

Providing Health Services to Aging Farmers: A Practitioner's Perspective

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Background

The news media and national statistics bombard the public with the alarming news that by 2030 20% of Americans age 65 and older (Administration on Aging, 2005).

The aging of the nation carries with it ramifications for industry, housing, health care, the economy, and policy issues. The graying of America's farmers continues to escalate, with the average age of agricultural producers now 55 (USDA, 2002), compared to 39 for other occupations (Toossi, 2002). As Americans age, increasing attention is being given to the adjustments that are needed in health care delivery to meet the needs of baby boomers (Knickman & Snell, 2002). These same adjustments and more are needed to meet the needs of aging farmers and their families. The purpose of this paper is to examine the current health care delivery system for farmers, focus on ways to evaluate the delivery, and provide possible methods of improving health care to aging farmers and their families.

Aging and farmers' health conditions

It has been estimated that approximately 70% of those 65 and older reported two or more co-occurring chronic diseases, contributing to the over 60 million Americans with multiple morbidity (National Center for Health Statistics, 2006). Co-morbidities increased with age and with decreasing income. A 1999 survey found that 48% of Medicare beneficiaries had at least three chronic medical conditions and 21% had five or more conditions while, adults aged 60+ years have an average of 2.2 chronic conditions each (Anderson & Horvath, 2002).

In a study being conducted in Kentucky and South Carolina that enrolled farmers age 50 and over, a mean of 2.67 (S.D. = 2.16) health conditions were reported (Amshoff & Reed, 2005). The number may be an underestimate because participants only selected from a list of the 25 most commonly reported health conditions among older populations.

The most prevalent health conditions reported by the sample were arthritis (43%), hypertension (36%), problems with hearing (34%), musculoskeletal disorders (back) (25%), and problems with vision (19%). This glimpse into the health of aging farmers provides the basis for pondering the most advantageous ways to design and deliver health care to this group of workers.

Although the bulk of literature about farmers' health has focused on injury, several recent studies have examined health conditions among the farm population. These have focused primarily on respiratory health (Kirkhorn & Schenker, 2002; Schenker, 2005; Schenker, et al., 2005), hearing loss (Beckett et al., 2000; Hwang et al., 2001), hypertension (Heath, Browning, & Reed, 1999), dermatitis and skin cancer (Kirkhorn & Schenker, 2002; Susitaival, Beckman, Samuels, & Schenker, 2004), and musculoskeletal disorders (Kirkhorn & Schenker, 2002; Walker-Bone, & Palmer, 2002). A study by Cooper, Buffler, and Wagener (1993) reported activity limitations of agricultural workers increased with advancing age. By age 65, 51% of the women and 61% of men reported activity limitations due to chronic conditions.

The need for health care that is tailored to aging farmers is clear. The next steps are to examine what type of provisions are currently in place, if those provisions meet the needs of aging farmers, and how care can be improved. In this examination, a variety of sources were used to discover the types of programs currently being used to deliver health services to farmers. The author used her list serve of 109 nurses interested in agriculture, AgHERE, as well as personal emails to colleagues around the globe. A research team assisted in a review of the literature, 1990 to the present. The team searched Google scholar, pub-med, and several other databases. In addition, the abstracts of conferences attended by the author in the past five years were reviewed, since very little published literature was discovered. Finally, a brief scan of the world wide web was conducted using the key words: agriculture, farming, health, health care, screening, medicine, nursing, and health care delivery.

Provision of health care: The five A's

People who live in rural areas, which include farmers, face several barriers to health care. Bushy (2000), notes that rural areas carve creative ways to address health, yet distance, time, and retention of health professionals remain obstacles. Health care providers may be very different than those in urban areas. Nurse practitioners may be the primary and sometimes, the sole provider, of health care (Ricketts, 1999). Specialty care is not as readily available in rural areas. Even the environment prevents ready access to care. Roads may be impassible in the winter, and even in good weather the distance to the nearest provider may take hours to traverse. For the farmer, a day away from work to receive health care may not be as important as getting the work done. Delay or omission of care by farmers due to time investment was noted by Reed and Claunch (1998) in a study of farmers post amputation.

