

## Case Study Profile Series: Fillmore County, MN

### 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.**

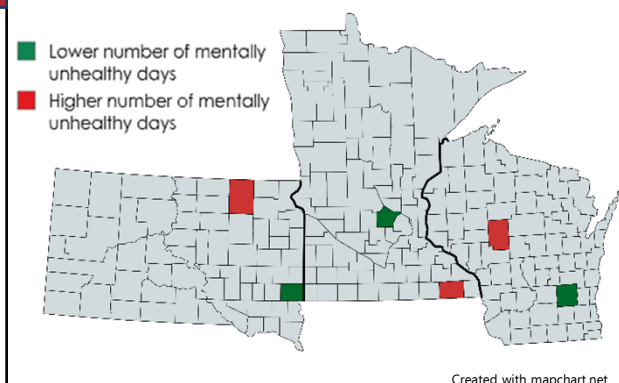
### CORE PROJECT OBJECTIVES

- 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 Fillmore County, Minnesota.

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 of age 75 specializing in general practice medicine, family medicine, internal medicine, and pediatrics.

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

## FILLMORE COUNTY FARM SECTOR

In 2017, there were 1,401 farms in Fillmore County with county farm sales totaling \$292 million [13]. Reflecting national patterns, over the last 20 years the number of farms decreased by 9%, while county farm sales increased by 100% [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 1,824 principal operators in Fillmore County and besides their work on the farm, 61% 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 Fillmore County residents was 42 years old, principal farm operators were on average 56.7 years old and 31% 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 (27%) of Fillmore 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 Fillmore County, 22% of the principal operators identified as women, 2% were people of color, and 7% 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].

## FILLMORE COUNTY ECONOMIC AND SOCIAL CHARACTERISTICS

Fillmore County is classified as a metro county according to the USDA Rural-Urban Continuum classification while 100% of the population is rural according to the 2020 Census [37, 38]. There were 21,031 residents in 2020 and the population has decreased minimally (by 0.3%) 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 Fillmore County was \$64,375, with 9% of the county living in poverty [45, 46]. Almost a quarter (22%) of Fillmore 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; construction; and agriculture, forestry, fishing, hunting, and mining [48]. These industries are similar compared to 2010 [49]. Furthermore, 8.3% of the labor force worked in agriculture, fishing, and forestry in 2020 compared to 11.2% of jobs in 2010 [48, 49]. Last, the unemployment rate in 2020 was 5% [50].

Physical proximity and community connectedness can serve as protective factors against social isolation and mental health challenges [10]. In Fillmore County, the population density was about 24 people/square mile (compared to 109 people/square mile at the state level) and county residents spent an average of 26 minutes commuting to work (compared to 24 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 30 social associations per 10,000 residents in Fillmore County, which is almost triple the state average, and the voter turnout in the 2020 presidential election was 77% [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, 23% of Fillmore County households lacked broadband internet and 16% of households lacked internet entirely [55].

## FILLMORE COUNTY HEALTH AND HEALTHCARE LANDSCAPE

Fifteen percent of Fillmore County residents reported being in fair or poor health in 2019 with an average 3.5 physically unhealthy days and 4.2 mentally unhealthy days in the previous month [56]. While the number of physically unhealthy days was higher in Fillmore County than at the state level, the number of mentally unhealthy days was slightly 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 Fillmore County residents, 10% were uninsured and the state of Minnesota has expanded Medicaid [58, 59]. For those with health insurance, 35% had public health insurance while 72% had private insurance [60, 61]. Average state health expenditures in 2020 were \$10,846 per capita [62].

Regarding health care access in the area, Fillmore County was designated as a health professional shortage area [63]. In 2019, there was 1 primary care provider for every 2,633 residents and there was 1 behavioral care provider per 4,227 residents (Compared to 1 to 1,120 and 1 to 430, respectively, at the state level) [63].

### Authors

Florence Becot – Pennsylvania State University;  
Sarah Ruszkowski – National Farm Medicine Center;  
Ingrid Jacobson – University of Minnesota;  
Carrie Henning-Smith – University of Minnesota;  
Andrea Bjornestad – South Dakota State University

### Project website

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

### Acknowledgments

Project support from the CDC National Institute for Occupational Safety and Health: U54 OH010170-11

### Additional information.

For more information about this study and project findings contact Florence Becot at [florence.becot@psu.edu](mailto:florence.becot@psu.edu) or (814) 865-1783.

