Behavioral Health Issues of Agricultural People

In a paper that I presented at the 2014 Conference of the International Society for Agricultural Safety and Health, held in Omaha, Nebraska on June 21-26, 2014 I outlined the main behavioral health problems experienced by people engaged in agriculture. Other portions of this paper were published in NARMH Notes, by Shari Stucker and me in its first issue, in the summer of 2009. NARMH Notes is a publication of the National Association of Rural Mental Health. I chose to include this paper in this book because it indicates the behavioral health issues reported by a large sample of the agricultural population and varying from most to least frequent. To my knowledge, there have been no other systematic reviews of both reported and diagnosed behavioral health problems of agricultural people.

It is well known that farming is one of the most stressful occupations (Booth and Lloyd, 2000; Olson and Schellenberg, 1986; Swisher, Elder, Lorenz and Conger, 1998) and that mental health symptoms and other behavioral health issues, such as substance abuse and marital strife, wax and wane among the agricultural population as stress increases and decreases (Ortega, Johnson, Beeson and Craft, 1994; Beeson, 2000). Threats to the economic well-being of the farm are particularly linked with the emergence of all types of behavioral health difficulties (Barrett, 1987; Weigel and Weigel, 1990).

The Farm Crisis of the 1980s contributed to the development of farm crisis telephone hotlines and helplines in many highly agricultural states (Barrett, 1987; Rosmann, 2008). These farm crisis services linked callers and website users with professional responders who were familiar with agriculture, as well as with counselors when requested and other forms of assistance when needed for financial advice, mediation, legal expertise and other matters. These farm crisis services acquired valuable information about the kinds of issues distressed farm individuals and families were dealing with and they helped diminish many of the related problems of farm and ranch people and farm workers, but little standardized data were collected systematically and published in journals.

Sowing the Seeds of Hope Program. Seven upper Midwestern states (Iowa, Kansas, Minnesota, Nebraska, North Dakota, South Dakota and Wisconsin) began working together in 1999 to form the Sowing the Seeds of Hope (SSoH) network to share best practices, training, tools and data-reporting methods concerning farm crisis services among these states. The SSoH program was designed and initiated by the Wisconsin Office of Rural Health and the Wisconsin Primary Healthcare Association and was supported by grants from the U.S. Department of Health and Human Services' Office of Rural Health Policy and Bureau of Primary Healthcare. In 2001 the project leaders in the seven states transferred administrative functions to AgriWellness, Inc., a 501(c) (3) nonprofit organization that was formed to coordinate the SSoH project and to develop other behavioral health supports for the agricultural populations in the seven states. Rosmann (2005) and Rosmann, Schmitt and Meek (2005), described the functions coordinated

by AgriWellness, Inc., located at Harlan, Iowa. They included the following: strategic planning, data collection and evaluation, technical assistance to the seven state hotlines/helplines, training of providers in culturally suited services for the agricultural population, research, grant-writing and other regional fund-raising. These refinements made it possible to systematically identify the main behavioral health issues of the people

a) This project was supported by CDC-NIOSH Prime Award No. 5 U50 OH007548-07 and a SubAward from the Great Plains Center for Agricultural Health, PO No. 1000608540.
b) The author wishes to thank Dr. J. Pat Hart and Ms. Shari Stucker for their assistance in collecting and analyzing the data.
c) Address for the author and AgriWellness, Inc.: 1027 1400th St., Harlan, IA 51537; email: mike@agriwellness.org.

involved in agriculture in a large geographic area, to determine the interventions that were needed by distressed users of the services and to evaluate them. Because the state programs worked together, the supportive interventions, such as follow-up counseling to help distressed agricultural people, became sufficiently standardized to allow for reliable and valid evaluation data to be gathered.

Only four of the seven states (Iowa, Nebraska, North Dakota and Wisconsin) had operated statewide farm crisis services continuously from the Farm Crisis era in the 1980s. By early 2005 the other three states (Kansas, Minnesota and South Dakota) set up statewide farm crisis telephone lines, information clearinghouse websites and follow-up services. Each state maintained a coalition of individuals, agencies and organizations to support its telephone portal and other farmer services. Some states developed such funding methods as including the hotline/helpline as a line item in the state budget, using proceeds of church collections, donations from farm organizations, and supportive individuals. Other farm crisis hotlines/helplines depended almost entirely on federal funds obtained from presidentially declared disaster programs and grant awards secured by AgriWellness, Inc. In general, the state partners and their coalitions paid for the operation of their hotlines/helplines while federal and private foundation funds provided through AgriWellness paid for the services.