Certain criteria must be met before persons will utilize health care systems. These criteria can be listed as the five A's. Services must be *available, appropriate, accessible, acceptable, and affordable*. Evaluation of the five A's is essentially subjective, and subject to personal and cultural norms.

Availability. Providing health services to farmers, particularly older farmers, is not a case of "if you build it, they will come." Indeed, there may be good reasons why they don't come. Graber and Jones (2001) reported that distance from providers, the shortage of providers in rural areas, lack of insurance by farm families, and multi job holding status of farmers and farm spouses all contribute to a lack of well being in farm families.

In the study of aging farmers conducted by Reed, McCulloch, Garkovich, and Rayens (2006), 85% of the participants reported that they had a personal health provider, evidence of the general availability of providers in Kentucky and South Carolina where the study took place. The study did not ask about specialty services, which are much more scarce in rural areas. Thelin and colleagues (1999) reviewed the use of health care facilities related to the availability of occupational health services in a sample of 912 farmers. Findings revealed that there were only minimal differences in the use of general

health care facilities between the groups that had occupational health service and those that did not have such services. Emanuel and colleagues (1990) suggested the use of regional health networks to address the decreasing availability of hospitals and other health provisions in rural areas. Regional health networks may be one avenue for maximizing resources while minimizing cost of care.

Availability of health services for farmers and others in rural areas varies widely across the nation. Since farmers are distributed throughout communities there is no real way to “capture” the target audience as is the case in many other occupational settings. Some areas of the nation have dedicated facilities for farmers to receive care and a few of these clinics have been established in their communities for years. The clinics are well known for their expertise and have solid reputations among farmers. Unfortunately, these types of facilities are limited in number. The challenge remains for the rest of the nation to develop health care systems that meet the needs of region specific groups. Three region specific examples of best practices for farmers are discussed below.

The AgriSafe clinics are specially geared to the needs of farmers and operates through the support of local health care providers and other community establishments (AgriSafe, 2007). The clinic nursing staff completes special training in agricultural medicine before the clinic can be designated as an AgriSafe clinic. The model has been well received in Iowa and AgriSafe has plans to at least seven other nearby states in the near future.

The New York Center for Agriculture Medicine and Health and the Farm Medicine Center in Marshfield, Wisconsin are two more examples of successful health services with special emphasis on farm populations. In addition to a full scope of services for farmers, the New York Center offers farm partners programs that focus on issues of stress. It also offers occupational health care and farm visits to establish best practices for farm health and safety (NYCAMH, 2007). The Farm Medicine Center began in 1981 and has offered health services to generations of farm families (National Farm Medicine Center, 2007). A full range of specialty services is offered through the clinic. In addition to clinical services, the Center conducts a constellation of agricultural health research.

Both of these well established specialty clinics are well respected by farm families in their regions and serve as examples of regionally based clinics that are responsive to farm community needs. The potential of the clinics to address issues of aging farmers has yet to be realized.

Each of the programs featured above serves a limited area. The rest of the nation could benefit from replication of expansion of the programs and aging farmers could benefit from services that are designed for their regional specific needs.

Appropriateness. If a service is not appropriate it will not be used effectively and, if used, it will not be cost effective for the farmer. It is of utmost importance that the right service is rendered at the right time. Appropriateness may include specific screening tests for health conditions known to be highly prevalent in certain farm populations. For example, hearing screening may be very appropriate for most farmers, but may not be appropriate for the young farmer who breeds Alpaca llamas and uses no noisy farm equipment. Offering a battery of screening tests for a farm commodity group is not appropriate during the farmer's busy season. Such an offering may result in low turnout and wasted time of providers. On the other hand, providing skin cancer screening scheduled during a county wide farm tour day held in the summer may be a very appropriate offering.

