

## Underserved Farmers With Disabilities: Designing an AgrAbility Program to Address Health Disparities

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**ABSTRACT.** Awareness of health disparities is crucial for individuals with disabilities to minimize additional health-related challenges. Adding rural residence and age to disability creates a triple threat in terms of potential health disparities. Kentucky AgrAbility is developing innovative new partnerships with the goal of expanding service provision to underserved populations with disabilities in Kentucky: women, minority, and Appalachian small farmers. Kentucky AgrAbility is evolving to include a more focused approach to the needs of underresourced and underserved regions and populations of farmers in Kentucky. Through new partnerships and a commitment to addressing potential health disparities, farmers and families who can benefit from AgrAbility services will be broadly identified. It is concluded that health disparities need to be recognized and addressed in all health care service provision and education. Kentucky AgrAbility is attempting to develop and implement an innovative, multidisciplinary team of partners with a goal of providing one of a kind service and education to all Kentucky farmers with disabilities. This includes underserved farmers who are at risk of not receiving the appropriate services due to limited resources and lack of awareness.

**KEYWORDS.** Aging farmers, AgrAbility, Appalachia, disability, health disparities, underserved populations

### INTRODUCTION

The vision of the United States Department of Agriculture (USDA)-sponsored AgrAbility program is to enable a lifestyle of high quality for farmers, ranchers, and other agricultural workers with disabilities, so that they,

their families, and their communities continue to succeed in rural America. For this target audience, “success” may be defined by many parameters, including employment in production agriculture or a related occupation; access to appropriate assistive technology needed for work and daily living activities; evidence-based

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information related to the treatment and rehabilitation of disabling conditions; and targeted support for family caregivers of AgrAbility customers.

When talking about rural communities, it is important to acknowledge the issue of health disparities. Health disparities can be approached as three categories: health status, health care access, and quality and health outcome.<sup>1</sup> Having a disability and living in a rural environment or coming from a minority population can lead to decreased health status, decreased access to health care, and decreased health outcomes. It is crucial to address health disparities at all levels of service provision.

Kentucky AgrAbility is developing innovative new partnerships with the goal of expanding service provision to specific underserved farm populations in Kentucky: women, minority, and Appalachian small farmers. All AgrAbility programs include a partnership of the land grant university, a local nonprofit entity, and the state vocational rehabilitation program. The innovation of the developing Kentucky AgrAbility is that two partners, Cardinal Hill Rehabilitation Hospital and Kentucky State University (KSU) Land Grant Program, have been selected specifically to address three major underserved populations: Appalachian farmers, minority, and women small farmers. These populations have historically been underserved by many service providers, including Kentucky AgrAbility. Each partner has a specific expertise and existing reach into the newly targeted populations. Cardinal Hill has a long tradition of providing rehabilitation services to people from Appalachian Kentucky and KSU has a mission to provide support and education to minority and women small farmers.

According to the Environmental Protection Agency, as of 2002, over 27% of US farms are considered small farms with limited resources.<sup>2</sup> By deliberately creating this collaboration and designing the AgrAbility goals around the focus of underserved populations, the aim is to directly and objectively improve service provision and perhaps enhance the limited resources typically found in these groups.

## BACKGROUND

### *Rural Kentucky*

According to the 2005 Kentucky Department of Agriculture Report, agriculture is the largest industry in the state.<sup>3</sup> Overall Kentucky's farm product sales were \$4.82 billion<sup>4</sup> In 2008, Kentucky ranked fourth nationally in the numbers of farms with 85,260—the highest number east of the Mississippi River.<sup>3</sup> Of these, 89% were family farms and over 95% were small farms. The average age of Kentucky farmers increased to 56.5 years, with the number of full-time farmers decreasing to 40%. Farm operators included 32,652 women, of which 1005 were minority/socially disadvantaged, including African American, and 29,247 were 65 or older.

Kentucky is a largely rural state, with 117 of its 120 counties classified as rural. Those living in agricultural settings often experience greater isolation and depressed economic opportunities. Kentucky is the sixth poorest state in the country, with over 17% of the population living below the poverty line.<sup>5</sup> According to the US Census Bureau, 23.7% of Kentuckians, age 5 and older, have a disability as compared to 19.3% of the US population.<sup>6</sup> Kentucky has the second highest rate of disability in the country.<sup>5</sup> Of those with disabilities, nearly 30% live in poverty. For people who have a disability, the implications of a rural life can mean even larger disparities in opportunities. Urban and rural communities have different health priorities that are related to differences in demographics, health behavior, geographic isolation, and access to health care.<sup>7</sup>

