Background and Significance
The health professional education scholarly project I will present builds on the tenets of our UNC-CH School of Nursing (SON) Carolina Core, especially the tenet related to Global Health. The narrative of the Global Health tenet supports that “Carolina Nurses practice with a global mindset to achieve health equity locally and globally” (The Carolina Core, 2017). The National Standards for Culturally and Linguistically Appropriate Services (CLAS) were developed to “advance health equity, improve quality, and help eliminate health care disparities” (U.S. Department of Health & Human Services, 2017). Healthcare providers and systems are expected to achieve the principle CLAS standard to “provide effective, equitable, understandable, and respectful quality care and services that are responsive to diverse cultural health beliefs and practices, preferred languages, health literacy, and other communication needs” (USDHHS, 2017).

Hurricanes have a way of exposing the social determinants of health inequities such as low-income, economic instability, unsafe environment and barriers to health care. In North Carolina, agriculture is an estimated 78-billion-dollar industry – and accounts for 640,000 jobs statewide. In September 2018, when Hurricane Florence came into NC – flooding and loss of agriculture was the greatest in the Eastern part of NC, where 75% of agricultural cash crops are grown and an estimated 150,000-plus farmworkers that pick the crops were immediately impacted by the storm and flooding. According to the N.C. Department of Agriculture and Consumer Services, Hurricane Florence initial estimates for crop damage and livestock losses to North Carolina’s agriculture industry are expected to be over $1.1 billion. Not only were NC farmers overly affected by the impact of Hurricane Florence, but the agricultural workers they employ were too. Workers on an H2A visa for temporary agricultural workers were among the most vulnerable people hit by a hurricane; "H2A workers are very isolated, very vulnerable," said Lariza Garzon, with the Episcopal Farmworkers Ministry, and often have barriers or limited access to recovery assistance.

Demographically the majority (73%) of farmworkers are foreign born, predominately Hispanic, 72% are male with an average age of 38 years old and the majority have H2-A visas and are paid hourly wages, with incomes much below the US poverty level (National Center for Farmworkers Health, 2018). Beyond hurricane and flooding impacts on health, this population often has unmet healthcare needs due to limited access to care, low income and health literacy, uninsured, language/cultural barriers, discrimination/isolation and food/housing/transportation limitations along with migratory movement. Common health concerns include occupational health risks, accidents, muscular/skeletal injuries, pesticide/tobacco sickness, mental health/substance abuse,
chronic diseases such as hypertension and diabetes, infectious diseases along with often unmet needs for routine preventive care, including prenatal care.  
There are health inequities associated with being a migrant farmworker, especially related to diabetes, for example Hispanic farmworkers are about 50% more likely to die from diabetes or liver disease than whites (CDC, 2015). Stress and depression are often experienced when separated from their families and culture and there is both psychological and physical trauma associated with migration. Barriers to referrals and follow up care is often problematic, making management of mental health, infectious diseases such as TB and/or chronic diseases such as diabetes difficult to manage.  

Recovery from a natural disaster, such as a hurricane with flooding, impacts health due to injuries, loss of jobs/income, health care, medications, unhealthy water, increased mosquito borne diseases and increased stress and depression associated with all the loss. The Syndemic Framework can be used to understand and examine the health consequences on chronic and acute diseases when disasters impact ones' social, environmental and economic wellbeing.

**Purpose**

The purpose of this scholarly project was to:

1. Assess the impact of Hurricane Florence in areas of Eastern Carolina that have a large population of farmworkers.
2. Provide health screenings and outreaches to this vulnerable population to assist in recovery from Hurricane Florence.
3. Define and disseminate best practices for nurses and nurse practitioners to work with migrant farmworkers.
4. Define and disseminate best practices for nurse educators preparing students to work with migrant populations.
5. Disseminate lessons learned: Post-disaster health outreach with vulnerable populations.

**Design**

The design of this scholarly project was to first assess the impact of Hurricane Florence on farmworkers’ health and then strategize on ways to overcome barriers to healthcare. The design included providing holistic, culturally competent care to this vulnerable population utilizing both interprofessional healthcare providers, nursing students and community outreach workers working with migrant farmworkers in Eastern NC.

**At the end of this presentation learner should be able to:**

- Discuss the complexity of the synergistic interactions of culture, social economic status, environment, genetics and individual life style that contributions to the health inequities seen in the migrant population.
- Understand how a natural disaster such as a hurricane with flooding can exacerbate acute and chronic diseases
- Improve in their knowledge, skills, and attitudes in cultural competency to more effectively care for and meet the healthcare needs of the migrant population.
- Strategize on barriers to overcome health inequalities for the migrant farmworkers.
- Utilize the Migrant Clinicians Network and other organizations focused on migrant health for assistance with educational/training on migrant health and case management for migrant workers with infectious diseases and chronic disease management.
Title:
Best Practices for Nurses and Nurse Practitioners Working With Farmworkers During Hurricane Recovery

Keywords:
Health Promotion - Disease Prevention, Hurricane Recovery and Migrant Farmworkers

References:
LSC Agricultural Worker Population Estimate Update. Legal Services Corporation, 2015

Abstract Summary:
The purpose of this project was to: 1. Assess the impact of Hurricane Florence among Eastern Carolina farmworkers. 2. Provide health screenings and outreaches to this
vulnerable population to assist in recovery from Hurricane Florence. 3. Define and disseminate best practices for nurses and students to work with migrant farmworkers.

**Content Outline:**

Global health mindset and implementing Culturally and Linguistically Appropriate Services (CLAS) Standards
Hurricane impact on exposing the social determinants of health and Syndemic Framework
Agricultural - migrant farmworkers - vulnerability
Barriers to Health
Assessing the impact of Hurricanes on Health
Setting up community health screenings focused on farmworkers
Health screenings and health promotion - providing culturally competent care
Disseminating lessons learned

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**Author Summary:** Since 2000 I have led medical missions and service learning trips to Honduras, Nicaragua, Romania, Sierra Leon, Africa and in the USA. In 2016-17 I organized and led this Hurricane Matthew Recovery Health Outreach.