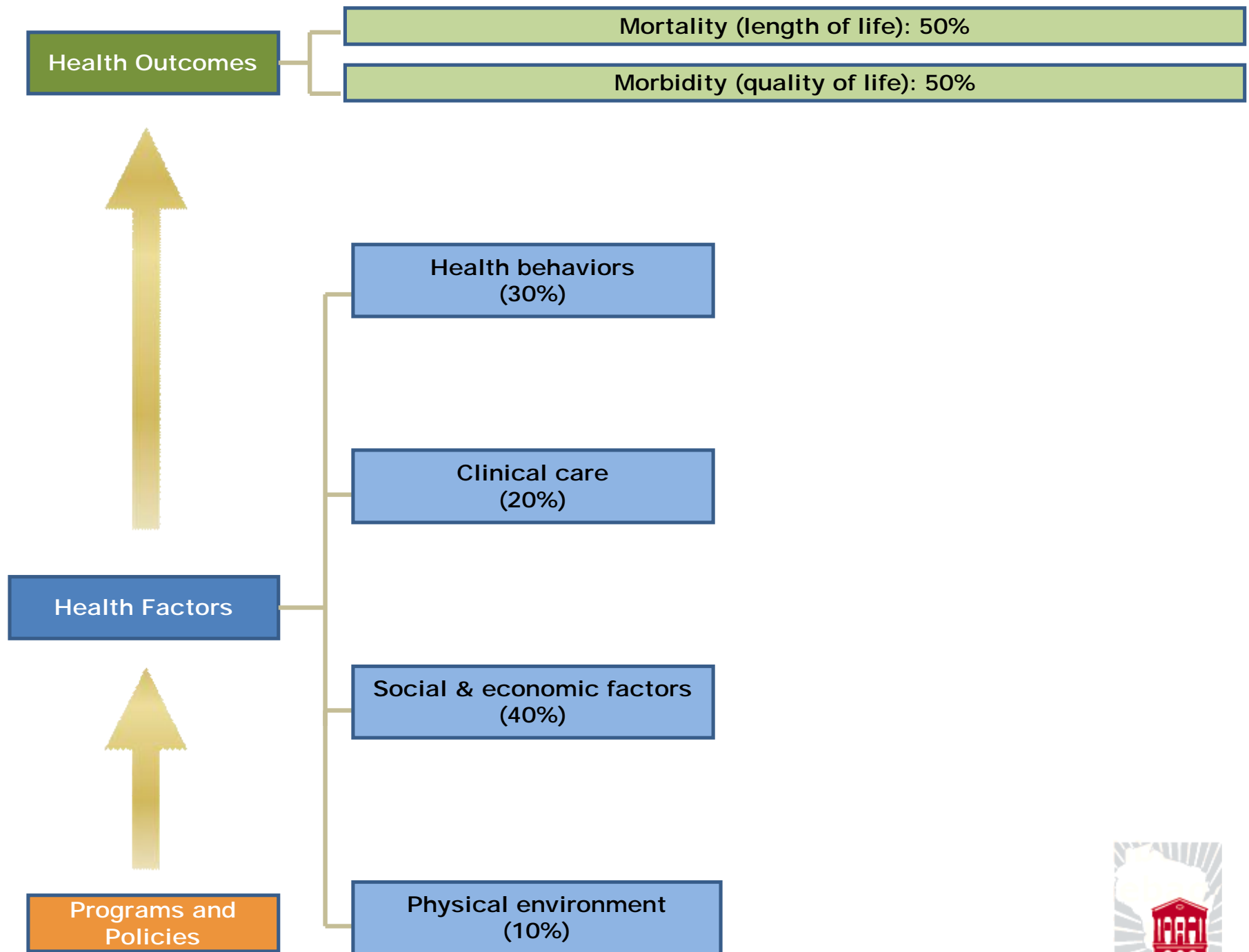


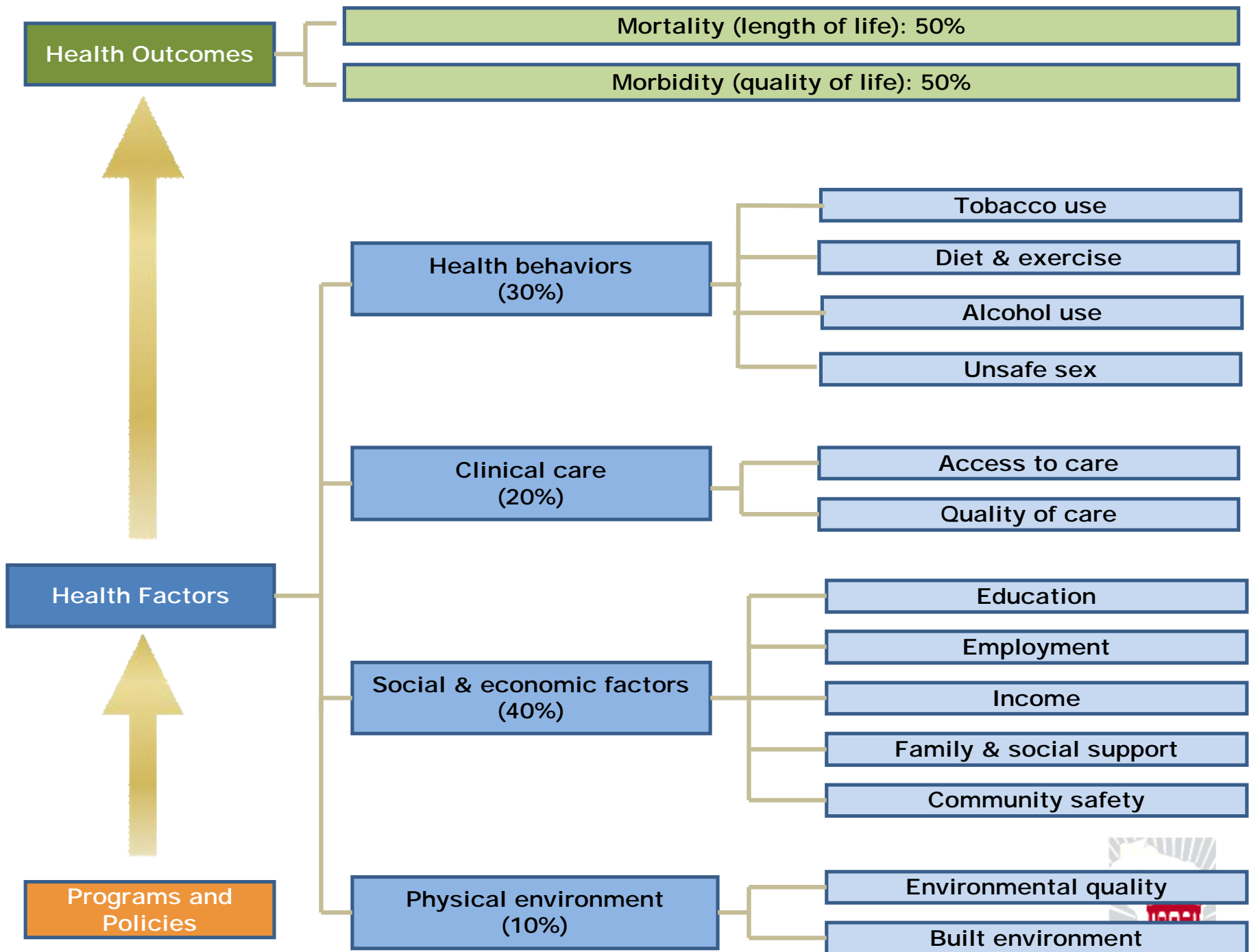
Results of the Analysis

Determinant Category	Empirically Derived Weight
Societal factors	55%
Health behaviors	27%
Health care	21%
Env. factors	-3%





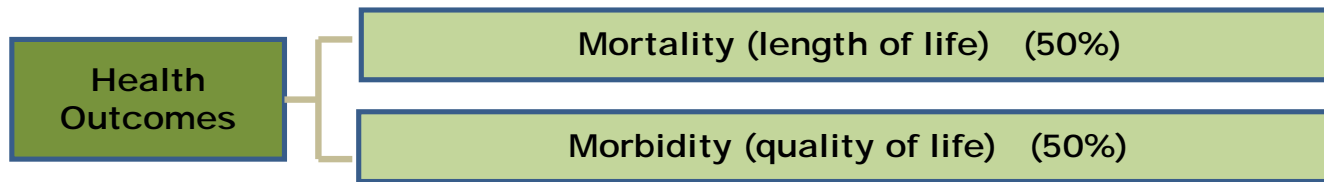




How are measures selected for the *County Health Rankings*?

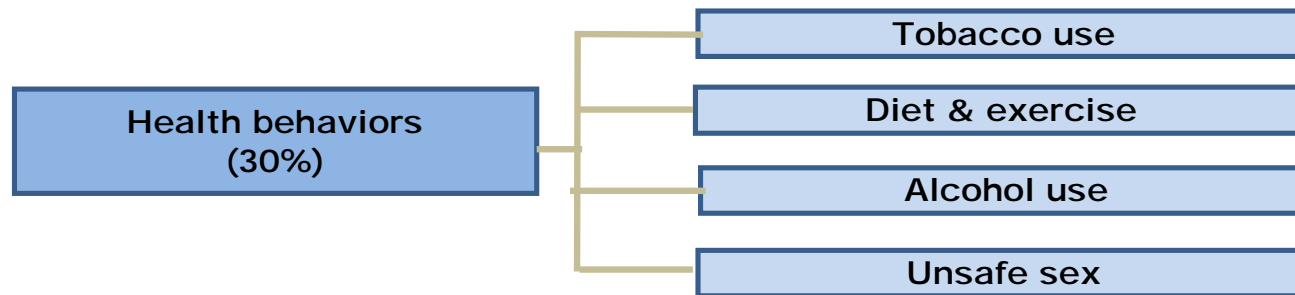
- Reflect important aspects of population health that can be improved
- Valid, reliable, recognized and used by others