Farm Crisis Services Provided. Table 1 indicates the number of calls to the seven SSoH statewide hotlines/helplines and the number of vouchers redeemed for professional

Table 1

Farm Crisis Telephone Calls and Follow-Up Professional Counseling Services in The Sowing the Seeds of Hope Region, September 1, 2005 – October 31, 2007*

State	Hotline/Helpline	Service Vouchers

	Calls	Redeemed
Iowa	6,856	212
Kansas	2,443	21
Minnesota	14,467	none
Nebraska	14,566	6,703
North Dakota	2,757	None
South Dakota	596	259
Wisconsin	2,435	43
TOTAL	**43, 852**	**7, 238**

*The Sowing the Seeds of Hope region includes Iowa (Iowa Concern Hotline), Kansas (Kansas Rural

Family Helpline), Minnesota (Crisis Connection), Nebraska (Nebraska Rural Response Hotline), North

Dakota (***2-1-1 ND***), South Dakota (South Dakota Rural Helpline) and Wisconsin (Wisconsin Farm Center).

behavioral health services consisting of mental health services and addiction counseling during the period from September 1, 2005 to October 31, 2007, for which data were mostly complete.

The telephone and website responders collected basic demographic information about the callers in the course of discussion, whether on the telephone or by electronic mail. The demographic information included the age, gender, racial background/ethnicity of the callers, role in agriculture (farmer, rancher, laborer) and the reason for contacting the hotline or helpline. The vast majority of callers to the SSoH hotlines/helplines were adults, ages 18-64 years (i.e., 88.7%). Another 10.2% were adults older than 64 years of age and 1.1% of callers were children and adolescents under 18 years of age. Moreover, 54.5% of the hotline callers were females, which is consistent with the often reported tendency of females to seek assistance for their families (Delworth, Veach, and Grohe, 1988). In Nebraska, however, 53% of the hotline callers were males.

The racial background/ethnicity of the callers was White/non-Hispanic – 86.0%, Black/African-American – 2.7%, American Indian – 1.9%, Hispanic – 1.1%, Pacific Islander - .6%, Middle Eastern - .1% and other – 7.5% (i.e., two or more races or the racial background/ethnicity was not reported). The racial background/ethnicity of the callers fairly closely approximated the racial/ethnic diversity of the residents in the region: White/including Hispanic – 91.1%, Black/African American – 3.6%, American Indian – 1.4%, Asian – 1.7% or Other – 2.2%, as

reported by the 2000 U.S. Census. The region's white population was 3.5% Latino/Hispanic but the percentage of Latino/Hispanic persons has been increasing recently. Of the callers who reported their roles in agriculture, they reported the following: farmer, rancher or farm worker – 51.1%, spouse of a farmer, rancher or farm worker – 40.2%, child of a farmer, rancher or farm laborer – 1.1%, agribusiness owner or worker – 4.8%, displaced farmer - .6%, spouse of a displaced farmer - .3% or other role in agriculture – 1.8%. Callers reported the following reasons for contacting the hotlines/helplines: marital/family concerns – 24.6%, problems coping with daily roles/activities – 27.7%, feeling depressed – 27.7%, alcohol/drug abuse – 4.9%, gambling - .6% or stress over finances – 14.3%. If there was reason to suspect the caller was suicidal, the responder assessed the need for immediate assistance. During the two-year period 685 persons reported suicidal ideation during their telephone calls to the hotlines/helplines. Seventy-seven persons reported a suicide plan and fifty-six persons had attempted suicide.

When determined as necessary, the hotline/helpline staff dispensed a voucher that the caller could present to a contracted and approved professional provider of behavioral health services (i.e., psychologist, nurse practitioner, social worker, psychiatrist or other physician, pastoral counselor, marriage and family therapist, substance abuse counselor) who also possessed at least some familiarity with agriculture in exchange for a one-hour counseling session. The percentage of vouchers that were redeemed was 91% during the timeframe: September 1, 2005 – October 31, 2007.

