

**Addressing Farm Safety: Farm Safety Dinner Theaters in the Shenandoah Valley**

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## ABSTRACT

**Introduction:** Statistics demonstrate that farm safety and wellness issues affect all ages in the agricultural community. However, an increased proportion of youth and older farm workers comprise the highest rates of farm-related morbidity and mortality. Engaging farmers in increasing safe practices in the agricultural community is an important, ongoing challenge.

**Methodology:** Farm Safety Dinner Theaters, an initiative created through community-based participatory research (CBPR) at the University of Kentucky, provide a relaxed environment where farmers and their families can identify safety and wellness issues, watch as the actors process these issues, and enjoy a meal. Seeing the situations played out in theater provides the audience with an opportunity to consider how they would react in similar situations. The event is structured to facilitate open communication among the audience members and their families.

**Program Description:** Valley Urgent Care in the Shenandoah Valley of Virginia collaborated with the local Virginia Cooperative Extension office and a local Future Farmers of America (FFA) chapter to offer the Farm Safety Dinner Theaters in three areas of Rockingham County. The diverse farming community in Rockingham County benefited from these opportunities to learn in an innocuous environment with friends and neighbors.

**Conclusion:** The Farm Safety Dinner Theaters were successful. The local newspaper and Virginia public media both wrote about the events which helped to bring more awareness about not only the events themselves, but also about farm safety, health, and wellness. While this project has already reached a number of farmers in the community, we hope to expand even more in the future to help prevent injuries and save lives.

## **INTRODUCTION**

According to the Bureau of Labor Statistics, (2023), agricultural workers aged 55 and older accounted for more than 40% of the 133 labor fatalities in 2021. In the 55 to 64 age range, there were 29 fatalities and another 29 fatalities accounted for workers aged 65 years and older. Of all agricultural workers fatally injured on the job 32 were self-employed.

A study conducted through Penn State (Serap, Judd & Kelly, 2022), contends that the Bureau of Labor Statistics Survey of Occupational Injuries and Illnesses captures only nonfatal occupational injuries, and its data excludes self-employed farmers and family members as well as workers on farms with less than 11 employees. This would indicate actual injury and illness in the agricultural sector is potentially much higher than reported by the Bureau of Labor Statistics.

The Penn State study found that from January 1, 2015, to December 31, 2019, more than 60,000 people were treated in emergency departments for nonfatal, agricultural-related injuries (Serap, Judd & Kelly, 2022). The mean age estimate in this population was 39 years old, with ages ranging from one to 95. Almost two-thirds of patients were male, and almost 80% were white. Approximately 30% and 22% of those injured were youth and elderly patients, respectively. Most injuries occurred from April through September.

These statistics demonstrate that as the average age of the farmer is continuing to increase, safety and wellness issues include not only an older population working with heavy equipment and livestock, but youth as well. Farm workers are often family members, including children, leading to other potential hazards. Farm safety is a constant issue for that is further complicated by the fact that most farmers do not want to engage with the topic. Providing information to increase safe practices in the agricultural environment is a challenge.

## **METHODOLOGY**

A promising approach to increasing safe practices in the agricultural environment was implemented in this project using Farm Safety Dinner Theaters, an initiative created through community-based participatory research (CBPR) at the University of Kentucky (Rural Health Information Hub, 2022). CBPR is a model that emphasizes local relevance of public health problems and ecological perspectives that acknowledge the multiple determinants of health and disease (Minkler & Wallerstein, 2008). The purpose of this project is to describe the implementation of the Farm Safety Dinner Theaters model of providing health and safety education using principles of CBPR and share lessons learned.

CBPR is a collaborative approach where community-academic partners work systematically in cycles to explore concerns and issues that disrupt and/or impact people's lives. In collaboration, these partners utilize cycles of data collection and reflection to solve and build capacity (Koch & Kralik, 2006). CBPR addresses health disparities and inequities in diverse communities. This approach is well-suited for the agricultural community. In particular, it emphasizes community resilience, resources, and opportunities for positive growth rather than focusing solely on health issues or other issues (Coughlin, Smith, & Fernandez, 2017).

## Addressing Farm Safety: Farm Safety Dinner Theaters

Core components of phases in conducting CBPR as described by Israel, Eng, Schultz, and Parker (2012) are:

1. Forming partnerships
2. Assessing community strengths and dynamics
3. Identifying priority health concerns and research questions
4. Designing and conducting etiological intervention and/or policy research
5. Feeding back and interpreting research findings
6. Disseminating and translating research findings

Dr. Deborah Reed, emeriti from the University of Kentucky, initially began addressing safety issues in the agriculture community in 2014 by creating the Farm Safety Dinner Theaters. Dr. Reed utilized the components of CBPR in her work. Her research outcomes have demonstrated an increase in participants acting on safety issues following their attendance at a Farm Safety Dinner Theater event. Dr. Reed went on to create the Farm Dinner Theater Tool Kit that includes plays facilitators can utilize. The productions are designed to be simple one-act plays where the actors (members of the agricultural community) share with the audience.