- Available at the county-level
- As up-to-date as possible
- Fewer measures better than more





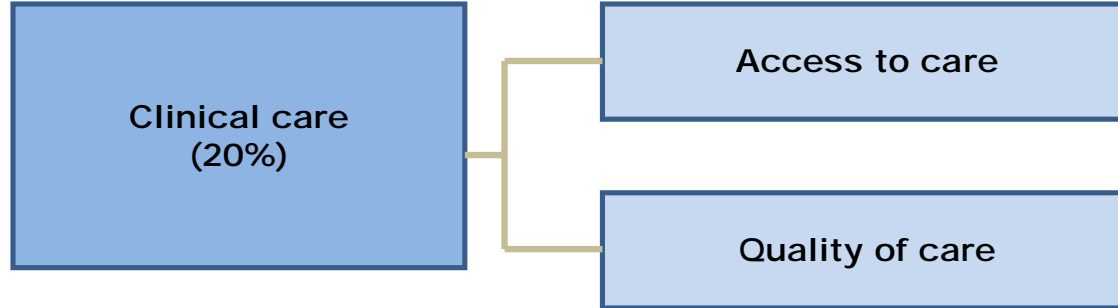
Focus Area	Measure	Source
Mortality (50%)	Premature death —years of life lost before age 75	Vital Statistics, National Center for Health Statistics (NCHS)
Morbidity (50%)	Self-reported poor or fair health	Behavioral Risk Factor Surveillance System (BRFSS)
	Physically unhealthy days	BRFSS
	Mentally unhealthy days	BRFSS
	Low birthweight	Vital Statistics, NCHS