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

## References

1. Behere, P., & Bhise, M., Farmers' suicide: across culture. *Indian Journal of Psychiatry*, 2009. 51(4): p. 242.
2. Malmberg, A., Hawton, K., & Simkin, S., A study of suicide in farmers in England and Wales. *Journal of psychosomatic research*, 1997. 43(1): p. 107-111.
3. Kilpatrick, S., et al., Supporting farmer and fisher health and wellbeing in 'difficult times': Communities of place and industry associations. *Rural Society*, 2012. 22(1): p. 31-44.
4. Shortland, F., et al., Landscapes of support for farming mental health: Adaptability in the face of crisis. *Sociologia Ruralis*, 2023. 63: p. 116-140.
5. Henning-Smith, C., Alberth, A., Bjornestad, A., Becot, F., & Inwood, S., Farmer mental health in the US Midwest: key informant perspectives. *Journal of agromedicine*, 2022. 27(1): p. 15-24.
6. Daghigh Yazd S, W.S., Zuo A, Key risk factors affecting farmers' mental health: A systematic review. *International Journal of Environmental Research and Public Health*, 2019. 16(23): p. 4849.
7. Sutherland, L.-A. and T. Glendinning, Farm family coping with stress: the impact of the 1998 ice storm. *Journal of Comparative Family Studies*, 2008. 39(4): p. 527-543.
8. Vayro, C., et al., 'Farming is not Just an Occupation [but] a Whole Lifestyle': a qualitative examination of lifestyle and cultural factors affecting mental health help-seeking in Australian farmers. *Sociologia Ruralis*, 2020. 60(1): p. 151-173.
9. Staniford, A.K., M.F. Dollard, and B. Guerin, Stress and help-seeking for drought-stricken citrus growers in the Riverland of South Australia. *Australian Journal of Rural Health*, 2009. 17(3): p. 147-154.
10. Bjornestad, A., L. Brown, and L. Weidauer, The relationship between social support and depressive symptoms in Midwestern farmers. *Journal of rural mental health*, 2019. 43(4): p. 109.
11. Roy, P., et al., Male farmers with mental health disorders: A scoping review. *Australian Journal of Rural Health*, 2013. 21(1): p. 3-7.
12. Martinez-Brawley, E.E. and J. Blundall, Farm families' preferences toward the personal social services. *Social Work*, 1989. 34(6): p. 513-522.
13. U.S. Department of Agriculture, *Census of agriculture*. 2017, Washington, DC: U.S. Department of Agriculture.
14. Lobao, L., & Stofferahn, C. W., The community effects of industrialized farming: Social science research and challenges to corporate farming laws. *Agriculture and Human Values*, 2008. 25(2): p. 219-240.
15. Park, S., & Deller, S., Effect of farm structure on rural community well-being. *Journal of Rural Studies*, 2021. 87: p. 300-313.
16. Francois, J.R., & Nelson, K. S., Examining the State of Community Well-Being at the Intersection of Rurality and Agricultural Engagement in the Contiguous United States. *International Journal of Community Well-Being*, 2024: p. 1-29.
17. Ahearn, M., El-Osta, H., & Mishra, A., Considerations in Work Choices of U.S. Farm Households: The Role of Health Insurance. *Journal of Agricultural and Resource Economics*, 2013. 38(1): p. 19-33.
18. Becot, F., & Inwood, S., Examining access to health insurance and health care along the life course to shed light on interactions between farm households' social needs, social policy, and the farm business. *Sociologia Ruralis*, 2022. 62(3): p. 485-508.
19. U.S. Census Bureau, *American Community Survey, Table S0101 Age and Sex*. 2020.
20. Alpass, F.M. and S. Neville, Loneliness, health and depression in older males. *Aging & mental health*, 2003. 7(3): p. 212-216.
21. Alston, M., "It's really not easy to get help": services to drought-affected families. *Australian Social Work*, 2007. 60(4): p. 421-435.
22. Hull, M.J., et al., A comparison of barriers to mental health support-seeking among farming and non-farming adults in rural South Australia. *Australian Journal of Rural Health*, 2017. 25(6): p. 347-353.
23. Woolford, D.D., et al., Male farmers' perspectives on psychological wellbeing self-management strategies that work for them and how barriers to seeking professional mental health assistance could be overcome. *International journal of environmental research and public health*, 2022. 19(19): p. 12247.
24. Conner, K.O., et al., Mental health treatment seeking among older adults with depression: the impact of stigma and race. *The American Journal of Geriatric Psychiatry*, 2010. 18(6): p. 531-543.
25. Roy, P., G. Tremblay, and S. Robertson, Help-seeking among male farmers: Connecting masculinities and mental health. *Sociologia Ruralis*, 2014. 54(4): p. 460-476.
26. Inwood, S.A.E.S., Working Households: Challenges in Balancing Young Children and the Farm Enterprise. *Community Development*, 2020. 51(5): p. 499-517.
27. Bennett, J. and S. Kohl, *Of time and the enterprise: North American family farm management in a context of resource marginality*. 1982, Minneapolis, MN: University of Minnesota Press.
