

## Case Study Profile Series: Brown County, SD

### STUDY BACKGROUND AND PURPOSE

Farmers experience more mental health challenges than other occupational groups, which can lead to additional health and financial challenges [1, 2]. Farmer trade organizations, advocacy groups, and policy makers have called for swift action in response to the ongoing farm income crisis, sudden shifts in international trade policies, and ripple effects of the COVID-19 pandemic. While rapid intervention is essential to relieving the high mental health burden of farmers, current interventions may be ineffective or insufficient, in part due to key gaps in knowledge about this issue [3-5]. The literature's current focus on individual-level factors limits our understanding of the role played by larger socio-economic environments in shaping farmers' help-seeking strategies [6-12]. The focus on farmers' reliance on informal support (i.e., emotional and material support provided by family and friends) signifies that we know less about the role of formal supports (i.e., resources from the health care system, government agencies, and non-profit organizations) in easing the mental health burden among farmers.

To expand the knowledge base needed to develop and refine interventions, researchers at the Pennsylvania State University, South Dakota State University, University of Minnesota, and National Farm Medicine Center have partnered on the "Farmer mental health help-seeking strategies" project. The goal of this research project is to **provide an in-depth and holistic assessment of whether – and how – farmers seek help for the mental health challenges they experience, the ways their larger environments shape help-seeking strategies, and the connections between the strategies farmers use and their mental health.**

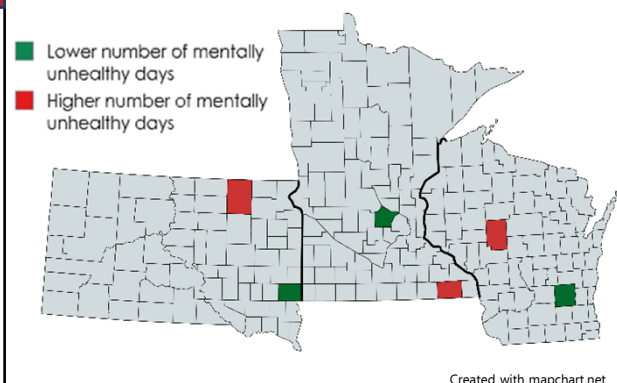
### CORE PROJECT OBJECTIVES

- Examine the connections between farmers' help-seeking strategies and their larger social and economic environments by:
  - ✓ Developing a database of the contextual determinants that may play a role in farmers' help-seeking strategies;
  - ✓ Describing farmers' help-seeking strategies, mental health challenges, and the role played by individual and contextual factors;
  - ✓ Comparing and contrasting help-seeking strategies across a diverse range of farmers and assessing their effectiveness;
- Develop actionable recommendations by assessing farmers' help-seeking strategies, the factors that shape these strategies, and the factors associated with better mental health outcomes;
- Conduct targeted outreach to disseminate research findings and recommendations.

### STUDY AREAS

This 5-year research project funded by the CDC National Institute for Occupational Safety and Health is conducted in six counties across three Midwestern states (Fillmore and Wright in Minnesota; Brown and Minnehaha in South Dakota; Clark and Dodge in Wisconsin). These three states and six counties were chosen using the following criteria:

- Importance of the agricultural sector;
- Variation in mental health status;
- Variations in provisions of services and healthcare landscape;
- Variations in health insurance policy;
- Receptivity to participating in the study and existing networks.



# 'Farmer mental health help-seeking strategies' case study profile series

For the six counties included in our study, we use publicly available data to develop a broad understanding of the farm population as well as the social, economic, health, and healthcare characteristics of the county. Unless otherwise noted, farm population data are from the 2017 Census of Agriculture. Table 1 provides an overview of key information related to the six study counties and the three study states of Minnesota, South Dakota, and Wisconsin. The rest of the profile is focused solely on Brown County, South Dakota.

Table 1. Key information related to farm sector and the social, economic, and health characteristics.

	Farm sector				Area social and economic characteristics			Area health and healthcare characteristics		
	# of farms <sup>1</sup>	% change in # of farms in last 20 years <sup>1</sup>	% farmers with an off-farm job <sup>1</sup>	% pop. working in AFF <sup>2****</sup>	% living in poverty <sup>2</sup>	# social org. per 10K <sup>3*</sup>	% of households without broadband internet <sup>2</sup>	Number of mentally unhealthy days <sup>4</sup>	% with Medicaid coverage <sup>2</sup>	Ratio primary care providers <sup>5**</sup>
Minnesota	68,822	-12.6%	57.7%	1.9%	9.6%	12.6	22.6%	3.2	17.6%	1,102:1
Fillmore County	1,541	-9.1%	61.1%	8.1%	9.3%	29.9	38.3%	4.2	16.3%	2,633:1
Wright County	1,625	-17.7%	61.6%	1.2%	5.1%	9.8	30.1%	3.8	10.9%	2,268:1
South Dakota	29,968	-4.2%	53.5%	6.0%	12.5%	16.1	24.2%	2.9	14.0%	1,257:1
Brown County	1,073	-3.6%	52.3%	5.2%	9.4%	16.7	30.8%	3.5	10.0%	1,554:1
Minnehaha County	1,270	-19.5%	62.9%	1.1%	9.1%	14.3	24.1%	3.4	12.6%	1,006:1
Wisconsin	64,793	-18.5%	57.3%	2.0%	10.7%	11.4	25.6%	3.8	16.8%	1,255:1
Clark County	2,095	-7.8%	47.9%	11.0%	12.2%	12.4	55.4%	4.9	19.0%	4,347:1
Dodge County	1,749	-16.1%	54.9%	3.4%	8.0%	11.4	36.7%	4.4	15.2%	1,830:1

Sources. <sup>1</sup> U.S. Department of Agriculture [8], <sup>2</sup> American Community Survey [9-12], <sup>3</sup> County Business Patterns [13], <sup>4</sup> CDC Behavioral Risk Factor Surveillance System [14], <sup>5</sup> Health Resources & Services Administration [15]

\*Social associations include civic, political, religious, sports, and professional organizations.