The callers who redeemed vouchers for professional behavioral health services included more females (54.5%) than males (45.6%). The identified primary symptom bearer, whether an individual or a family member, was a preschool child (.4%), a school age child (5.0%), an adolescent (7.2%), an adult ages 18-64 (83.3%) or an adult age 64 and above (3.9%). The racial background/ethnicity of the persons who redeemed their vouchers was White/non-Hispanic – 97.3%, Black/African American - .9%, American Indian - .3%, Hispanic – 1.2%, Pacific Islander - .3% or Middle Eastern – 0%. The marital status of the persons who redeemed vouchers for professional behavioral healthcare was the following: never married – 26.4%, married – 54.7%, separated – 8.0%, divorced/annulled – 8.3% or widowed – 2.6%. Their diagnoses reported by the professional providers included the following: marital relationship/parent-child/other relationship problem – 3.6%, adjustment disorder – 44.5%, depression – 32.5%, anxiety disorder – 10.7%, alcohol-related disorder – 4.2%, other drug-related issue – 2.3%, pathological gambling - .1%, psychotic disorder - .6% or personality disorder – 1.5%.

The 10,647 referrals for follow-up behavioral health services are only a portion of the 15,395 total referrals reported during the study period by the seven hotlines/helplines. The types of referrals include the following: professional mental health services – 64.4%, substance abuse counseling – 4.8%, legal assistance – 11.24%, career/employment assistance – 1.6%, financial expertise – 11.8% and other kinds of information, such as where to locate research and agricultural behavioral health information – 6.2%.

Table 2 indicates the number of educational services undertaken by the SSoH partners and by

Table 2

Educational Services

Professional Counseling Services in

Provided in the Sowing the Seeds of Hope Region

September 1, 2005 – October 31, 2007*

State	Number of Providers Trained	Community Education Participants	Educational Retreat Participants
Iowa	50	380	none
Kansas	33	730	60
Minnesota	326	2,743	none
Nebraska	none	815	none
North Dakota	none	2,317	none
South Dakota	219	330	555
Wisconsin	none	12	145
AgriWellness	741**	188**	none
TOTAL	**1,369**	**7,515**	**760**

*The Sowing the Seeds of Hope region includes Iowa (Iowa Concern Hotline), Kansas (Kansas

Rural Family Helpline), Minnesota (Crisis Connection), Nebraska (Nebraska Rural Response

Hotline), North Dakota (***2-1-1ND***), South Dakota (South Dakota Rural Helpline)

and Wisconsin (Wisconsin Farm Center).

**AgriWellness, Inc. staff also responded to requests that were not made to the hotlines/helplines.

AgriWellness, Inc. staff during the interval from September 1, 2005 to October 31, 2007. AgriWellness staff responded to requests to service when referrals were made to the office or

callers contacted AgriWellness directly, but the state programs responded to the bulk of the requests.

Table 3 reports the other core support services provided in the SSoH program: social marketing, outreach worker visits to homebound persons, information clearinghouse contacts, coalition-building contacts, advocacy contacts at the state and federal levels and support group participants. As can be seen in Tables, 1, 2 and 3, some SSoH farm crisis partners did not offer all the core services. All, however, operated a statewide telephone portal and website. The seven project partners made 10,647 referrals for professional behavioral health services but two partners (i.e., Minnesota and North Dakota) did not provide vouchers for follow-up professional behavioral health services. Professional behavioral health services in Minnesota and North Dakota were supplemented by local and state funds that made services affordable from community mental health centers and faith-based and community-based professional providers. The overall number of referrals for follow-up behavioral health services (i.e., 10,647) includes 7,949 in the five other states and 2,698 referrals in Minnesota and North Dakota.