### *Appalachia*

Appalachia is a 200,000 square mile region with about 23 million residents. Of these residents, 42% reside in rural areas compared to 20% in the rest of the nation.<sup>8</sup> In 1965 the Appalachian Regional Development Act first designated parts of 13 states as Appalachia as a unique geographical region. Appalachia has long been a region with high rates of poverty, isolation, and poor health.<sup>9</sup> Although these rates

have been halved since President Johnson's "War on Poverty" in the mid-1960s, the region still has substantial economic, educational, and health disparities.<sup>10,11</sup> Appalachian counties are divided into five categories: distressed, at-risk, transitional, competitive, and attainment counties. Distressed counties, the most economically depressed counties, are most strongly represented in central Appalachia. In fiscal year 2010, 82 of the 420 counties in Appalachia are in the distressed category. Forty of the 54 Kentucky counties classified as Appalachian are considered distressed.<sup>8</sup>

Although it is true that those with disabilities in rural settings have experienced a long history of problems with transportation, employment, and access to health care, a new reliance on technology and innovative approaches to service delivery, such as the developing Kentucky AgrAbility, can offer new insights.<sup>11</sup> Merely having a disability increases the need for interventions that may be medical, physical, social, emotional, or societal. This is compounded when those who experience injuries or disabilities do not know where to look for assistance. This means that without an understanding of the potential for rehabilitation, these individuals may be forced to choose alternate occupations or, worse yet, no occupation at all. One of the greatest challenges is identifying and reaching out to all individuals who can benefit from services. The newly developed partnership allows for KY AgrAbility to identify many farmers who are often missed when services are provided.

### *Disability, Agriculture, and Aging*

Rural residents tend to be older, poorer, less educated, and are more likely to be uninsured than their urban counterparts.<sup>12</sup> These rural communities have higher rates of chronic illness and disability and report poorer overall health status than their urban neighbors. Residents of rural areas generally have less contact and fewer visits with physicians and, in general, lower levels of preventive care.<sup>12</sup> People with disabilities face daunting barriers in terms of employment. The Harris poll exploring disability in the United States provides powerful insights into the true inequalities that exist for people with

disabilities.<sup>13</sup> Slightly over one third of people with disabilities are employed, as compared to 78% of people without disabilities. Those with disabilities are also more likely to (1) live in poverty, (2) drop out of school, (3) lack social opportunities, (4) have inadequate transportation, (5) go without medical care, and (6) be less satisfied with their lives. Underemployment or unemployment can result in economic distress. The economic distress often leads to living in unhealthy living conditions, as well as poor diet and stress.<sup>14</sup> All these factors are significant contributors to poor health.

Farmers, and rural residents as a whole, are aging. Nationally, the average age of farmers in 2007 was 57.1 years, with 30% being 65 or older. The average age of women farmers was 58.8 years. But for African American farmers, the average age was 60.3 years, with 37% being 65 years or older.<sup>4</sup> The rural population of 55–75 is expected to increase by 30% between 2010 and 2020 as "baby boomers" move to rural areas. Rural older adults are often viewed as especially vulnerable due to factors such as rural areas are frequently characterized by poorly developed and fragile economic infrastructures, resulting in fewer available per capita hospital beds, doctors, nurses, and other health care services, along with physical barriers, including a lack of public transportation, difficult terrain, and long distances to services.<sup>15</sup>

### *Kentucky AgrAbility's New and Redeveloped Partnerships*

Since 1993, Kentucky AgrAbility has served over 900 Kentuckians pursuing an agricultural lifestyle. Kentucky AgrAbility has trained over 150 Cooperative Extension Service agents, vocational rehabilitation professionals, and allied health professionals annually. In 2010, through a new round of funding by the United States Department of Agriculture for Kentucky AgrAbility, newly expanded service provision goals have been created that include identifying and reaching out to individuals who are underserved by the program. This is being supported by the new team of partners who combine to create a strong network of service provision and expertise throughout the state.

*Cardinal Hill Rehabilitation Hospital:  
Appalachian Kentucky*

Cardinal Hill is a regional, freestanding, not-for-profit rehabilitation hospital providing services for all counties in central and Eastern Kentucky. The facility is closely tied to the University of Kentucky. The University of Kentucky Physical Medicine & Rehabilitation (PM&R) department is housed at Cardinal Hill. In their primary region of service, 45% or 76% of those counties in central and eastern Kentucky are coded as Appalachian and rural, and include 9 of the 10 least healthy counties in Kentucky as reported by the Kentucky Institute of Medicine. Cardinal Hill serves approximately 10,000 clients per year, across the continuum of care, and 2300 inpatient admissions specifically in 2005. In the past 5 years, Cardinal Hill is the largest provider of inpatient rehabilitation service for clients with Medicaid in Kentucky. In the past 10 years, Cardinal Hill has served an average of 70% of all the Medicaid rehabilitation in patients in Kentucky, rising to 79% in 2006.