Accessibility and Acceptability. The built environment and physical layout are of increasing importance as the farmer ages. Facilities that are located in busy locations may be challenging to aging farmers. Distance to the building from the parking lot may be an issue, especially if health is already compromised. Simple things like ease of navigation within the clinic building, clarity of signage, helpful staff, location of restrooms, elevators, the actual distance within the building to get to the office(s), and being able to complete procedures in one location are all attributes that are attractive to aging clients. Accessibility also includes being able to access resources when planning visits and inquiring about services. The effusion of automated telephone responses deny a personal and social connection. The aging farmer may not be able to navigate the automated system to make inquiries or appointments. Farm culture and work practices include the

personal relationship of neighbors and business associates (Garkovich, Bokemeier, & Foote, 1995). In an impersonal atmosphere the farmer may not feel valued and may experience subsequent difficulty attempting to access needed health resources. Accessibility needs to be thought of in broad terms of physical and social contexts.

Acceptability of health care is judged in terms of the culture and values of aging farmers. In examining the physical attributes of the facility the ambiance is important. Does it resound of excessive affluence? Will the farmer feel socially comfortable there? Can the individual wear work clothing or does he or she have to dress up? Even the waiting room periodicals available are important. Are they all *Fortune* or *People* or *Golfer's World* magazines, or is there a farm periodical or two among the choices? In essence, will the farmer feel accepted and valued? Perhaps even more important, do the clinic personnel know about agriculture in their community? In a report on perceptions and behaviors of primary care physicians toward farmers' occupational exposures, Prince and Westneat (2001) found that although 93% of the sample reported they cared for farm clients, only 4% had received any medical training in the last three years that included mention of agricultural health. It is important that staff be able to "speak the language" of the farmer. Staff knowledge of the agricultural occupation must extend to understanding that farmers may need to cancel visits at the last minute when a cow is experiencing difficulty calving or the hay is ready to be baled and rain is coming. Expressing understanding in these circumstances add to the rapport between the clinic and the farm client, building mutual respect.

Affordability. Farmers may seek treatment for severe acute injury or illness but subtle symptoms and preventive care are easier to ignore. Cost is a "two edged sword." Charity has not been readily accepted in farm culture, so is "Free" really good when it comes to health care? The adage "You get what you pay for" may come into play. However, if the farmer has had a recent experience of surprise charges on medical bills or has looked at the excessive pricing of medical procedures and office visits, s/he may elect to omit care or not to do anything preventive, fearing yet another expensive charge. It is important to address cost during the visit. Patients, older persons in particular, rarely ask questions

about cost of care. A payment system may need to be arranged as aging farmers may be on fixed incomes with only annual income from agricultural sources.

Affordability is tied to health insurance coverage. Aging farmers who are covered by government programs such as Medicare, may be more likely to engage in health care. In Reed's study of farmers over age 50, 6.5% of the sample reported delaying medical care and 8.4% delayed dental care because of cost (Reed, et al., 2006). Older participants (over age 65) were more likely to make frequent medical visits than their younger (age 50-64) counterparts and less likely to delay care due to cost. More research is needed to discover the effects of health insurance on seeking health care by aging farmers.

Other methods and sources of health information may be cost effective: popular press as a source of health information, new models of health care delivery, and community based health screenings all have potential. Geographic isolation first caused rural people to rely heavily on self, then on family, and neighbors for health information and medical treatment. While this has changed with improved roads and methods of transportation and lean nuclear families, the old habits are still there. There are many more health related articles in farm periodicals which trigger responses to certain things, like hearing loss, prostate cancer, etc. which can target health related issues of aging.

Heuer and colleagues (2006) provided information about cluster clinics for migrant Hispanic farm workers with diabetes in North Dakota. Although this program does not directly address the topic of aging farmers, it uses concepts that may be useful. These 37 multidisciplinary cluster clinics designed their program to fit the needs of their clients. First, it uses the "one stop" approach to care. The model addressed the issue of accessibility by tailoring service hours to fit client needs, providing evening appointments. It also incorporated screening with treatment. The idea of getting as much information about the patient as possible while the patient is present is extremely important. This approach contains cost, time, and provides a more holistic approach to care. In this particular program 14% of the clients are above age 65. This runs counter to most of the literature about migrant workers, who are portrayed as much younger. The

challenge of the cluster clinic model is how to get the client through all the stops in a time efficient manner. However, Heuer's data support that patients are satisfied with care, with very few negatives. These primarily have to do with the waiting area and food selection. Most clients reported that they liked being able to have so many services provided in one place during one visit. This model may be helpful when planning care delivery for aging farmers.

