

# Understanding the Social Determinants of Health

## *A Self-Guided Learning Module for Rural Health Care Teams*

### GOALS

This tool is designed with two goals in mind:

1. **Learning:** To help people who work in (or are concerned with) rural health learn more about the concept of social determinants of health.
2. **Acting:** To enable rural health leaders and care teams to act to improve health outcomes in their communities by addressing factors that contribute to the social determinants of health.

### INTENDED AUDIENCE

We use the term *care teams* in the title to indicate that this tool is appropriate for a very broad group—essentially anyone who cares for patients (including patients themselves and their families), or who works in care coordination, social work, or other patient/family support fields, including all those who work on or are concerned with the health of people in rural communities. The module is primarily designed to be used by a group, but individuals will find it useful as well.

### HOW TO USE

This learning module is designed to be interactive. To get the most out of the learning experience, we suggest you follow the instructions provided and use the opportunity to research health information about rural America and your local county. You can then compare this information to other U. S. counties or regions.

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On the go? Use the adjacent QR code  
with your smart phone or tablet to view  
the RuralHealthValue.org website.





The module is organized into sections that build upon each other. The first sections will help you understand the concepts, and later sections delve into planning and action. At the end of this learning module, resources are listed that will help you learn even more. Many groups will want to start at the beginning and work through section by section. Others may want to jump around through the content; either approach can be effective.

Sections follow a similar format:

- **Read/Research:** You will be encouraged to read about a topic or to use links to look up data about your local county. These activities are designed to help you understand the facts about social determinants of health.
- **Analyze/Discuss:** Once you are exposed to the topic, this learning module encourages you to discuss what you've learned with others on your team. There aren't right or wrong answers; the point is for you to think and talk about what you've learned.
- **Plan/Act:** Finally, the module prompts you to act. A well-known quote by Abu Bakr, a sixth century Muslim leader, sums up why we include action planning in this tool: "Without knowledge, action is useless and knowledge without action is futile." Since we don't want you to spend time on a futile effort, we encourage you to consider planning activities that will improve the health of your community.

Note that not all sections have all these elements. For example, some sections don't have an Act element, and the final sections don't have a Research element.

## INTRODUCTION

If you've worked in health care for any significant period, you've come to realize that what happens in the doctor's office or the hospital isn't the only thing that affects health. This realization is supported by a growing body of research. Although the exact amount of influence various factors have on health has not been definitively established, the U.S. Centers for Disease Control and Prevention (the CDC) uses the following chart (Figure 1) to summarize the influence of various factors:



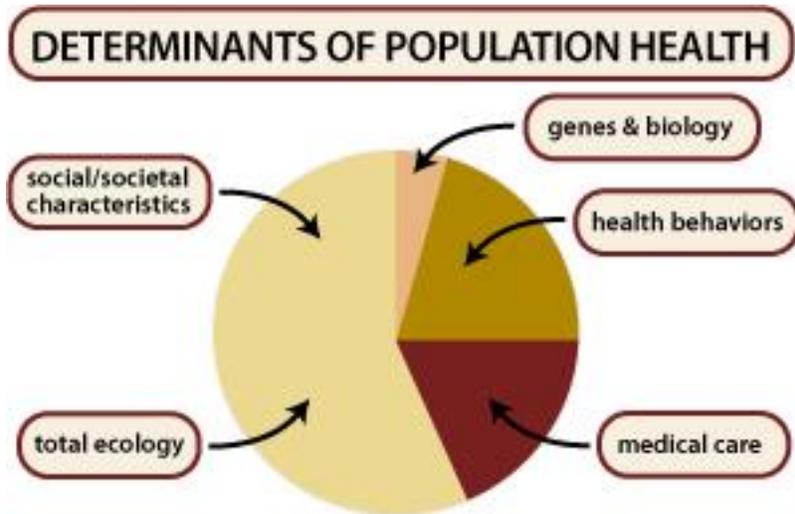


Figure 1: From <http://www.cdc.gov/nchstp/socialdeterminants/faq.html>

There aren't percentages assigned to the pieces of the pie in the chart above, but you can see that *medical care* and *genes and biology* together account for less than 25% of the determinants of health. The other factors have to do with behavioral, social, societal, and environmental factors. Since you have dedicated your life (or at least your working hours) to improving health, understanding these factors is important. This is especially true for people who work in rural communities, because many of these factors contribute to the poor health that is often prevalent in rural America. As you work through this tool, you'll learn more about how these social determinants of health affect rural communities, and we hope you'll be inspired to act to improve those conditions.





## Section 1: Defining the Social Determinants of Health

### OVERVIEW

In this section you will learn the definition of social determinants of health and discuss how they affect your community.

### READ

There are two similar definitions of the social determinants of health.

- The Rural Health Information Hub uses the World Health Organization’s definition: “the circumstances in which people are born, grow up, live, work and age, and the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics.” (<https://www.ruralhealthinfo.org/topics/social-determinants-of-health>).
- In a comprehensive white paper, the CDC uses this definition: “Social determinants of health (SDH) are the complex, integrated, and overlapping social structures and economic systems that include the social environment, physical environment, and health services; structural and societal factors that are responsible for most health inequities. SDH are shaped by the distribution of money, power and resources at global, national, and local levels, which are themselves influenced by policy choices.” (<http://www.cdc.gov/socialdeterminants/docs/sdh-white-paper-2010.pdf>)

### DISCUSS

In your group, discuss some of the social determinants of health that affect the people in your community or county. For example, what are important economic factors that are at work in your area? Or what about the circumstances that people are born into, like race, ethnicity, or national origin? Then, talk about what you experience as caregivers: Do these factors affect the health of people in your community or county?





## Section 2: Understanding Why Social Determinants Are Important to Rural Health

### OVERVIEW

In this section, you will look at a number of maps to begin to understand factors that affect your community.

### READ/RESEARCH

Follow the three links below to look at three maps. If possible, print the maps for side-by-side comparison:

- Urban/Rural population: <http://www.cdc.gov/nchstp/atlas/sdh-slide-7.html>
- Poverty in the United States by county: <http://www.cdc.gov/nchstp/atlas/sdh-slide-1.html>
- Multiple Chronic Diseases by County:  
[http://www.cdc.gov/pcd/issues/2015/images/14\\_0442\\_01\\_lg.jpg](http://www.cdc.gov/pcd/issues/2015/images/14_0442_01_lg.jpg)

Note that the data depicted on the maps tend to line up. That is, there is a high correlation by county across the factors of being rural, having high rates of poverty, and having high rates of multiple chronic diseases in the Medicare population.

Continue to learn about a large number of social determinants and how they affect the health of rural residents by reading the FAQ on the Rural Health Information Hub website:

<https://www.ruralhealthinfo.org/topics/social-determinants-of-health#faqs>

### DISCUSS

- Go back to the three maps. Find your county on each one. With your group, talk about how these maps make you feel about the work you do. What are your reactions when you compare your county to others in the nation?
- In Figure 2, below, you will find a graphic from the *County Health Rankings and Roadmaps*, which is a joint project funded by the Robert Wood Johnson Foundation at the University of Wisconsin's Population Health Institute<sup>1</sup>: <http://www.countyhealthrankings.org>
  - Look at the factors that are listed that affect health. Note that this is a similar, but slightly different, take on data presented in the pie chart in Figure 1.
  - With your group, discuss which of these factors plays a significant role in your community or county. How do poverty or rural setting or other social conditions contribute to these factors?