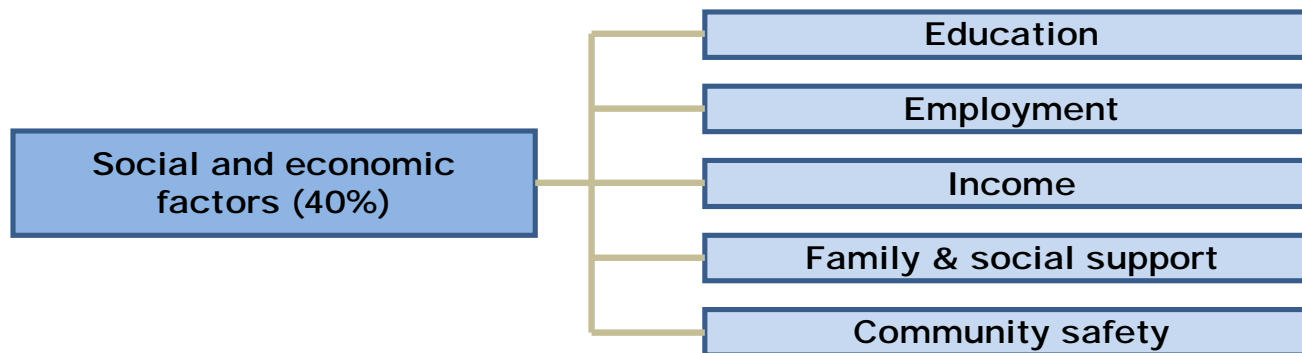
Focus Area	Measure	Source
Tobacco use (10%)	Smoking rate	BRFSS
Diet & exercise (10%)	Obesity rate	BRFSS
Alcohol use (5%)	Binge drinking rate	BRFSS
	Deaths due to motor vehicle crashes	Vital Statistics, NCHS
Sexual behavior (5%)	Sexually transmitted disease rate	Centers for Disease Control and Prevention (CDC), National Center for Hepatitis, HIV, STD, and TB Prevention
	Teen birth rate	Vital Statistics, NCHS





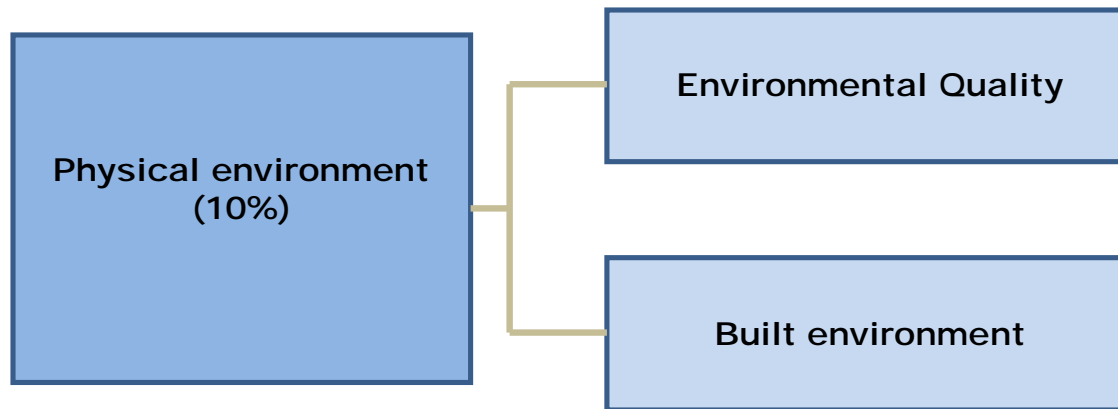
Focus Area	Measure	Source
Access to Care (10%)	People without health insurance	Census/Current Population Survey (CPS)—Small Area Health Insurance Estimates (SAHIE)
	Primary care providers	Health Resources and Services Administration, Area Resource File (ARF)
Quality of Care (10%)	Hospital stays for ambulatory-care sensitive conditions	Medicare claims/Dartmouth Atlas
	Diabetics that receive HbA1c screening	Medicare claims/Dartmouth Atlas
	Hospice care in last 6 months of life	Medicare claims/Dartmouth Atlas





Focus Area	Measure	Source
Education (10%)	High school graduation rate	National Center for Education Statistics
	Adults with college degree	Decennial Census, American Community Survey (ACS)
Employment (10%)	Unemployment rate	Local Area Unemployment Statistics,
Income (10%)	Children in poverty	Census/CPS, Small Area Income and Poverty Estimates (SAIPE) Bureau of Labor Statistics
	Income inequality	Decennial Census, ACS
Family & social support (5%)	Social/emotional support	BRFSS
	Single-parent households	Decennial Census, ACS
Community safety (5%)	Violent crime rate or Homicide death rate	Uniform Crime Reporting, FBI NCHS



