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**RADM Faye G. Abdella Publication Award for Nursing Research**
**Presenter:** LCDR Amy R. Kolwaite, ARNP, MS
**Publication**- Assessing Functional Needs Sheltering in Pike County, KY: Using a Community Assessment for Public Health Emergency Response

(Transcript)

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**CDR Hadsall:** We realize we are having some technical difficulties and we are trying to work through those so please be patient with us we appreciate your feedback and input and continue to feel free to email us at the presentation as we are using that feedback to try to fix the problems addressed. We hope you continue to stay logged on as we have a wonderful privilege of three excellent final presentations as well. Our final award recipient is Amy call way you Lieutenant. Commander US United States team lead international infection prevention and control a part of the CDC response. She has been awarded the rear Admiral. Adell a publication award for nursing research for her publication. Her publication entitled assessing functional needs sheltering in Pike County Kentucky using a community assessment for public health emergency response.

She received her undergraduate degree from Auburn University in 2000 and later her Masters of Science from Arizona State University in 2006. She also has a Masters of Public health from the University of Arizona in 2007 she received that. She worked as a pediatric nurse practitioner in the emergency room in Phoenix Arizona and also in it went to Georgia. Before she joined the CDC. Lieutenant. Commander. Kolwaite has an interest in international health and has spent time providing medical care in both Bangladesh and Ethiopia and recently completed an intense three-month deployment to Sierra Leone where she worked on the Apollo response. She has since returned from Sierra Leone -- back to Sierra Leone to passion and we are privileged to hear her present her research findings with technologies good graces today. If all things fall in line Lieutenant. Commander. Kolwaite will have the ability to present her research on the functional needs sheltering in Pike County Kentucky today with you from Sierra Leone.

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**LCDR Kolwaite:** Hi this is Amy Kolwaite.

We are honored to have you calling from Sierra Leone.

Great thank you I appreciate this and the opportunity to present my  paper I send my apologies in advance to everyone the connection has not been very good today so hopefully the blackberry signal will hang in there and make it through but my apologies if the connection is not perfect.

I was asked to talk a little bit about the work were doing here so I will give a brief overview and move right into the presentation but as mentioned we are here Sierra Leone with the Apollo response. My role specifically has been to work with the administrator to develop a national infection control program before the Ebola outbreak infection control did not exist in the country and as a result we lost many healthcare workers there been over 500 that have been infected with

Ebola and many have passed away. Since then the ministry has taken action may implemented a unit which now has an IPC focal coordinator and in addition hospitals across the country who are dedicated full-time to improving infection prevention control measures of their hospitals so it is really exciting to see the changes here we are doing this in collaboration with WHO and multiple partners and it will be a longtime process but it has been exciting and there are opportunities we health at officers deployed from different agents these so this is something if you are interested in getting involved and we would definitely love to hear from you and talk about this. Without any further delay I will go ahead and start. Good morning everyone.

Kentucky is a midsize state 36th in the state and 26 then population it ranks eighth in the nation for declared disasters. Tornadoes floods and storms. As you can see from the pictures here these disasters can have devastating effects on communities. They have frequently resulted in the need for emergency shelters. During one particularly large a store more than 200 shelters were open and provided emergency sheltering for more than 7000 individuals. Kentucky ranks as one of the top 10 states for prevalence of diabetes asthma obesity as well as for smoking per capita increasing concerns that Kentucky might have a high level of functional needs during a disaster.

The person with functional needs is someone who under normal circumstances is able to function independently or with limited support their level and independence is challenged during an emergency. For example the definition includes those with disabilities living in institutionalized settings, women in late stages of pregnancy, elderly, and children those with limited English proficiency or limited access to transportation.

The Americans with Disabilities Act in 2008 to state general population shelters should offer individuals with disabilities the same benefit to those provided without disabilities these benefits include safety comfort food medical care and the support of family and friends. It requires all general population shelters the modified and that every shelter is capable of caring with individuals with functional needs. Now let's take a look at how this is done.

Have provided guidelines on providing for functional needs support services in general population shelters. These guidelines defined functional needs as a reasonable modification to policies practices and procedures. The physician shelters durable medical equipment consumable medical supplies for personal assistance services and other goods and services as needed.