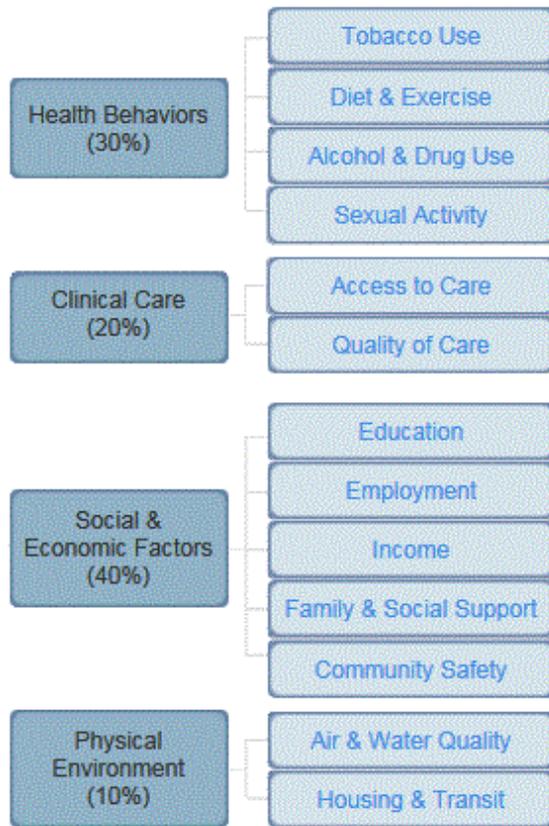


Figure 2: From County Health Rankings and Roadmaps: <http://www.countyhealthrankings.org/roadmaps/what-works-for-health>





## Section 3: Using Cardiovascular Disease to Understand Social Determinants of Health

### OVERVIEW

In this section, you will delve into statistics and research associated with cardiovascular disease (CVD) and how it affects people in your county, as an example of exploring a prevalent rural health condition through the lens of social determinants.

### THE IMPORTANCE OF CARDIOVASCULAR DISEASE AND MEASURES OF CVD

CVD is a broad term for a range of diseases affecting the heart and blood vessels. Heart attacks and strokes are the most common indicators of CVD. In the United States in 2015, heart disease was the leading cause of death for men and women, accounting for one in every four deaths, and affecting significantly more men than women. Common measures of CVD used to measure population health by county as well as other subcategories are:

- All Heart Disease
- Coronary Heart Disease
- Heart Attack
- Cardiac Dysrhythmia
- Heart Failure
- High Blood Pressure
- All Stroke
- Ischemic Stroke
- Hemorrhagic Stroke
- Preventable/Avoidable Death

The CDC maintains extensive statistics for each of these categories, and the data are parsed by county. This allows you to look at many factors and to plan interventions that will improve outcomes for your community.<sup>2</sup>

Cardiovascular health is defined by the absence of clinically manifest CVD, together with the presence of optimal levels of seven metrics representing modifiable disease risk factors<sup>3</sup>:

- Blood pressure
- Smoking status
- Physical activity
- Healthy diet
- Healthy weight
- Cholesterol
- Blood glucose





## THE RELATIONSHIP OF CARDIOVASCULAR DISEASE TO SOCIAL DETERMINANTS OF HEALTH

The American Heart Association (AHA) scientific statement on the Social Determinants of Risk and Outcomes for Cardiovascular Disease, published in August 2015, emphasizes the importance of addressing social determinants, in order to achieve the 2020 goals of promoting cardiovascular health for all. The AHA has adopted the “culture of health” model (now being widely promoted more formally by the Robert Wood Johnson Foundation); targeted the multicultural, multisectorial determinants of health; and promoted the concept of population health. Population health improvement requires attention to the broader social determinants of cardiovascular health, such as education (schools), housing, transportation, and economic development, in addition to health care.<sup>4</sup>

There are particular disparities between rural and urban populations in terms of both heart disease mortality and the presence of modifiable risk factors in the population<sup>5</sup>:

- Nationally, heart disease death rates for both men and women aged 20 years or older are highest in small rural counties.
- For both men and women, residents of the most rural counties had the highest age-adjusted prevalence of obesity.
- Although the pattern varies by region, nationwide physical *inactivity* during leisure time was most common for men and women in rural counties when compared to urban counties.