Table 3

Other Services Provided in the Sowing the Seeds of Hope Region,

September 1, 2005 – October 31, 2007*

State	Social Marketing Materials Distributed	Outreach Contacts	Information Clearinghouse Contacts	Coalition Building Contacts	Advocacy Contacts	Support Group Participants
Iowa	1,629	none	799	81	16	none
Kansas	22,810	876	680	300	375	none
Minnesota	1	none	none	53	23	none
Nebraska	3,315	984	2,175	4	134	none
North Dakota	130,676	198	9,377	12	none	none
South Dakota	3,224	390	188	79	45	301
Wisconsin	3,764	10	3,675	64	3	none
AgriWellness	559**	10	62**	170**	190**	none

TOTAL	**165,977****	**2,468**	**16,956**	**763**	**763**	**301**

*The Sowing the Seeds of Hope region includes Iowa (Iowa Concern Hotline), Kansas (Kansas Rural Family Helpline), Minnesota (Crisis Connection), Nebraska (Nebraska Rural Response Hotline), North Dakota (***2-1-1ND***), South Dakota (South Dakota Rural Helpline) and Wisconsin (Wisconsin Farm Center)

**AgriWellness, Inc. staff also responded to requests that were not made to the hotlines/helplines.

***This number includes press releases, radio and television programs, and newspaper and magazine articles. These activities are counted only once, but the number of persons reached, however, is likely much greater.

Discussion. The experience of the SSoH program suggests that these behavioral health supports accomplished what they were designed to do: reduce stress, prevent suicide and help the agricultural population manage their behavioral health. That 1.9% of callers (i.e., 685 persons who reported suicide ideation and another 77 persons who reported a suicide plan and 56 persons who had just attempted suicide, for a total of 818 out of 43,852 callers to the hotlines/helplines) expressed suicide concerns indicates the services were meeting a vital concern: prevention of farmer suicide. Suicide by distressed farmers was an all too common occurrence during the Farm Crisis of the 1980s and continues to be a major farming-related cause of death (Gunderson, Donner, Nashold, Salkowicz, Sperry and Wittman, 1993; Singh and Siahpush, 2002).

The various services were widely used by the agricultural population (i.e., 7,238 persons used SSoH vouchers to acquire professional behavioral health treatment; 7,515 persons participated in community education; 16,956 persons sought information from the clearinghouses; these are examples of high service usage). The program appeared to be culturally acceptable to the agricultural population. The program overcame some of the negative stigma that farm people typically associate with behavioral healthcare (Rosmann, 2003). The diverse agricultural population in the seven state SSoH region reached out to the hotlines/helplines for assistance, but there are indications that follow-up behavioral health services was less likely to be used by ethnic minorities than by White non-Hispanic agricultural people.

There was considerable consistency between the types of problems reported by callers to the hotlines/helplines or website users and the diagnoses provided by the behavioral health professionals who provided counseling services through the voucher system. The primary diagnosed problems that this agricultural sample developed in response to stress were the following, ranked in their order of frequency: adjustment problems in response to stress (variously called by persons who contacted the hotlines and websites as problems coping with daily roles/activities, stress over finances and marital/family concerns), depression, anxiety, relationship problems (described as marital/family concerns by users of the hotlines and websites), alcohol and drug disorders, personality disorders, psychotic disorders and

pathological gambling addiction. These diagnoses fairly closely parallel the diagnoses of 122 farm residents identified by Rosmann and Delworth (1990) in their review of an Iowa Farm crisis program and by Mecham, as reported by Rosmann (2003) in Nebraska for 1,434 cases during a one-year period from July 2000 through June 2001.

Evaluation of the SSoH program indicated a considerable need by persons involved in agricultural occupations to have behavioral health supports available to them for assistance during episodes of stress, especially economic threats to their well-being as agricultural producers. The SSoH program operated like an Employee Assistance Plan (EAP). The SSoH provided confidential, free and culturally appropriate counseling, community and family educational programs, referral for other forms of assistance such as legal advice when needed, social marketing of available services, home visits when necessary, information clearinghouses, coalition-building, advocacy and support groups. The program was designated a best practice model that was included in Rural Healthy People 2010: A Companion Document to Healthy People 2010 (Gamm, Hutchison, Dabney and Dorsey, 2003) and in Rural Behavioral Health Programs and Promising Practices (U.S. Department of Health and Human Services, 2011).

Next Steps. The SSoH program as described here became the model for the Farm and Ranch Stress Assistance Network, which was approved as part of the federal budget for the United States Department of Agriculture in the 2008 Farm Bill. However, no funds were appropriated to fund the program. Currently only five states (Iowa, Nebraska, New York, South Dakota, and Vermont) have state-operated farm crisis hotlines/helplines and some of these no longer list websites. They receive only occasional federal grants and are largely dependent on state and private resources for their operation.