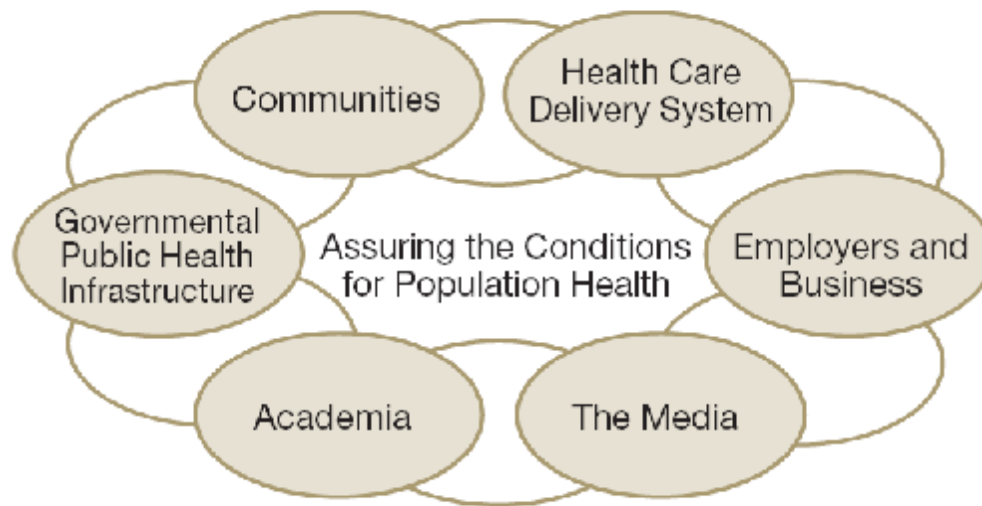


Focus Area	Measure	Source
Environmental Quality (5%)	Unhealthy air quality days due to ozone	CDC-Environmental Protection Agency (EPA) Collaboration
	Unhealthy air quality days due to fine particulate matter	
Built Environment (5%)	Zip codes without healthy food outlets	Census Zip Code Business Patterns
	Liquor store density	Census County Business Patterns and Census 2006 Population Estimates



Why rank?

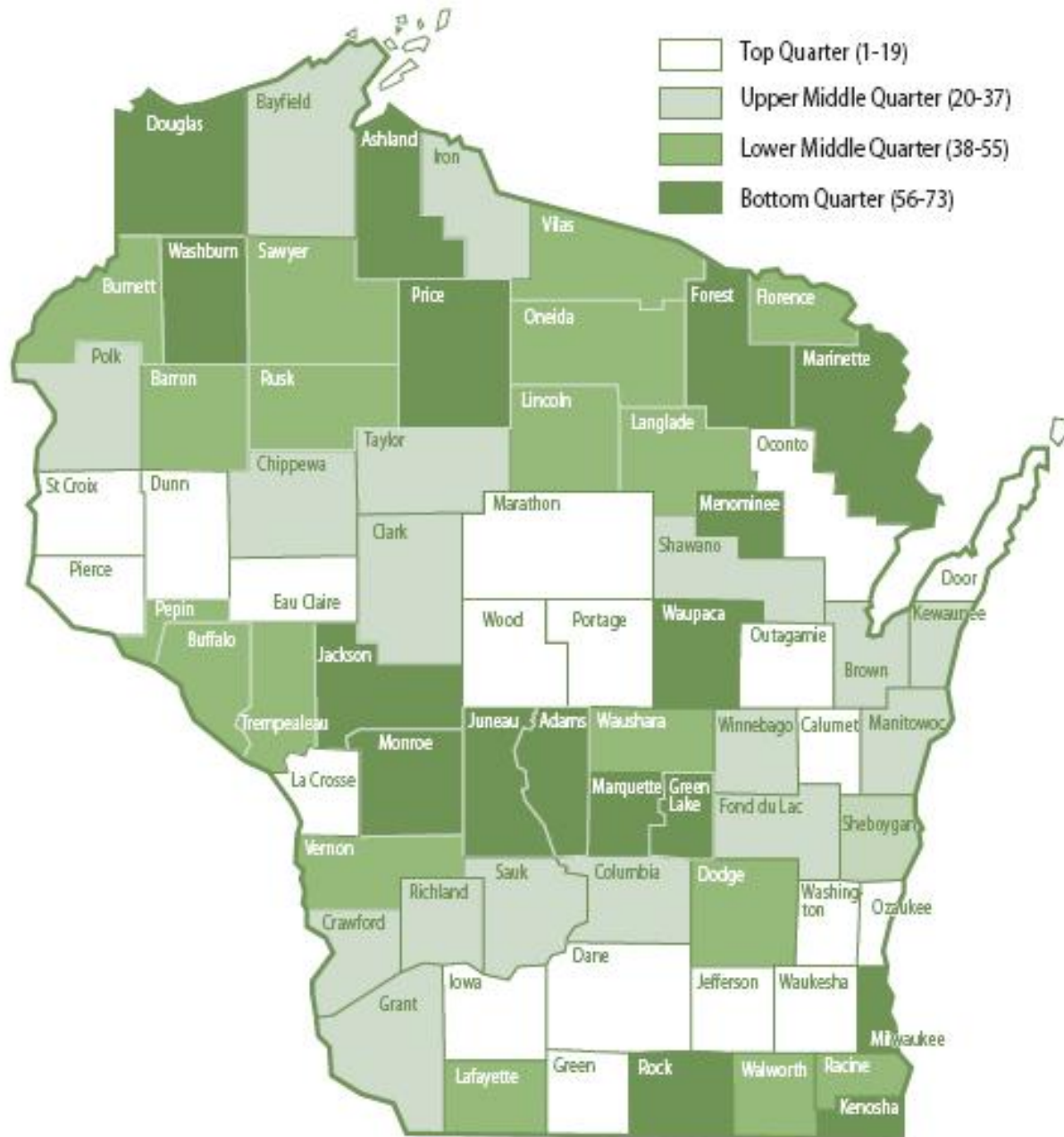
- Easy to understand one's rank
- Draws attention to all the factors that affect community health
- Draws members of the new “public health system” into discussions about how to improve health:



Source: IOM, 2002.¹



Health Outcomes by Quartile

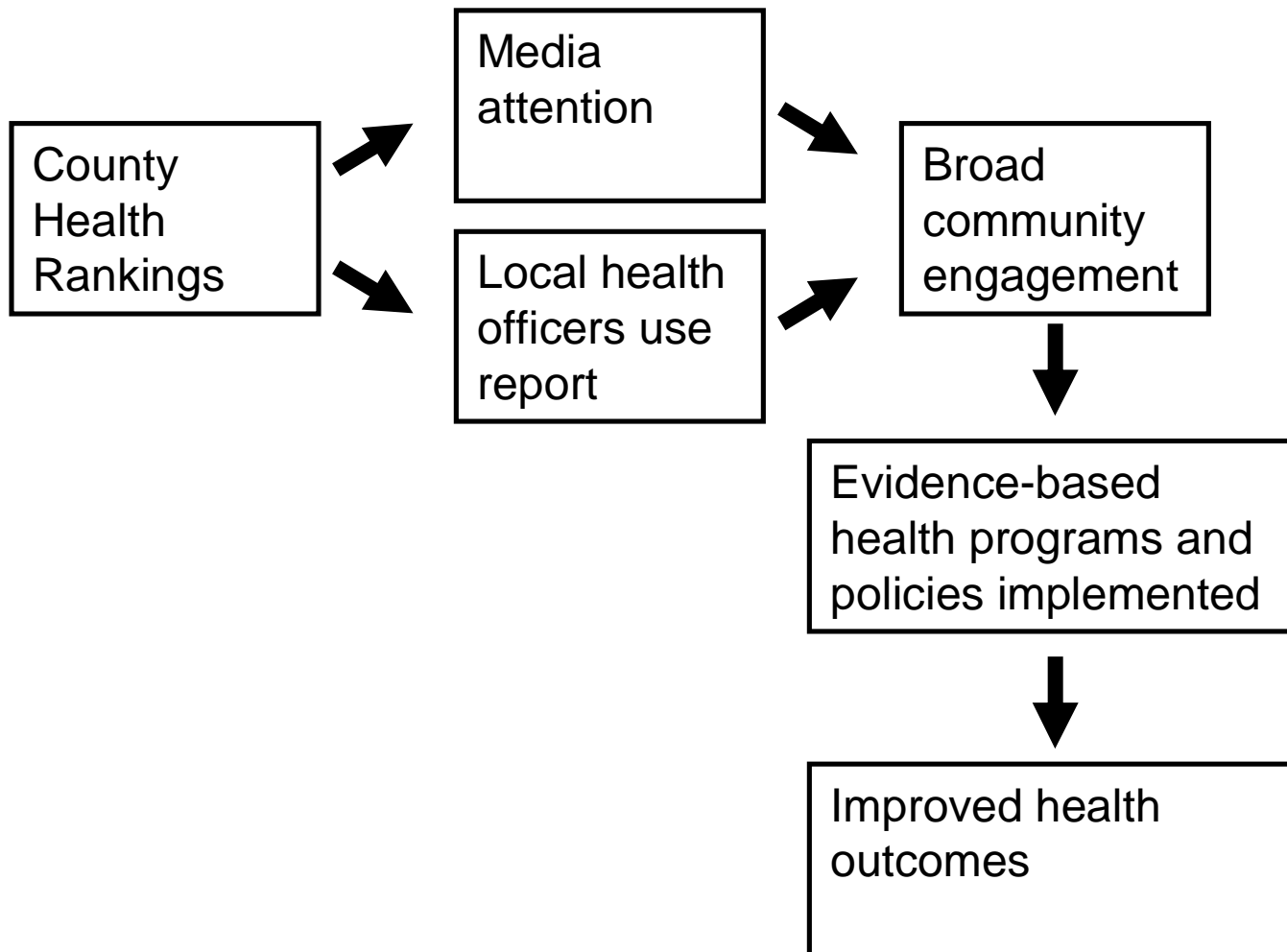


RANK	HEALTH OUTCOMES	HEALTH DETERMINANTS
1	Ozaukee	Ozaukee
2	Waukesha	Waukesha
3	Dane	Washington
4	Iowa	Lafayette
5	Eau Claire	Buffalo
6	Washington	Iowa
7	St. Croix	Dane
8	Outagamie	Pierce
9	Portage	Pepin
10	Door	Calumet

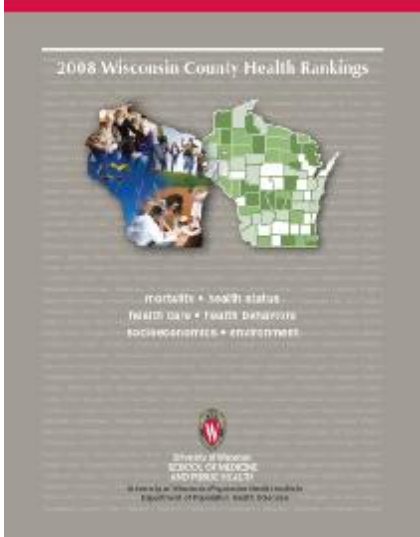


RANK	HEALTH OUTCOMES	HEALTH DETERMINANTS
64	Washburn	Racine
65	Monroe	Langlade
66	Jackson	Marquette
67	Marinette	Juneau
68	Forest	Forest
69	Juneau	Rock
70	Milwaukee County	Adams
71	Marquette	Milwaukee County
72	Milwaukee City	Milwaukee City
73	Menominee	Menominee