Health is determined, at least in part, by the places people live, work, and play, which is reflected by the 18%–20% difference in cardiovascular mortality among different groups in different parts of the United States. This observation reflects the fact that social factors not only influence the incidence of CVD, but also impact the management (treatment) and the outcomes of clinical cardiovascular diseases. The impact of social disadvantage on cardiovascular health is substantial. Socially disadvantaged groups lose ideal cardiovascular health at an earlier age and experience an excess risk of clinical CVD and mortality across the lifecycle.<sup>6</sup> As a result, there is a need to understand the role of social determinants in cardiovascular health and to develop innovative approaches that address modifiable risks and social barriers to cardiovascular health.<sup>7</sup>

## RESEARCH/READ

The CDC provides detailed county-level maps that allow you to research and compare CVD death rates and look at many factors including race, education level, and urban/rural status.





Use these maps to investigate your county and state:

1. Go to <http://www.cdc.gov/dhdsp/maps/atlas/index.htm>
2. In the Select Map Area: pick your state from the drop down list.
3. In the Select Data and Filters Area: Click on the + sign next to Heart Disease and Stroke Data
4. Click the + sign next to All Heart Disease
5. Click on Deaths
6. Scroll down and click on Show Map

You will see a map of your state, with each county colored to show heart disease deaths per 100,000.

Find your county on the map and compare it to other urban and/or more affluent counties in your state. (Note: If you don't know which counties are more urban, you can create a map showing urban and rural counties by using the filter for Social and Economic Data in the choices at the bottom of the web page.)

While hovering over your county, click on the View County Report option to see details about the race and ethnicity breakdown of heart disease deaths in your county.

Note: One reason that heart disease deaths could be high in your county is that many rural counties have a higher percentage of older people than do urban counties. To check whether this is a factor in deaths (compared to other counties), select the Under 75 filter in the age category and compare the heart disease death rate in your county to the rate in more urban or affluent counties. In many cases, you may notice that heart disease death rates for comparatively younger people remain high in your county when compared to others.

## DISCUSS

1. Why do you think the heart disease death rates in your county are different from those in other counties in your state?
2. Earlier in this section, we provided a list of seven modifiable factors that contribute to CVD. They include blood pressure, smoking status, physical activity, healthy diet, healthy weight, cholesterol, and blood glucose. Do you have evidence that causes you to think that one of these factors might be high in your county, compared to other counties in your state?

## ACT

Talk with your colleagues. Are there initiatives you might pursue to reduce smoking or lack of access to fruits and vegetables, or to increase physical activity? If so, what do you need to do to get started? Note that in the last section of this learning module, there are links to many examples of rural communities that are working to address some of these important health-related issues.





## Section 4: Using Diabetes to Learn About Social Determinants of Health

### OVERVIEW

In this section, you will look at rates of diabetes as an indicator of social determinants of health.

### THE RELATIONSHIP OF DIABETES TO SOCIAL DETERMINANTS OF HEALTH

Most health care workers know that rates of diabetes are skyrocketing. But sometimes we don't connect the dots between all the factors that contribute to the increased incidence of this disease. Below is an excerpt from a thoughtful article that discusses the social factors that contribute to diabetes.<sup>8</sup>

As illustrated in Figure 3, Type 2 diabetes is part of a cyclical process: it both results from and contributes to adverse outcomes. Poverty and material deprivation, defined as a lack of resources to meet the prerequisites for health, may play a key role.<sup>9</sup> For disadvantaged individuals, the constant scramble to make ends meet results in high levels of chronic stress, spurring both psychological and biologic responses.<sup>10,11</sup> Chronic stress can lead to increased depression and anxiety, reduced self-esteem, and decreased energy and motivation, which amplify the likelihood of self-destructive behaviors and choices (eg, tobacco use, excessive alcohol intake, and consumption of unhealthy foods).<sup>12,13</sup>