With so many health screening tests to choose from, practitioners need to evaluate the high risk areas and only screen for those risks. This contains cost and is more user friendly. Screenings must be individualized to be cost effective. Many health insurances will not cover the cost of screenings, so how billing is done is crucial. Documentation of pain may be needed for insurance to cover bone density; so, screening becomes more of a diagnostic tool. One study completed by Carruth and colleagues (2006), found that farm women in KY and Louisiana were 6% less likely to have pap tests than the general female population in those states. Uninsurance, no off farm job, and minimal engagement in farm work were associated with less frequent pap tests. What happens after screening is of utmost importance. Marlenga (1997) reported that 68% of persons with possible skin cancer followed up after the initial screening done at the Farm Medicine Center (88% of the sample was over age 50; 81% male). Predictors for follow up included having health insurance that would cover the cost, perceived consequences of outcome, and regular skin self exam.

Literature on the effectiveness of screenings was very scant. A study with New York dairy farmers and owner-operators focused on reducing hazardous exposures (Jenkins, Stack, Earle-Richardson, Scofield, & May, in press). In this project, free health screening and personal health education were provided at the same time. The project was held in conjunction with various agricultural meetings (2001-2004) that farmers would be attending as part of their usual activities. The interventions took about 45 minutes and included family members in the education sessions. The project team elicited pledges from farmers that the farmers would use personal protective equipment (PPE) for at least the next 3 weeks and that they would abate farm safety hazards over the next two months.

In the post survey, it was reported that 25% had improved PPE use: 13% had removed a noise source and 30.7% had abated a respiratory hazard. The average age of the participants was 50 years old. Unfortunately, there was no report on the number of participants that followed up with medical care after positive screenings. Hopefully, a subsequent publication will address this.

A study on the impact and efficacy of health fairs for farmers was conducted by Rydholm and Kirkhorn (2005). They examined Winter Health Fairs held in southern Minnesota that were supported by businesses and community. Sixty percent of the sample was over age 55. Nearly all (94%) had health insurance; however, 48% lacked preventive health services in their insurance coverage. Over half of the participants had abnormal audiometric results, one-third screened positive for hyperlipidemia, and 30% had elevated blood pressure. Two months after the fair, participants were contacted about follow up and lifestyle changes. At that time, 78% reported work safety or lifestyle changes as a result of the fair. Changes included improved diet, increased exercise, and better stress management. Of the 32% recommended for follow-up, 70% sought & received care in a timely manner.

Health fairs have been around for years without much evaluation of any kind. They take place most often at county level events, such as Dairy Days and other commodity specific events. Generally, local health care volunteers staff the health fair. The primary problem with health fairs is tracking participants for follow up. The health privacy act creates an additional obstacle to follow up because there is no way to verify if follow up actually occurred, other than by self report, unless the screening providers are also in professional contact with the participants within the care system. For instance, if a church nurse provides screening at a health fair, she has the ability to follow up with members in her own congregation but she would not be able to follow nonmembers. As community based health fairs become part of the local landscape careful and creative planning may lead to ways of tracking participants.

Other programs to consider

In Canada, Mpofu, Lockinger, Bidwell, and McDuffie (2002) evaluated a respiratory health program delivered by nurses in rural Saskatchewan communities to 592 residents (average age, 51.7). The program used one on one screening, education and follow up. The program was evaluated on a variety of quality indicators and over 90% of the respondents were satisfied with the program. The diversity of farm operations and geographic dispersion was a problem for accessibility. It was noted that the program was very labor intensive, thus costly to operate.

The web search revealed five mobile clinics in the US that had farmers in their target groups. There was no supporting documentation about the cost to the provider or recipient for these services. Not much information about preventive services was provided; the mobile clinics seemed to target direct health services for previously diagnosed conditions. All clinics had dental services included. The use of mobile clinics seems to be more popular in areas that are sparsely settled.