28. Gale, H.F., Longitudinal analysis of farm size over the farmer's life cycle. *Review of Agricultural Economics*, 1994. 16(1): p. 113-123.
29. Bjornestad, A., Brown, L., & Weidauer, L., The relationship between social support and depressive symptoms in Midwestern farmers. *Journal of rural mental health*, 2019. 43(4): p. 109.
30. Becot, F., Children, work, and safety on the farm during COVID-19: A harder juggling act. *Journal of Agromedicine*, 2022: p. 1-15.
31. Becot, F., S. Inwood, and A. Rissing, Childcare for farm families: A key strategy to keep children safe yet largely absent from farm programming. *Frontiers in Public Health*, 2022. 10: p. 1043774.
32. Budge, H. and S. Shortall, Covid-19, gender, agriculture, and future research, in *Gender, Food and COVID-19*. 2022, Routledge. p. 45-52.
33. Budge, H. and S. Shortall, Agriculture, COVID-19 and mental health: Does gender matter? *Sociologia Ruralis*, 2023. 63: p. 82-94.
34. Dunne, C., C. Sietto, and P. Wilson, Investigating the economic visibility and contribution of UK women in agriculture through a systematic review of international literature. *Journal of Rural Studies*, 2021. 86: p. 330-345.
35. Rissing, A., S. Inwood, and E. Stengel, The invisible labor and multidimensional impacts of negotiating childcare on farms. *Agriculture and Human Values*, 2021. 38: p. 431-447.
36. Becot, F.R., Sarah; Henning-Smith, Carrie; Bjornestad, Andrea, The landscape of farmer mental health programs in the US Midwest, in *Midwest Rural Agricultural Safety and Health Conference*. 2023: Dubuque, Iowa.
37. U.S. Department of Agriculture Economic Research Service, *Rural-Urban Continuum Codes*. 2020.
38. U.S. Census Bureau, *American Community Survey, Table DP05 Demographic and Housing Estimates*. 2020.
39. U.S. Census Bureau, *American Community Survey, Table DP05 Demographic and Housing Estimates*. 2010.
40. Andersen, R.M., P.L. Davidson, and S.E. Baumeister, Improving access to care in America. *Changing the US health care system: key issues in health services policy and management*. 3a. edición. San Francisco: Jossey-Bass, 2007: p. 3-31.
41. Link, B.G. and J. Phelan, Social conditions as fundamental causes of disease. *Journal of health and social behavior*, 1995: p. 80-94.
42. Marmot, M., Social determinants of health inequalities. *The Lancet*, 2005. 365(9464): p. 1099-1104.
43. Phillips, K.A., et al., Understanding the context of healthcare utilization: assessing environmental and provider-related variables in the behavioral model of utilization. *Health services research*, 1998. 33(3 Pt 1): p. 571.
44. Stockdale, S.E., et al., The effects of health sector market factors and vulnerable group membership on access to alcohol, drug, and mental health care. *Health services research*, 2007. 42(3p1): p. 1020-1041.
45. U.S. Census Bureau, *American Community Survey, Table S1903 Median Income in the Past 12 Months*. 2020.
46. U.S. Census Bureau, *American Community Survey, Table S1701 Poverty Status in the Past 12 Months*. 2020.
47. U.S. Census Bureau, *American Community Survey, Table S1501 Educational Attainment*. 2020.
48. U.S. Census Bureau, *American Community Survey, Table S2403 Industry by Sex for the Civilian Employed Population*. 2020.
49. U.S. Census Bureau, *American Community Survey, Table S2403 Industry by Sex for the Civilian Employed Population*. 2010.
50. U.S. Department of Agriculture Economic Research Service, *County-level Data Sets, Unemployment*. 2022.
51. U.S. Census Bureau, *Table LND01 Land Area*. 2011.
52. U.S. Census Bureau, *American Community Survey, Table S0801 Commuting Characteristics by Sex*. 2020.
53. *Harvard Dataverse, 2020 Precinct-Level Election Results*. 2020.
54. U.S. Census Bureau, *County Business Patterns*. 2020.
55. U.S. Census Bureau, *American Community Survey, Table B28011 Internet Subscriptions in Household*. 2020.
56. *CDC Behavioral Risk Factor Surveillance System, Health county rankings*. 2019.
57. McSparron, W.J., Depression and help-seeking behavior of North Dakota farmers: The impact of the farm crisis. 2002: The University of North Dakota.
58. U.S. Census Bureau, *American Community Survey, Table S2701 Selected Characteristics of Health Insurance Coverage in the United States*. 2020.
59. Kaiser Family Foundation, *Status of State Action on the Medicaid Expansion Decision*. 2022.
60. U.S. Census Bureau, *American Community Survey, Table S2704 Public Health Coverage by Type and Selected Characteristics*. 2020.
61. U.S. Census Bureau, *American Community Survey, Table S2703 Private Health Insurance Coverage by Type and Selected Characteristics*. 2020.
62. *Centers for Medicare & Medicaid Services, Health expenditures by state of residence*. 2020.
63. *Health Resources & Services Administration, Health Workforce Shortage Areas*. 2019.