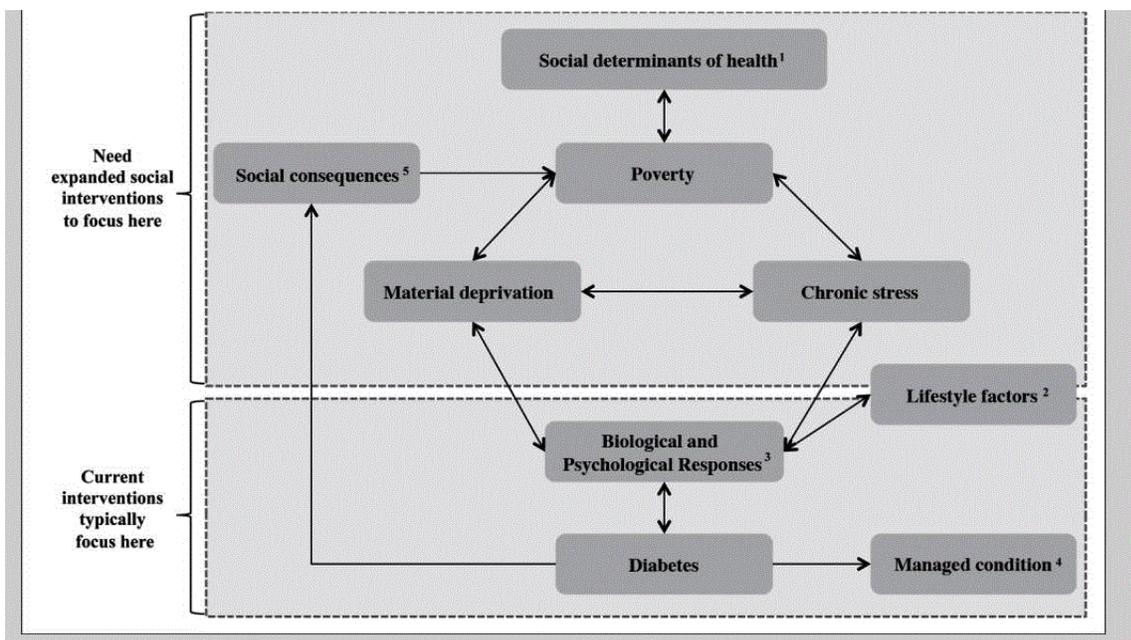
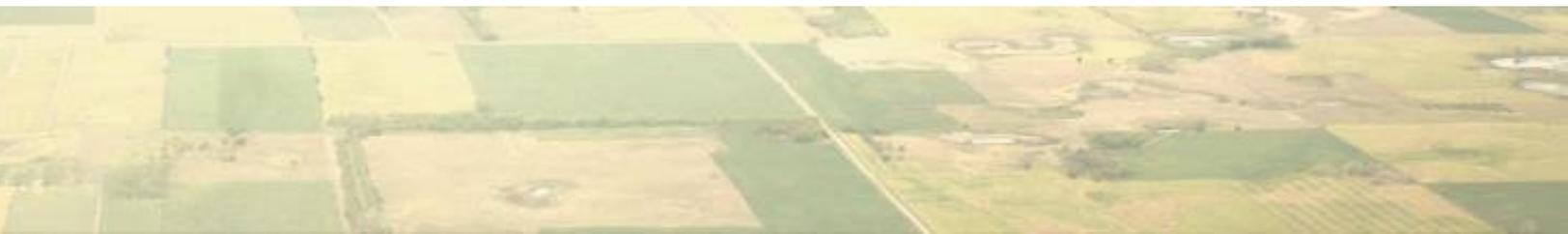


Figure 3: Socio-biologic Cycle of Diabetes. From Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J.* 2013 Spring;17(2):67–72.