Cardinal Hill Rehabilitation Hospital has been a partner for a number of years. In the past the connection was purely related to sharing occupational therapy services with AgrAbility, but the partnership was not specifically focused on health disparities. The new focus is to take extra time and effort to help connect Cardinal Hill patients who are women, minority, or from Appalachian Kentucky who would like to return to farming. Cardinal Hill has a large population of patients from Appalachian Kentucky.

Recently, Cardinal Hill has become one of the founding members of Kentucky Appalachian Rural Rehabilitation Network (KARRN). KARRN has been established as a collaborative team including individuals impacted by neurological impairments, providers who serve them, members of communities in which they live, advocates, educators, and researchers who investigate these impairments. The goal is to identify, develop, and disseminate information and strategies, and maximize resources to improve outcomes and quality of life for individuals with neurological impairments living in rural Kentucky Appalachian counties. Through

Cardinal Hill and KARRN, AgrAbility has strong support in reaching Appalachian farmers with disabilities.

*Kentucky State University: Minority and Women Small Farmers*

As of 2010, Kentucky State University is the new partner for Kentucky AgrAbility. The Kentucky State University Land Grant Program's (KSU-1890) targets Extension and Research information to small, limited-resource women and minority farmers and rural and urban communities. The 1890 Land Grant Institutions were created as a result of the Second Morrill Act of 1890, expanding the 1862 system of land grant universities to include historically African American institutions. Many of the African American normal schools were incorporated into this system and became known as "1890 Institutions."

KSU's Small Farm Program, including its National Institute of Food and Agriculture (NIFA) 2501 Outreach and Assistance to Socially Disadvantaged Farmers and Ranchers Project, provides one-on-one technical assistance to farmers in some 20 counties and statewide outreach education targeting small, socially disadvantaged, minority, limited-resource, and women farmers on a variety of management, marketing, production, and health and well-being topics. KSU provides Kentucky AgrAbility with a network of individuals who can aid in reaching out to these populations of farmers. KSU hosts an annual Small, Limited-Resource/Minority Farmers Conference (250 participants annually), monthly "Third Thursday" educational and networking workshops (1200 participants annually), and triennial Small Farm Field Days (800 participants). Through Third Thursday, women and minority limited-resource farmers are able to obtain specialized training and support. Started in the late 1990s, "The Third Thursday Thing" has evolved into a regular educational program on sustainable agriculture at KSU. KSU has available for use its 205-acre Research and Demonstration Farm. The Research and Demonstration Farm is the future site of a hands-on AgrAbility equipment

training course for farmers. The partnership with KSU will result in a strong network of connecting AgrAbility services to the underserved population of small, limited-resource minority and women farmers.

### *Kentucky Office of Vocational Rehabilitation*

At a state level, the Kentucky Office of Vocational Rehabilitation and Kentucky AgrAbility have been partners in serving farmers with disabilities since 1993. The Kentucky Office of Vocational Rehabilitation assists Kentuckians with disabilities to achieve suitable employment and independence. Kentucky AgrAbility refers many clients to the Office of Vocational Rehabilitation for vocationally related services and funding for services and assistive technology. Rehabilitation counselors and rehabilitation technology staff also refer their consumers to the Kentucky AgrAbility team for the specialized expertise and services that are not available through their own agency. In 2009, Kentucky AgrAbility has directly served 34 consumers of the Office of Vocational Rehabilitation. Most significantly, the Office of Vocational Rehabilitation has provided, to date, \$368,344 in funding for various accommodations, equipment modifications, and assistive technology for these Kentucky farmers with disabilities. Over the past 3 years the Office of Vocational Rehabilitation has placed an average of 32 individuals each year in agricultural occupations. They have spent an average of \$4516 on each of these cases. In addition, Kentucky AgrAbility and the Office of Vocational Rehabilitation have recently collaborated on two federally funded projects and have cosponsored three annual multistate, multiple-day workshops on assistive technology and rehabilitation engineering for clients and professionals.

### *Addressing Health Disparities—New Program Goals*

The new partnership is organized to help Kentucky AgrAbility meet its goals of service provision. In addition to continuing to provide strong one-on-one service provision, the goal for the next 4 years is to broaden the base

of service providers through education and to reach out to underserved populations who have not traditionally received AgrAbility services in Kentucky.