The goal of the Farm Safety Dinner Theater is to provide a relaxed environment where farmers and their families can identify safety and wellness issues, watch as the actors process these issues, and enjoy a meal. Seeing the situations play out in theater provides the audience with an opportunity to contemplate how they would react in similar situations. The event is structured to facilitate open communication among the audience members and their families.

In this project, community members, individual farmers, farm families, and representatives from local community agencies, as well as members from the academic community jointly participated and shared control over all phases of the development, implementation, and evaluation of the local Farm Safety Dinner Theater project from assessment (determining the needs of the community) to dissemination (sharing the outcomes). Together this collaborative team adopted strategies to increase the implementation and maintenance of evidence-based interventions for the health and safety of the agricultural community.

### ***Description of the Program***

The Shenandoah Valley of Virginia is home to four of the top five agriculture counties in Virginia, accounting for more than a third of agricultural sales in the state in 2017 (USDA National Agricultural Statistics Service, 2017). In Rockingham County family farms dominate the land, making up 96% of all farms accounted for. Only 65% of farms have internet access according to the USDA National Agricultural Statistics Service, (2017). There are roughly 450 dairy farms in Virginia, with 198 of those dairy farms in Rockingham County; and 475 poultry farms in Rockingham County (USDA National Agricultural Statistics Service, 2017). Out of 2,026 farms, 53% are used for crops, with 28% used for pastureland and 13% as woodland.

## Addressing Farm Safety: Farm Safety Dinner Theaters

Males continue to make up the majority of total producers in the county, with 2,276 out of 3,491 farmers being male (USDA National Agricultural Statistics Service, 2017).

In November of 2022, a stand-alone Urgent Care in the Shenandoah Valley of Virginia collaborated with the local Virginia Cooperative Extension office and a local Future Farmers of America (FFA) chapter to offer the Farm Safety Dinner Theaters in three areas of Rockingham County. The events were scheduled over times that were less busy for the local agricultural community. The first was held in January 2023, the second in March of 2023, and the third in June of the same year. The dinners were catered events jointly funded by a Virginia Department of Agriculture and Consumer Services (VDACS) farm health and safety grant; Virginia AgrAbility; the Rockingham County Extension Office and Valley Urgent Care. There was no cost to participants. The first dinner theater was held in a renovated schoolhouse and catered by a traditional Mennonite family. This brought in a wider range of participants from both the traditional Mennonite community and a range of other local farmers. The second dinner theater was held at a community center, and the third at an apple orchard. Each of these dinners were catered by a local catering company. A group of FFA members from a local high school chapter participated in each dinner theater, acting out three skits chosen from the Farm Dinner Theater Tool Kit. Topics covered in the skits included the main topics of: Fall Prevention, Farm Stress, and Tractor Safety. Embedded in each drama were discussions regarding aging out of farming, mental health, farming as a second career, and family dynamics on a farm. Following each ten-minute drama, occupational health nurses from Valley Urgent Care facilitated discussions about the drama topics. These discussions enabled those present to share firsthand experiences and explore the various scenarios presented as well as possible situations that could arise.

In total, 90 farmers and community members attended the three events. The farmers were from a variety of farm sizes and backgrounds. The ages of the farmers were from young beginning farmers to more senior aged farmers. Several farmers brought their entire family for the event. The children seemed especially interested in the dramas and discussion.

One FFA member who served as an actor, Jackie Diaz, commented "I enjoyed the farm safety dinner theater because it gave local farmers the opportunity to have what are often difficult conversations-it is important to spread awareness for the next generation and doing it in a lighthearted way also helped people open up about their own experiences."

One participant commented: "We enjoyed it, and it definitely made us reflect on some of our choices and actions around the farm."

## **DISCUSSION**

Safety in agriculture is a well-documented industry challenge further complicated by the fact that many farmers do not believe that they have the time or energy to adequately address the issue. Providing information to increase safe practices in the agricultural environment is an ongoing task, given the multiple factors involved. Farm Safety Dinner Theaters provide a relaxed environment where farmers and their families can identify safety and wellness issues and have an opportunity to process the information in a safe and comfortable environment. Additionally, the theater gives the audience an opportunity to consider and plan for how they might respond in

similar situations. The Dinner Theaters also spark questions, stories, and responses from the participants that lead to rich dialogue and increased knowledge and support for those in attendance. The theaters are a learning experience for all involved and demonstrate the role of community engagement in successful collaborations to address the needs of a population.

## **CONCLUSION**

The Farm Safety Dinner Theaters were a success. The local newspaper and Virginia public media both authored stories about the events which helped to bring more awareness about not only the events themselves, but also about farm safety, health, and wellness. While this project reached a sizable number of farmers in the community, we hope to expand even more in the future to help prevent more injuries and save more lives. There are plans to hold more of these events convenient in location and time to a variety of farmers.

Future recommendations regarding this project include advocacy for methods of data collection and capturing data associated with our efforts so that we have benchmarks to survey and measure outcomes as a result of our efforts and to guide future outreach efforts. Funding for outcomes measurement is lacking, yet this information is vital to really affecting the safety and wellness of the local agricultural community. A partnership to provide funding to better understand and address the specific safety needs locally is very important.

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