The physical manifestation of chronic stress leads to the negative consequence of allostatic load, which includes increased blood pressure, cortisol, and blood glucose levels, as well as impaired ability to effectively respond to future stressors.<sup>11,14,15</sup> Over time, these physiologic reactions, coupled with detrimental psychological responses, and behavioral practices increase the likelihood of obesity and Type 2 diabetes.<sup>11</sup>

Type 2 diabetes can be particularly problematic among less advantaged patients for several reasons. First, the personal financial burden of increased health care costs can further intensify the effects of poverty, particularly because it consumes a greater portion of income (as compared with those who have greater financial resources).<sup>16</sup> Second, a disadvantaged individual may not have sufficient access to the resources necessary to manage the condition, such as adequate housing, nutritious food, and health care services.<sup>17,18</sup> Third, diabetes can decrease an individual's productivity at work or limit educational attainment, particularly if left unmanaged, which can lead to further employment-related problems.<sup>19</sup> These conditions exacerbate the cycle of inequality, as they lead to further poverty, material deprivation, and social exclusion if disadvantaged individuals are left to fend for themselves.<sup>20</sup>

## RESEARCH/READ

In this exercise, you'll look at a map of diabetes prevalence for the United States and compare it to the maps you looked at in the first section. Then, you will use a CDC map to find the diabetes rate in your county and compare that rate to the rate in wealthy counties.

- Look at the CDC map of diabetes prevalence nationwide:  
<http://www.cdc.gov/diabetes/atlas/countydata/atlas.html>
- Compare the shading on this map to the shading on the maps you downloaded in the first section (maps of poverty, rural vs. urban, and prevalence of multiple chronic diseases by county).
- Use the CDC site above to locate your county. Find the 2010 percentage of your county's population that has a diagnosis of diabetes. Write that number down.
- Compare that percentage to Fairfield County, Connecticut, one of the wealthiest counties in the United States, where the 2010 diabetes prevalence was 7.1%.

## DISCUSS

Why do you think there is such a strong correlation between the prevalence of diabetes and poverty and rural communities?





## RESEARCH/READ

In this exercise you will look at the percentage of people who are inactive during their leisure time. This is an important statistic, because there is a strong correlation between lack of exercise and diabetes. Further, there are well-documented positive effects of exercise on people with diabetes.

- Go back to the CDC map: <http://www.cdc.gov/diabetes/atlas/countydata/atlas.html>
- On the top left, click on the Indicator tab and select Leisure Time Physical Inactivity.
- Look at the map that comes up.
- Find your county and compare the percentage to other counties.

Increasingly, rural counties are working to address some of the issues associated with diabetes, particularly food and exercise. Follow the links below to some stories about successes in rural counties:

- View the Facebook page of a community garden sponsored by Lake Region Healthcare in rural Otter Tail County, Minnesota: <https://www.facebook.com/lakeregiontakesroot/timeline>
- Read a story about Manistique, Michigan, where members of the Sault Indian Tribe teamed with other community members to increase healthy lifestyles in this rural county:  
<http://www.countyhealthrankings.org/roadmaps/stories/empowering-people-and-inspiring-change-manistique-mi>
- Read a story about McDowell County, West Virginia, where community members teamed with health care providers to increase exercise:  
<http://www.countyhealthrankings.org/roadmaps/stories/mcdowell-county-community-health-center-takes-extra-step-keep-west-virginia>

## ACT

With your colleagues, discuss some ideas to increase access to healthy food or exercise in your community. Make a list of steps you would have to take to enact some of these ideas. A great guide to developing a sustainable program for change is located here: <http://www.countyhealthrankings.org/roadmaps/action-center/healthcare-professionals-and-advocates>





## Section 5: Discussing What You've Learned

### OVERVIEW

In this section, you will watch a video and use it to discuss and sum up what you've learned.

### RESEARCH/READ

In this exercise, view a brief three-minute YouTube video that shows two young men and describes differences in their social and economic status.