1. *Provide AgrAbility and Health Disparity training to Kentucky allied health professionals and allied health students.* Although medical and rehabilitation professionals are familiar with health care, they may not be familiar with variety of tasks and the physical, environmental, and economic conditions faced by farmers as a whole and underserved farmers specifically. Allied health students and professionals may not be well trained in issues related to rural health, health disparities, and underserved populations. Training will focus on issues related to rural health, aging, health literacy, assistive technology, farm and home safety, and health prevention. Classroom and Web-based training will be provided, and each student or current allied health professional will have the opportunity to shadow AgrAbility and Vocational Rehabilitation services as they are provided to clients at the KSU Research and Demonstration Farm. The allied health students will be recruited through local university training programs. The practicing allied health professionals will be recruited through each of the partners (Cardinal Hill, UK, KSU, Voc Rehab.) and through community advertising. The goal is to raise awareness of important issues related to aging and disabled farmers, particularly those from the underserved populations and to hopefully increase access to well-trained health care providers working with populations at risk for health disparities.
2. *Create monthly educational programs to take place at the KSU Research and Demonstration Farm.* The goal is to fully connect AgrAbility with the KSU Research and Demonstration Farm by housing an assortment of adapted agricultural equipment and other assistive technology at the farm. University of Kentucky AgrAbility will partner with the

current monthly KSU "Third Thursday" program. At the monthly meetings there will also now be educational hands-on demonstration opportunities related to secondary injury prevention, farm safety, and health and disability information. There will be a "ride and drive" designated training area at the KSU Research and Demonstration Farm. Since KSU focuses on small, disadvantaged, and minority farmers, this program will provide a way for Kentucky AgrAbility to connect with these populations. The majority of the small farmers who attend the Third Thursday program are minority and/or women farmers. Of those that attend many are over the age of 60. This aging group of underserved farmers is a fertile group to educate about AgrAbility.

3. *Increase targeted outreach to Appalachian farmers.* Travel expenses subsidies will be provided to current farmers and people with disabilities from rural communities who are interested in learning about farming, to travel from Appalachian Kentucky to attend monthly AgrAbility group meetings at the KSU demonstration farm. Vocational Rehabilitation clients will have travel costs paid through that program. There will be 11 "Third Thursday" meetings where AgrAbility will be featured along with the opportunity for underserved farmers to explore assistive technology and equipment adaptation. Working through Cardinal Hill and through community contacts in the Appalachian communities, an effort will be made to invite this underserved population to attend the monthly meetings. Additionally, AgrAbility will take part in the biannual Eastern Kentucky Farm Field Day at the UK Robinson Station Demonstration farm and provide training at the Carl D. Perkins Vocation Rehabilitation Facility in Appalachian Kentucky.

### CONCLUSION

AgrAbility, by its very definition, addresses an underserved population at risk of having

health disparities: rural farmers with disabilities. Many of these farmers are helped by AgrAbility programs across the country. The new Kentucky AgrAbility model is putting a twist on their services by explicitly targeting smaller subgroups within the population of disabled farmers, who are at even higher risk for health disparities (minority, women, and Appalachian small farmers). This currently is a unique aspect to Kentucky AgrAbility. There are three other AgrAbility programs that, although not explicitly aiming for at-risk subpopulations, do have partners who illustrate the awareness and need for a specialized focus. California AgrAbility has partners who address bilingual farmers; Mid-Atlantic and Missouri AgrAbility are partners with Historically Black Colleges (HBCUs). These partners reflect the farming populations of their states. In Kentucky that requires attention be directed to Appalachian farmers, along with minority and women farmers.

As the new model of Kentucky AgrAbility develops, the results will be evaluated through tracking the number of women, minority, and Appalachian small farmers who attend specialized trainings, take advantage of specialized supports (i.e., travel reimbursement), and ultimately receive AgrAbility services. We will also follow up with individuals in terms with satisfaction with services and suggestions for improvements. Over time, the results of this enhanced program focus will be disseminated through publications, presentations, and on the Kentucky AgrAbility Web site.

At Kentucky AgrAbility, we believe the most effective approach to address health disparities in the United States is through multiple, creative, focused interventions at all levels of service provision. There is no one-size-fits-all solution to the problem. The goal of this developing team is to address health disparities in the realm of aging and disabled farmers from a grassroots level. Without the focused expansion of Kentucky AgrAbility services, farm families with diverse backgrounds and diverse farm enterprises are at risk of facing additional challenges when impacted by injury or disease. This broadening of service provision is designed to improve the Kentucky AgrAbility program so they can improve aging and/or disabled farmer families' financial stability, access to life

activities, and address important safety issues to decrease the costs associated with accidents and secondary health complications, regardless of gender, minority status, or geographic location.

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