\*\*Primary care providers include practicing non-federal physicians under the age 75 specializing in general practice medicine, family medicine, internal medicine, and pediatrics.

\*\*\*Agriculture, fishing, and forestry.

## BROWN COUNTY FARM SECTOR

In 2017, there were 1,034 farms in Brown County with county farm sales totaling \$377 million [13]. Reflecting national patterns, over the last 20 years the number of farms decreased by 4%, while county farm sales increased by 153% [13]. National studies have found that fewer and larger farms can impact the community in a number of ways including in the local business make-up and community amenities such as schools and churches [14-16].

There were 1,364 principal operators in Brown County and besides their work on the farm, 52% also had an off-farm job [13]. Previous research has noted the importance of off-farm employment both to bring in additional household income and for health insurance coverage [17, 18]. In turn, the need to juggle multiple demands from the farm and off-farm employment can be a source of stress. While the median age of all Brown County residents was 37 years old, principal farm operators were on average 57.4 years old and 33% were over 65 years old [13, 19]. Research has found that older farmers tend to experience more mental health challenges than farmers as a whole due to higher rates of physical health challenges, loss of identity connected to reduced involvement on the farm, and social isolation [20, 21]. Research has also shown that mental health stigma, a frequent barrier to seeking help [22, 23], is more common among older people [24, 25]. More than a quarter (26%) of Brown County principal operators were beginning farmers (i.e., had operated a farm for fewer than 10 years)[13]. Previous research has found that the early years of operating a farm business can be mentally and financially difficult for these farmers as they balance the heavy demands for time, energy, and financial resources between their farm business and their family [26-28]. In turn, financial difficulties may impact their ability to seek help.

Mental health challenges as well as needs and access for support vary based on gender, race/ethnicity, and veteran status. In Brown County, 21% of the principal operators identified as women, 2% were people of color, and 9% were veterans [13]. Previous research has found that resources specifically targeted to their needs and realities can be hard to find in rural areas [5, 29-36].

## BROWN COUNTY ECONOMIC AND SOCIAL CHARACTERISTICS

Brown County is classified as non-metro county according to the USDA Rural-Urban Continuum classification and 27% of the population is rural according to the 2020 Census [37, 38]. There were 38,988 residents in 2020 and the population has decreased by 8% within the last 20 years [38, 39].

The social and economic environment in which someone lives plays a key role in shaping their health and quality of life [40-44]. The median income in Brown County was \$61,816, with 9% of the county living in poverty [45, 46]. Almost 54% of Brown County residents have obtained a bachelor's degree or higher [47]. The top five industries based on the number of jobs in 2020 were: education and healthcare; manufacturing, retail; arts, entertainment, recreation, food, and accommodation; and public administration [48]. These industries are similar compared to 2010 [49]. Furthermore, 5.3% of the labor force worked in agriculture, fishing, and forestry in 2020 compared to 5.1% of jobs in 2010 [48, 49]. Last, the unemployment rate in 2020 was 4% [50].

Physical proximity and community connectedness can serve as protective factors against social isolation and mental health challenges [10]. In Brown County, the population density was about 23 people/square mile (compared to 12 people/square mile at the state level) and county residents spent an average of 13 minutes commuting to work (compared to 18 minutes at the state level) [38, 51, 52]. Additionally, participation in community organizations and voter turnout are important indicators of civic engagement. In 2019, there were 17 social associations per 10,000 residents in Brown County, which is about the same as the state average, and the voter turnout in the 2020 presidential election was 61% [53, 54].

Internet access has become an important part of our infrastructure by enabling people to stay connected, participate in activities, and access resources such as healthcare through telehealth. As of 2020, 39% of Brown County households lacked broadband internet and 14% of households lacked internet entirely [55].

## BROWN COUNTY HEALTH AND HEALTHCARE LANDSCAPE

Fourteen percent of Brown County residents reported being in fair or poor health in 2019 with an average 3.0 physically unhealthy days and 3.5 mentally unhealthy days in the previous month [56]. While the number of physically unhealthy days was higher in Brown County than at the state level, the number of mentally unhealthy days was lower than the state average [56].

Access to affordable health insurance and healthcare is key to supporting health and well-being [5, 8, 11, 18, 57]. Out of all Brown County residents, 7% were uninsured and the state of South Dakota has expanded Medicaid [58, 59]. For those with health insurance, 27% had public health insurance while 78% had private insurance [60, 61]. Average state health expenditures in 2020 were \$12,495 per capita [62].

Regarding health care access in the area, Brown County was designated as a health professional shortage area [63]. In 2019, there was 1 primary care provider for every 1,554 residents and there was 1 behavioral care provider per 252 residents (Compared to 1 to 1,320 and 1 to 590, respectively, at the state level) [63].

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### Project website

<https://z.umn.edu/UMASH-Farmer-Mental-Health-Research>

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### Additional information.

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