- Watch [http://www.youtube.com/watch?v=\\_11xLlwKgWc](http://www.youtube.com/watch?v=_11xLlwKgWc).

### DISCUSS

With your group, discuss the following questions:

- If you were to see these two young men back-to-back in the emergency department or the clinic, how might you treat them differently?
- People are often told to “Pull yourself up by your bootstraps.” Is that comment realistic for Chad? What could Chad do (or his mother have done) to improve his health?
- How does income, housing, and diet directly affect health?
- If Chad is unhealthy due to issues beyond his control, how does that fact affect the health care system, the community, the nation?
- What health care system or community resources are available to Chad that might make a meaningful difference in his health and his life?
- How do we ensure that Chad uses those resources? Why might he not?

### ACT

If you've gone through all the sections of this learning tool, congratulate yourself and your colleagues. Then, consider working on efforts that will help address some of the social determinants of health that affect your community. Some great examples of what other rural communities are doing can be found at the following websites:

County Health Rankings and Roadmaps: <http://www.countyhealthrankings.org/>

- [Eating Smart and Moving More in Columbus County, North Carolina](#)
- [Mason County, WA: Building a Roadmap to Better Health by Investing in Education](#)
- [Working Together to Tackle Poverty in Burnett County, WI](#)
- [McDowell County: Community Health Center Takes Extra Step to Keep West Virginia Patients Healthy and Active](#)





[Rural Health Information Hub Community Health Gateway](#) collects and shares stories about rural health programs and intervention. Projects can be filtered by a variety of topics, including the following:

- [African Americans](#)
- [American Indians, Alaska Natives, and Native Hawaiians](#)
- [Cultural Competency](#)
- [Hispanics and Latinos](#)
- [Housing and Homelessness](#)

## Notes

<sup>1</sup> This site is a great resource. We will come back to it later, but if you have time, feel free to investigate it now.

<sup>2</sup> <http://nccd.cdc.gov/DHDSAtlas/Default.aspx?state=MN>

<sup>3</sup> Lloyd-Jones DM, Hong Y, Labarthe D, Mozaffarian D, Appel LJ, Van Horn L, Greenlund K, Daniels S, Nichol G, Tomaselli GF, Arnett DK, Fonarow GC, Ho PM, Lauer MS, Masoudi FA, Robertson RM, Roger V, Schwamm LH, Sorlie P, Yancy CW, Rosamond WD; on behalf of the American Heart Association Strategic Planning Task Force and Statistics Committee. Defining and setting national goals for cardiovascular health promotion and disease reduction: the American Heart Association's Strategic Impact Goal through 2020 and beyond. *Circulation*. 2010;121:586–613.

<sup>4</sup> [http://my.professional.heart.org/professional/ScienceNews/UCM\\_476103\\_Addressing-the-Social-Determinants-of-Cardiovascular-Health-for-All-Defining.jsp](http://my.professional.heart.org/professional/ScienceNews/UCM_476103_Addressing-the-Social-Determinants-of-Cardiovascular-Health-for-All-Defining.jsp)

<sup>5</sup> <https://ruralhealth.und.edu/projects/health-reform-policy-research-center/pdf/rural-urban-disparities-in-heart-disease-oct-2014.pdf>

<sup>6</sup> Havranek EP, Mujahid MS, Barr DA, Blair IV, Cohen MS, Cruz-Flores S, Davey-Smith G, Dennison-Himmelfarb CR, Lauer MS, Lockwood DW, Rosal M, Yancy CW; on behalf of the American Heart Association Council on Quality of Care and Outcomes Research, Council on Epidemiology and Prevention, Council on Cardiovascular and Stroke Nursing, Council on Lifestyle and Cardiometabolic Health, and Stroke Council. Social determinants of risk and outcomes for cardiovascular disease: a scientific statement from the American Heart Association [published online ahead of print August 3, 2015]. *Circulation*. doi: 10.1161/CIR.0000000000000228.