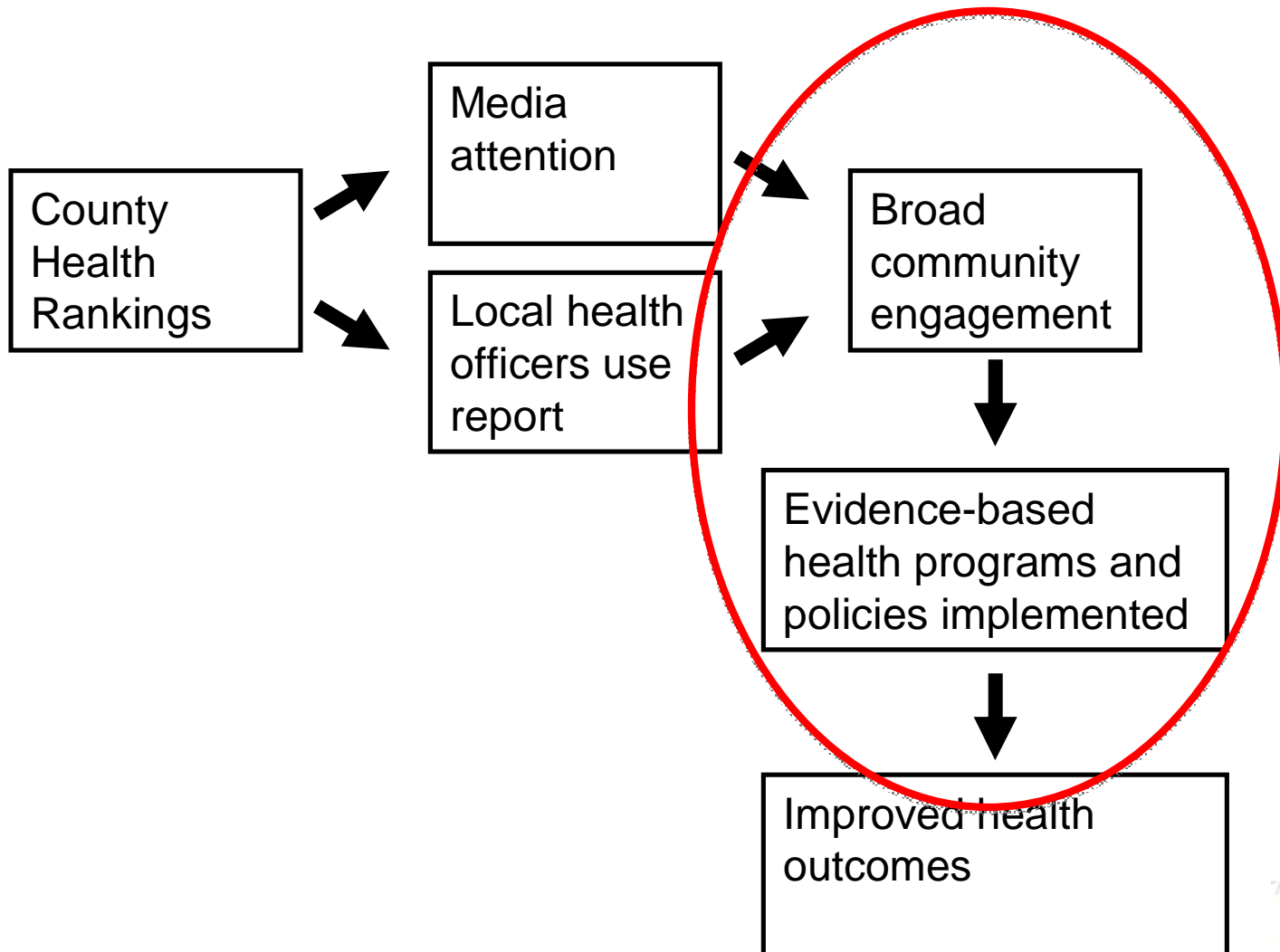
Mobilizing Action Toward Community Health