Regarding the functional needs of the community obtained a baseline assessment of the communities status and knowledge level and provide training for local health departments and deployment teams conducting exercises and rescue.

Sewer assessment we use community assessment for public health emergency response otherwise known as Casper. Casper is an epidemiologic tool for rapid response to disaster. Casper uses awaited sampling design provides household level information on general and physical needs of the community within 48 hours of data collection and low-cost. This information can be used for public health response planning.

The Casper sampling method is a multistage cluster design and should result in a representative sample of the households in the defined region. The first step is to identify the sampling frame of

population of concern it can be defined as political boundaries, geographic boundaries such as houses, or by the use of subpopulation of the affected area. However key assumption is that houses in disaster units are similarly affected.

Once a sample is identified the first stage of sample identifies 30 clusters of primary sampling units within the sampling unit. The probability of the cluster being selected is proportional to the estimated number of housing units.

The second stage VII occupied households [ Indiscernible ] there are several different ways the households can be selected but it's important that all of the same probability of things chosen.

Is also important to note that during analysis data must be rated in order to account for incomplete sampling and provide population estimates.

The assessment we didn't Kentucky we had to in Western Kentucky into an Eastern Kentucky the nature of very sick clusters were made up of census blocks and to determine the house to be surveyed [ Indiscernible ] using GIS in 2010 census.

During the assessment the Department of Public health required assistance from the University of North Carolina and the North Carolina division of Public health. These agencies assisted Kentucky by a conducting the sample for the survey areas in providing technical assistance.

The surveyors Kentucky were chosen because of their [ Indiscernible ] they partnered with two US Public health service deployment teams that were conducting training exercises in Kentucky one team in Lexington in May 2011 and another in Eastern Kentucky in June 2011. These included cooperation with the Commonwealth of Kentucky in order to develop partnership with local and state health departments and to provide support for high priority public health projects identified by the state and county where the training was occurring.

For this presentation I will be sharing the results from Eastern Kentucky are sampling frame a population of concern of Pike County and the easternmost part of the state shown in purple this county is a rural appellation County with a population of 65,024 residents.

We have household members for information on demographics chronic health conditions assisted services and devices household structure disaster in sheltering history and preparedness status.

Data collection was completed in one day by 17 two-person interview teams comprising of officers local and state health department staff university students and neighboring state local health department staff union Casper in their own jurisdiction. Each team was trained and methodology was used for data collection.

We approached 375 homes and someone answered the door at 252 of those homes. 204 households completed the survey approximating ARCO.

These data represent 26,000 ARCO.

These data represent 26,728 occupied households.

So each of the results presented the number of actual responses reported is based on the 204 completed surveys in the percentage size of the household each person had to be one person less than two years and 27% had one person over 65. The median household range from 2 to 10.

The chronic health condition of cardiovascular disease which was present in at least one person and 57% of households. Visual impairment diabetes physical impairment chronic lung disease and asthma affected 21 to 29% of the households. Neurologic disorders were present among 12%.

Several key needs for assistive devices were identified. 15% of the households had one person requiring the use of a cane or walker. 12% required supplemental oxygen. 9% had at least one person requiring the services were over bedbound and 8% required her wheelchair.

The type of household structure was observed by the team and documented upon arriving at the property 75% of the households were single-family dwellings 23% mobile homes in 2% were multiunit complexes.

We also got insight into how prepared are residents were for potential disasters what measures they had taken in the percent. 83% lived in Pike County during a disaster of those 80% reported they shows the child -- shelter.

The present of households these household should have enough stored food and water 94% reported they had a three day supply for each person in the house. Some -- 65% reported they had at least one gallon of stored water per person per day for three days.

Kentucky winters can be bad therefore we inquired about alternative energy and heat sources. Can you guys still hear me okay?

Yes we can hear you.

Okay great. 79% of households reported charcoal or gas grill 46% for kerosene heater and 36% for generator. 89% have access to one or more of the three alternative energy and heat sources.

Of those homes that reported having one or more only one percent reported owning a working carbon monoxide detector.