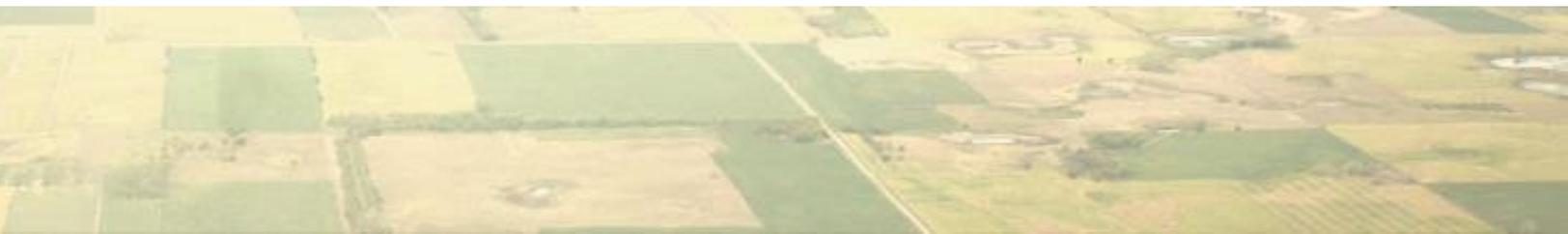
<sup>7</sup> Havranek EP, Mujahid MS, Barr DA, et.al. Op Cit.

<sup>8</sup> Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J*. 2013 Spring;17(2):67–72. doi: [10.7812/TPP/12-099](https://doi.org/10.7812/TPP/12-099) PMID: PMC3662286

<sup>9</sup> Raphael D, Anstice S, Raine K, McGannon KR, Rizvi SK, Yu V. The social determinants of the incidence and management of type 2 diabetes mellitus: are we prepared to rethink our questions and redirect our research activities? *Leadersh Health Serv*. 2003;16(3):10–20. Cited by: Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J*. 2013 Spring;17(2):67–72.

<sup>10</sup> Social determinants of health. Geneva, Switzerland: World Health Organization; 2011. Cited by: Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J*. 2013 Spring;17(2):67–72.

<sup>11</sup> Lupien SJ, King S, Meaney MJ, McEwen BS. Child's stress hormone levels correlate with mother's socioeconomic status and depressive state. *Biol Psychiatry*. 2000 Nov 15;48(10):976–80. Cited by: Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J*. 2013 Spring;17(2):67–72.





- <sup>12</sup> Mikkonen J, Raphael D. Social determinants of health: the Canadian facts. Toronto, Ontario, Canada: York University School of Health Policy and Management; 2010 May. Cited by: Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J.* 2013 Spring;17(2):67–72.
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- <sup>14</sup> Wilkinson R, Marmot M, editors. *Social Determinants of Health: The Solid Facts*. 2nd ed. Copenhagen, Denmark: World Health Organization; 2003. Cited by: Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J.* 2013 Spring;17(2):67–72.
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- <sup>16</sup> Raphael D, Daiski I, Pilkington B, Bryant T, Dinca-Panaitescu M, Dinca-Panaitescu S. A toxic combination of poor social policies and programmes, unfair economic arrangements, and bad politics: the experiences of poor Canadians with type 2 diabetes. *Crit Public Health.* 2012;22(2):127-45. Cited by: Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J.* 2013 Spring;17(2):67–72.
- <sup>17</sup> Pilkington FB, Daiski I, Bryant T, Dinca-Panaitescu M, Dinca-Panaitescu S, Raphael D. The experience of living with diabetes for low-income Canadians. *Canadian Journal of Diabetes.* 2010 Jun;34(2):119-26. Cited by: Hill J, Nielsen M, Fox MH. Understanding the social factors that contribute to diabetes: a means to informing health care and social policies for the chronically ill. *Perm J.* 2013 Spring;17(2):67–72.
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For more information about the Rural Health Value project, contact:

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