The Salud Program, based in Colorado, reported that their mobile unit has been successful in providing available and accessible care by going to nontraditional areas identified through community workers (Diaz-Perez, Farley, & Cabanis, 2004). The clinic operates 3 evening each week. Screening services are provided for diabetes, hypertension, mental health, dental and HIV. The average age of patients seen was 33 and slightly over half were female. Thirty-five percent of the patients returned to the clinic during the next year.

In England a mobile health clinic staffed by nurse practitioners (NP) was established in 1998 prior to the outbreak of foot and mouth disease. The Farm Health Project serves the South Lakeland and North Lancashire areas (Walsh, 2000). The clinic frequents agricultural events, auctions, and other places farmers congregate. The target group is men ages 30-60 and it seems to be effective in reaching that group. The NPs provide primary and secondary care, and incorporated a strong emphasis on mental health

following the foot and mouth outbreak. Services are free; funding is leveraged from a variety of sources, but it relies primarily on the government for financial support.

While there may be many more mobile health clinics their influence remains hidden. Delivery of health care close to residencies would be a way to decrease travel time and expense for rural residents, and may be especially beneficial for aging farmers.

There is a growing body of literature about farming and behavioral health issues (Fraser, et al., 2005), yet very little of the literature includes aging farmers, even though behavioral health is of great concern among gerontologists (Jeste et al., 1999). The AgriWellness model really helped bring behavioral health services to the forefront of healthcare for farmers and their families (Rosmann, 2005). Again, a regional approach is taken to address the needs of the population at risk. In this midwestern based program there are 12 components of service, including direct service through a voucher system, telephone intervention, and support groups. While the notation of behavioral and mental health screenings is scant in the literature, there is a trend toward including it. Behavioral health still has a strong stigma attached to it in rural areas (Gamm, Hutchison, Dabney, & Dorsey, 2003).

Other programs exist that are related to health services but not directly tied to the provision of care. AgrAbility and vocational rehabilitation programs are awarded on a competitive basis so they are not equally distributed across the nation, however, they could be potential avenues for reaching at risk aging farmers. AgrAbility, funded through the USDA, is present in 30 states (AgrAbility, 2007). The projects focus their efforts on farmers with disabilities and their families. The 2000 Census reported 288,000 farmers with disabilities (AgrAbility, 2007). Vocational rehabilitation programs are charged with maximizing occupational productivity for workers with disabilities. Few farmers ever access vocational rehabilitation, yet the program could be a boon to preventing further compromise of health. Vocational rehabilitation counselors could guide aging farmers in selection of assistive devices that could make work easier, more health protective, and more productive. Knowing that farmers really don't retire, it becomes even more

important to be comprehensive in evaluating their health. Co-morbidities compromise health and they increase in number and intensity as age advances (National Center for Health Statistics, 2006). Early detection and treatment of co-morbidities can improve health outcomes at any age. In many cases of AgrAbility and Vocational rehabilitation these aspects are overlooked. The benefits of both of these programs could be greater to the farmer if there were staff that could provide screenings and followup care.

Health professional students may also be an avenue to health screenings for farmers. Dr. Susan Jones began taking her nursing students to local places where farmers, particularly older farmers, congregated for morning coffee or to take grain (Jones & Siegrist, 1999). The students arrived as early as 5:00 AM in order to match the times of the farmers. Sessions lasted four hours during which the students provided brief health education programs, placed health information posters, and checked blood pressures. The rapport that was fostered through this interaction proved valuable for the nursing students to learn about agriculture and older adults, and the farmers respected and valued the services, which were not seen as just free screenings. The farmers were providing an equally important service by allowing the students to “practice” on them. The shortcoming of this program was the inability to follow up but the program could be modified to provide on-going services or to partner with local health care providers for follow up. In a similar program of care based in academia, Brown and Barton (1992) reported a successful 10 year partnership between the University of Colorado School of Nursing and the migrant health program (MHP). The MHP was understaffed and clinical community health sites were needed for the nursing students. These examples of “country-gown” relationships illustrate the importance of partnering for success in delivery of health care to farmers of any age.