Mobilize through County Health Rankings



Action

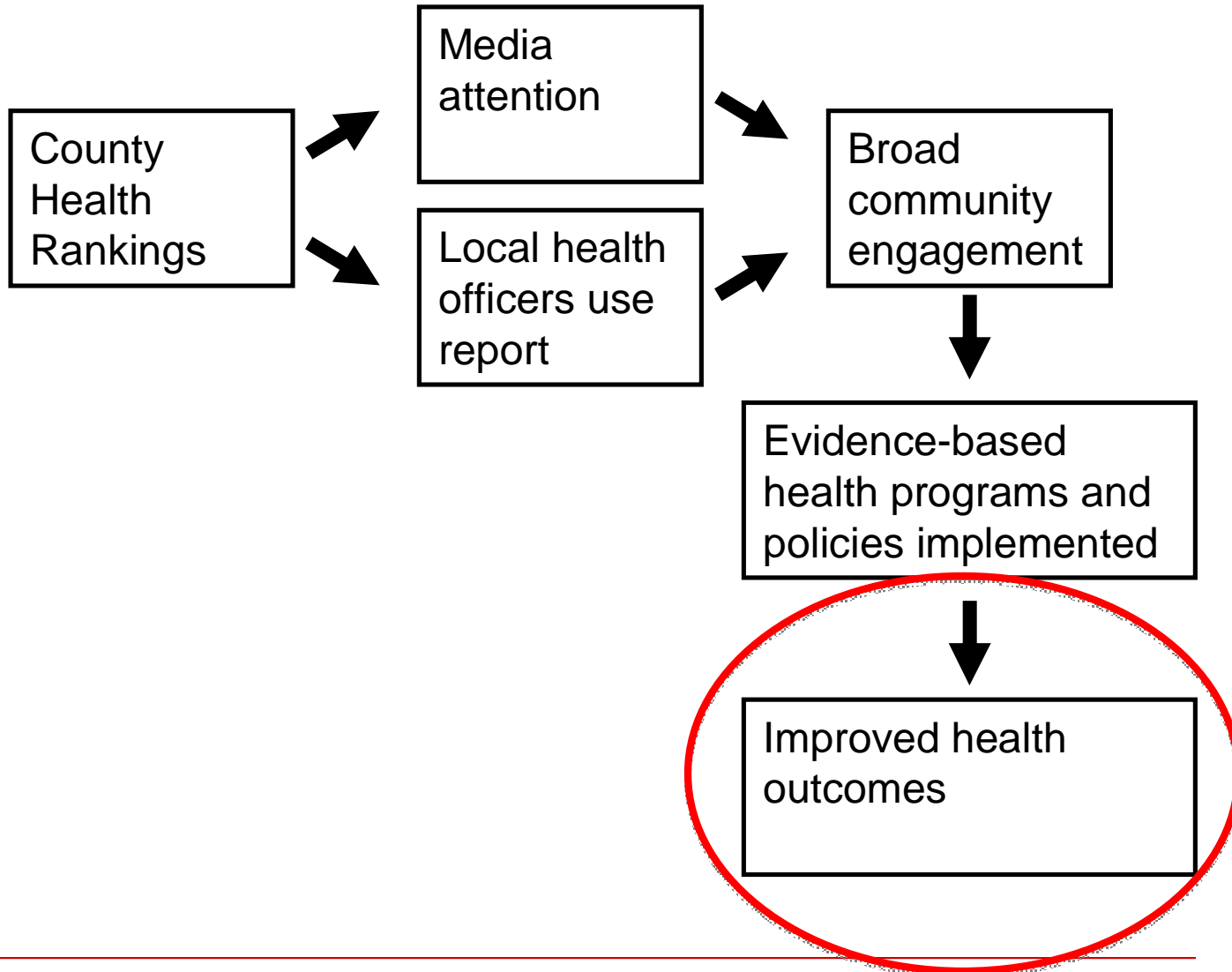


Action

*depends on
stage of
readiness
in the county*



Toward Community Health



Toward Community Health

*by setting goals
and monitoring
progress over
time*

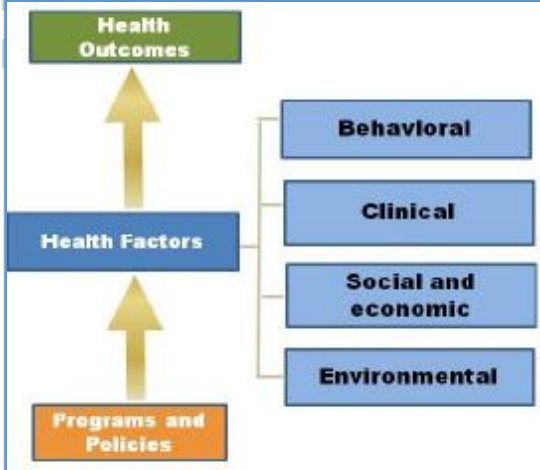
Setting goals and
objectives for
overall health



Keeping track of
progress



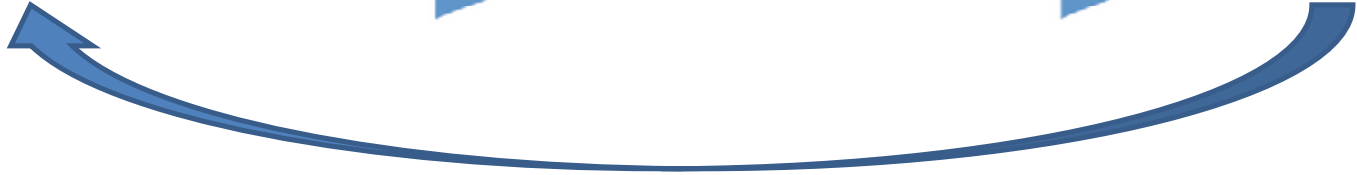
Mobilizing *through* County Health Rankings



Action



Toward Community Health



The Wisconsin Experience

Ozaukee County healthiest in state for second year in a row

By LISA CURTIS - GM Today Staff

November 20, 2008

OZAUKEE COUNTY - Ozaukee County officials may have to create a Department of Accolades to handle all of the positive attention the area has received this year from various state and national organizations and media.

The latest comes from the University of Wisconsin Population Health Institute, which named Ozaukee County the healthiest county in the state. It is actually the second year in a row and the third time in five years that the county has found its way to the top of the survey.

For full story, please pick up a copy of today's News Graphic. Click here to subscribe online.

Lisa Curtis can be reached at lcurtis@conley.net

Related stories:

[Waukesha County named 2nd healthiest in Wisconsin](#)

[Washington County ranks among state's](#)



Mark Justesen

A high rate of physical activity was just one of the variables that helped make Ozaukee County the healthiest county in the state, according to the 2008 Wisconsin County Health Rankings released this week.