Thus, follow-up programs to implement behavioral health supports for the agricultural population are dwindling in the U.S., although there are networks of farm crisis services in Australia, Canada and several European countries. The need for farm crisis behavioral health supports continues because there is always ongoing stress in agriculture, as well as cyclical stresses due to natural disasters such as droughts and episodes of low prices for farm products.

Further research is needed to determine the effectiveness of programs like the SSoH in lowering the rate of suicide among the agricultural population. This project did not compare the suicide rates of farm people who had access to behavioral health services with farm people who did not have access to behavioral health services.

Additional research is needed to focus on contributing factors to the high rate of suicide among people engaged in agriculture as their occupation. Singh and Siahpush (2002) indicated the rate of intentional self-harm resulting in death to be 60% higher among the most rural residents of the U.S. in comparison to the most urban residents during the latter 1990s when agriculture was flourishing fairly well in America. The agricultural population lives in these highly rural areas. The need for delivering necessary behavioral health supports to agricultural people will not go away.

References.

Barrett, J. (1987). Mending a broken heartland: Community response to the farm crisis. Alexandria, VA: Capitol Publications, Inc.

Beeson, P. G. (2000). Some notes and data on rural suicide. Rural Mental Health, 25(3), 13-15.

Booth, N. J. and Lloyd, K. (2000). Stress in farmers. International Journal of Social Psychiatry, 46, 67-73.

Delworth, U., Veach, S. D. and Grohe, L. (1988). Clinical issues with farm women. In P.A. Keller and S. Heyman (Eds). Innovations in Clinical Practice: A Sourcebook (Volume 7). Sarasota, FL: Professional Resource Exchange, pp. 423-432.

Gamm, L. D., Hutchison, L. L., Dabney, B. J. and Dorsey, A. M., Eds. (2003). Rural Healthy People 2010: A Companion Document to Healthy People 2010. College Station, TX: The Texas A&M University System Health Science Center, School of Rural Public Health, Southwest Rural Health Research Center.

Gunderson, P., Donner, B., Nashold, R., Salkowicz, L., Sperry, S. and Wittman, B. (1993). The epidemiology of suicide among farm residents or workers in five north-central states, 1980-1988. American Journal of Preventive Medicine, 9, 26-32.

Olson, K. R. and Schellenberg, R. P. ((1986). Farm stressors. American Journal of Community Psychology, 14, 555-569.

Ortega, S. T., Johnson, D. R., Beeson, P. G. and Craft, B. J. (1994). The farm crisis and mental health: A longitudinal study of the 1980s. Rural Sociology, 59(4), 598-619.

Rosmann, M. R. (2003). Agricultural behavioral health: In critical need. In B. Duerst (Ed.). Partners in Agricultural Health. Madison, WI: Wisconsin Office of Rural Health.

Rosmann, M.R. (2005). Sowing the Seeds of Hope: Providing regional behavioral health supports to the agricultural population. Journal of Agricultural Safety and Health, 11(4), 431-439.

Rosmann, M. R. (2008). Behavioral health care of the agricultural population: A brief history. Journal of Rural Mental Health, 32(1), 39-48.

Rosmann, M. R. and Delworth, U. (1990). Clinical and community perspectives on the farm crisis. The Clinical Psychologist, 43(1), 10-16.

Rosmann, M.R., Schmitt, K. and Meek, J. (2005). Growing from the Seeds of Hope. Rural Mental Health, 30(4), 3-7.

Singh, G. K. and Siahpush, M. (2002). Increasing rural-urban gradients in U.S. suicide mortality, 1970-1997. American Journal of Public Health, 92(7), 1161-1167.

Swisher, R. R., Elder, G. H. Jr., Lorenz, F. O. and Conger, R. D. (1998). The long arm of the farm: How an occupation structures exposure and vulnerability to stressors across role domains. Journal of Health and Social Behavior, 39(March), 72-89.

U.S. Department of Health and Human Services (2011). Rural Behavioral Health Programs and Promising Programs, Accessed on June 21, 2014 at: http://www.hrsa.gov/ruralhealth/pdf/ruralbehavioralmanual05312011.pdf.

Weigel, D. J. and Weigel, R. R. (1990). Family satisfaction in two-generation farm families: The role of stress and resources. Family Relations, 36, 449-455.