In conclusion planning for functional need shelters must be a priority because of the high health risks among their populations in addition to being mandated by federal law. Assessing gaps allows development of targeted messages and preparedness initiatives. This exercise demonstrates effective collaboration between state and local health departments and deployment teams providing valuable experience and training for future disaster responses.

One limitation of our study was that we conducted the survey during work hours which may have resulted in bias for households with stay-at-home older adults. We tried some limit by extending survey hours however the worst-case scenario in terms of functional needs because older adults are more likely to have chronic health needs. Also some interviews reported clarification more so than other interview teams which might've introduced information bias. We recommend shelters for the functional needs of vulnerable populations for example for instance ensuring availability of powdered formula for substantial older film -- they should have equipment to handle chronic diseases. Refrigeration for medications glucometer with supplies bedside commodes and -- shelter should incorporate structure modification to accommodate people with physical impairment the state has acquired oxygen generators for contribution to shelters given that 12% of households recorded someone being on supplemental oxygen we recommend educating residents to have an adequate emergency supply water and medication for every household member. In addition alternative power and heating sources should be emphasized household should have an emergency plan of how to transport members to shelters needed. Residents of model homes should identify emergency structure is part of the tiredness. Lastly all the focus on carbon monoxide awareness has increased since 2009 continuing to educate our community's uncorrected use of carbon monoxide detectors also appropriate use of alternative energy or hate sources resulting from carbon monoxide poisoning. Knowing this has been a problem during past disasters knowing a high proportion of households with acute sources on proper use and avoidance of safe cooking processes.

Enclosing we might be best known for -- [ Indiscernible ] as stated by the disability policy consultant the disaster is always inclusive response and recovery are not monthly plan for it.

I would like to thank the many individuals that helped with this including the PHS health team three and team to thank you very much.

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**CDR Hadsall:** Thank you Commander Kolwaite for the excellent presentation I hope you're doing well at their.

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**LCDR Kolwaite:** We are hanging in there. Thank you.

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**CDR Hadsall:** Thank you again for taking time out of your busy schedule. We greatly appreciate it. We would like to take a moment to take a few questions if you want to take a second if you could email in some questions for Dr. Riccardi's presentation or Miss Myers and Ellen Eckes that would be a wonderful opportunity to get the questions on board. Feel free to it email those and we will pause and allow a little bit of time for those questions to come in.

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**CDR Morin:** We have one question I believe it is for Lieutenant. Kolwaite. Your presentation was very interesting thank you but I have one question is there a follow-up or reevaluation plan of any kind in now or there any new stats available based on your survey and recommendations. Thank you.

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**LCDR Kolwaite:** Thank you so I have not heard I am in Atlanta now I know the results of those they were looking at how they could improve their preparedness effort for example obtaining the

oxygen generators. I have not heard of a follow-up survey being done unfortunately I've not heard of any in that area. I will definitely follow up with them and check back with you.

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**CDR Morin:** That would be fantastic. Thank you very much.

For everyone on the podcast you will see on the bottom left-hand corner there is a Q&A box. If you type your questions in there we will then be able to ask and provide those questions to the presenters.

There has to be some questions out there. Dr. Riccardi we have a question for you. I really enjoyed the video that was produced are there plans to have more videos like that to help people who have multiple conditions and have multiple problems understand how to manage these issues?

**Dr. Ricciardi:** Can you hear me? That is a great question.

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**CDR Morin:** Yes we can hear you.

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**Dr. Ricciardi:** Perhaps the answer is perhaps. Those of us in federal government we know a lot of what we do is contingent upon financing and our capabilities but we are thinking about how we can move this work forward [ Indiscernible ]

All right well apparently you can hear me and I cannot hear you so that is okay so you will have to give me a high five. The answer is in 2016 and 2017 we do have some initiatives that are proposed that are contingent upon the federal government passing the budget so there are some new initiatives that are in the pipeline and indeed we will look at how specific types of conditions may be dealt with differently in trying to integrate the care plan that covers all the contextual components that I talked about that were in model to include the health systems delivery components and the determinants so the answer is yes and we are real optimistic that we will be doing it.

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**CDR Morin:** Thank you very much that is a great answer.

Are there any more questions. It sounds like there may be someone's phone that is not muted. Okay saying there are no more questions we will move on to our next presenters.