Report: La Crosse 14th Healthiest County in Wisconsin

Posted: Nov 20, 2008 11:53 AM CST

Updated: Nov 20, 2008 05:59 PM CST



A new study says La Crosse County is the Wisconsin

The study released by the University of Wisconsin-Madison [Population Health Institute](#) ranks Crawford County 35, and Vernon County was ranked 39. Jackson (66), Monroe (65), Trempealeau (50) Buffalo (42) and Juneau (69) counties ranked in the bottom half.



Juneau County Experience

County is state's unhealthiest

Researcher: Results of new study are a call to action for community

By Tim Damos
Star-Times

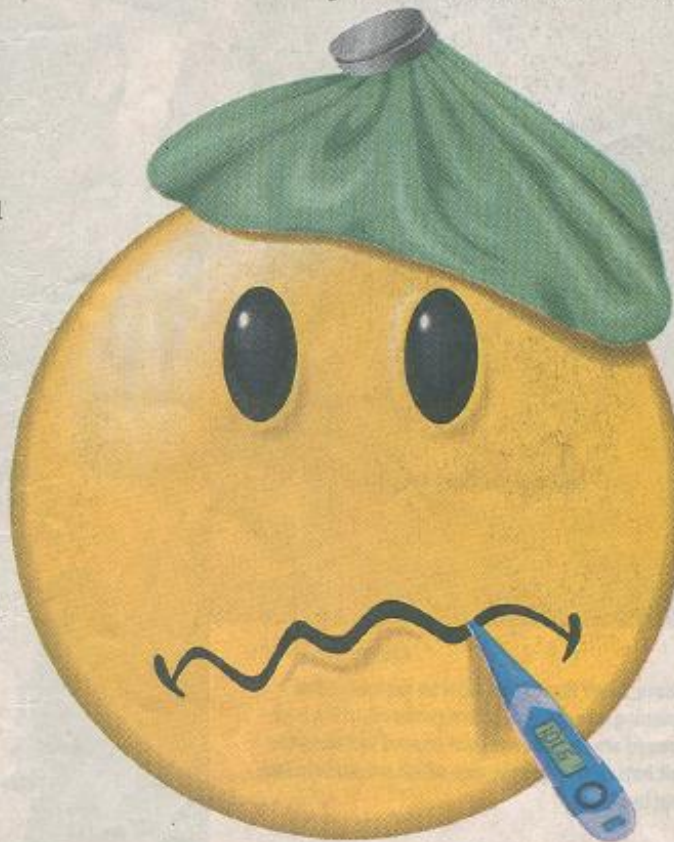
The results of a recent study that ranks Juneau County last in the state in terms of the general health of its citizens should be a call to action for community members, one researcher says.

Peter Vila, a graduate student and researcher with the UW Population Health Institute, which works to improve public health and health policy in Wisconsin, said many of Juneau County's poor health rankings are alarming.

Each year (since 2003), Vila's organization releases the Wisconsin County Health Rankings, a report that rates counties in two categories;

■ **Health outcomes:** The mortality and general health of citizens. (Juneau County ranks last overall).

■ **Health determinants:** The access to health care, health behaviors, socioeconomic factors and physical environment of citizens. (Juneau County ranks 68th of 72 counties).



The study relies on surveys done by the UW Population Health Institute, as well as statistics compiled

most of them carry a five percent margin of error – used to rank counties in terms of health outcomes

Juneau County's rankings

Rankings are out of 72 counties. The City of Milwaukee was also included in the study.

HEALTH OUTCOMES (72nd overall)

■ **Mortality - 65th**
(based on years of potential life lost/100,000)

■ **General health status - 73rd**
(based on % with fair/poor health, as opposed to good, very good or excellent health)

HEALTH DETERMINANTS (68th overall)

■ **Health care - 72nd**
(based on statistics in the following categories; no health insurance, did not receive needed health care, no recent dentist visit, poor diabetic care, no biennial mammography)

■ **Health behaviors - 54th**
(based on statistics in the following categories; cigarette smoking, smoking during pregnancy, physical inactivity, obesity, less than five fruits or vegetables a day, binge drinking, motor vehicle crash deaths, teen birth rate, sexually transmitted disease, violent crime)

■ **Socioeconomic factors - 68th**
(based on statistics in the following categories; high school noncompletion, no high school degree, unemployment, children in poverty, divorce, single parent households)

■ **Physical environment - 11th**
(based on statistics in the following categories; cancer risk, respiratory hazard index, fine particulate matter in air, ozone level, nitrates in water, housing with increased lead



Mobilizing...

After the release of this article in the Juneau County Star Times, a meeting was held in the Juneau County courtroom.



People from across the community came to learn about the Rankings and then began to discuss ways to improve Juneau County's health.



...Action...

A broad coalition of partners

- requested and won a grant from a statewide foundation,
 - worked on a community health needs assessment,
- and
- looked for evidence on what works



...Toward Community Health

Juneau County
now has a plan to
address:
parenting, health
literacy, and
health care
access

Juneau County Community Health Needs Assessment

Quick links

[2009 Juneau County Health Needs Assessment](#)

[Health Improvement Plan- Parenting](#)

[Health Improvement Plan- Dental](#)

[Health Improvement Plan- Health Literacy](#)

[Health Needs Assessment- Mental Health](#)

[Health Needs Assessment- Primary Care](#)

[Health Needs Assessment- Resources](#)



2009

Funded in part by the Wisconsin Partnership Program University of Wisconsin School of Medicine and Public Health

Acknowledgements

- David Kindig and Bridget Booske
- PHS Colleagues, past and present (Peppard, Rohan, Vila, Athens, Kaufman, et al)
- School of Medicine and Public Health
- Wisconsin Division of Public Health
- Robert Wood Johnson Foundation