Small rural health care facilities can be effective with farmers. The keys are to help providers understand why the occupational health history is beneficial for aging farmers and how providers can include the information in their contact with patients without adding cost or time. A pilot demonstration project in Kentucky (Reed & Claunch, in press) used the Putting Prevention Into Practice Model (USDHHS, 2007). In that nine

month project the critical aspect was the identification of a “champion” for the program, who kept the program alive during and after the funded period. The office business manager/receptionist, who was very active in the local fair with livestock, not only led the program in the clinic but reached out and identified local resources and potential clients. The clinic was supported during the project period by research staff that held regular meetings with the staff and developed a low technology “toolkit” for staff to use in delivery of care. The project was interesting to the staff and they learned as much about farm health as the patients. They have sustained parts of the program since its inception (Reed & Claunch, in press). Inclusion of specific guidance for aging farmers would be helpful for clinicians.

Conclusions and Implications for the future

In looking at the five A’s of health care provision for aging farmers it was discovered that farm families face the same barriers to care as others in rural regions. Distance, time, cost, scarcity of health resources, and environmental issues all contribute to the health disparities evident in the rural population (Bushy, 2000). Coupled with these barriers are the unique challenges faced by aging farmers. From the examination of the literature, web searches and personal communications, it is increasingly evident that several aspects of planning and delivering health care to aging farmers should be addressed.

First, it is acknowledged there are many programs delivering care in many different ways to farm communities. Some of the programs are well established, others are in various stages of development. Scant literature was discovered that provided any systematic or in-depth evaluation of existing delivery methods. There is an urgent need for rigorous examination of the efficacy and effectiveness of existing programs. The outcome of such investigations could lead to the discovery of improved models of care for aging farmers.

Second, the regional disparities in availability of care for aging farmers should be addressed. Most regions of the nation have little, if any, health care programs that focus primarily on health care for farmers and virtually nothing specific for aging farmers. The movement to educate and equip providers with the skill set necessary to render

appropriate care is encouraging. The Agrisafe clinics and the inclusion of agricultural health in the curricula of nurses and physicians should also encompass instruction on aging farmers and their health risks. Incorporation of “country-grown” collaboration focused on gerontology should be considered by academic institutions.

Third, health literacy of both the aging farmer and of health providers should be examined. Health literacy is a broad term that includes not only health education but the ability to discover resources, discriminate between reliable and non reliable sources, apply the information to the individual’s own situation, and to make informed choices (Nielsen-Bohlman, 2004). Even the use of electronic technology for health has not been explored among aging farmers. The use of computers, internet as an information resource, and telemedicine should all be viewed as potential venues for health care delivery. Electronic technology has the capacity to reduce or eliminate many of the rural barriers to care. E-technology can be used from home, thus time and distance challenges are eliminated. For the aging farmer with increasing health conditions e-technology conserves personal energy, may prevent injury due to environmental hazards during travel, and eliminates the need to drive to the health care provider. Coupled with mobile services that could provide follow up care, health care would take on an entire new look for aging farmers.

Fourth, there is a need to maximize opportunities to partner with existing programs that provide rehabilitation care for farmers, especially with AgrAbility and vocational rehabilitation programs. These programs provide valuable assistance to many farmers, yet aging farmers may not take full advantage of them. Farmers who utilize the services of these agencies deserve to have a seamless interface with health professionals located within the programs so co-morbidities can be considered in the plan of care.

Fifth, scant research with aging farmers about their health or work has been published. Aging farmers are most often included in injury focused publications, such as morbidity and mortality reports. More research on work conditions, health status, and utilization of health care systems by aging farmers is needed before appropriate interventions can be

designed. Consideration of farm culture and the values of aging farmers should be part of the future research agenda. Priorities of aging farmers may be on land retention, rather than consideration of personal health (Garkovich, Reed, McCulloch, Privette, & Fields, 2004). The aging of migrant farmers is accompanied by an entire set values and cultural history unlike that of native born farmers. These groups also deserve attention.

Finally, development of community coalitions and working groups that focus on aging farmers could result in unique and region specific models not yet discovered. The myriad of health screening programs that are offered by local organizations illustrates that communities have the basic capacity to engage in health service delivery. This ability may be strengthened by forming formal partnerships to foster the health and well being of aging farmers.

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