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Workshop #2: Health and Infection Control Measures During the 2020 Hurricane Season: After-Action Report (AAR)

CONVERGE NSF Working Group

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Workshop #2: Health and Infection Control Measures during the 2020 Hurricane Season

After-Action Report (AAR)

May-June 2020

Prepared by:

University of South Florida
Old Dominion University

10 June 2020

Workshop #2 Overview

Workshop Name	Health: Infectious Disease Hazard Control Principles and Continuity of Health Care
Workshop Dates	Friday, May 29, 2020
Scope	Workshop was offered online through Zoom, as well as asynchronously through Zeetings: https://www.zeetings.com/wieyusuf/0009-7069-0003
Objectives	Discuss health and health-care considerations in the context of hurricane preparedness, evacuation, and sheltering during COVID-19
Threat or Hazard	Compound threat from tropical cyclones during the 2020 Atlantic hurricane season and a global health emergency from the COVID-19 pandemic
Scenario	A major hurricane triggers a large-scale evacuation in one or more Florida counties, requiring county and municipal governments to open emergency shelters
Sponsor	CONVERGE COVID-19 Working Groups https://converge.colorado.edu/resources/covid-19/working-groups
Participating Organizations	Our second working group call had 132 registrants from 15 states and 8 universities, in disciplines that included public health, nursing, engineering, public administration, emergency management, public policy, graduate studies, and research centers; registrant roles included emergency managers, government employees, state-level coordinators, environmental consultants, chiefs of fire operations, executives, epidemiologists, disaster specialists, and healthcare practitioners
Point of Contact	Jennifer Marshall, PhD, CPH, University of South Florida College of Public Health. 813-396-2672, jm@usf.edu Project website: https://sites.wp.odu.edu/hurricane-pandemic/ Please share comments/feedback on this report here: https://forms.gle/xfFGktLJSNifpdbh8

EXECUTIVE SUMMARY

Participants in the CONVERGE NSF Working Group Workshop 2 (Health) breakout sessions identified that along with populations traditionally considered vulnerable during hurricane season (e.g., special-needs evacuees and the elderly), there will be new vulnerable populations based on their heightened risks from exposure to COVID-19. There is also overlap between these groups of vulnerable evacuees, including individuals with physical, intellectual or developmental disabilities; those with immunodeficiency, chronic, acute, or infectious illnesses; pregnant women and infants; and immigrants, non-English speakers, and other socially vulnerable groups.

This indicates a potentially greater number of special-needs evacuees at shelters. Simultaneously, fear of contracting COVID-19, particularly in special-needs populations, will likely worsen the challenges of last-minute arrivals at shelters. There were several public messaging issues related to health that were raised during the breakout session, including:

1. Increasing public awareness around using shelters as a refuge of last resort especially because of the COVID-19 risks of congregate facilities without discouraging people from seeking shelter if they need it.
2. Ensuring that those who are potentially sick understand that some shelters do not have medical treatment, to ensure that they do not make decisions to relocate to a shelter based on medical needs.
3. Alerting the public of their potential ability to obtain additional medical supplies (e.g., longer prescription allowances) when there is an advanced emergency declaration.
4. Conducting pre-disaster: Outreach to community partners for practice drills.
5. Increasing public awareness about shelter compliance requirements to prevent and slow infectious disease spread (e.g., expectations for wearing masks and physically distancing while in the facility or no in-and-out privileges), while avoiding a dampening effect on using shelters where they are the best option for an evacuee.

Scarcity continues to be an issue for many shelter needs, and vulnerable populations will need additional space, staff, medications, supplies, and medical assistance. Higher numbers of evacuees are also uninsured or underinsured. In addition, evacuees and staff alike are likely to experience additional psychological strain due to managing a storm event under conditions associated with the current pandemic. Based on these assessments, early preparation has greater urgency—obtaining extra space, staff, and supplies should be ongoing and already in process.

Several participants described reaching out to other non-governmental organizations (NGOs) to access additional assistance for individuals in vulnerable groups (e.g., AARP for the elderly or USAA for military or military retirees); establishing those contacts in the pre-event phases was recommended. Advance identification of vulnerable individuals to engage in social work to create evacuation plans for them before an emergency was also advised. Many experts have advised increased use of telehealth (e.g., for pregnant mothers). Pre-event dissemination of recommendations for those at greater risk from contracting the COVID-19 and encouraging sheltering with family or friends over evacuating to a congregate shelter.

2.1 BACKGROUND AND OBJECTIVES

Workshop 2 had 132 registrants from 15 states and 8 universities, in disciplines that included public health, nursing, engineering, public administration, emergency management, public policy, graduate studies, and research centers. Registrant roles included emergency managers, government employees, state-level coordinators, environmental consultants, chiefs of fire operations, executives, epidemiologists, disaster specialists, and healthcare practitioners.

Registrants expressed their most important goals for protecting vulnerable populations while planning for the upcoming hurricane season. They assessed the challenges of providing necessary shelter for displaced individuals and families, while implementing protective measures to prevent and reduce the spread of infections and infectious diseases within the shelters. This included guidance for improving nursing home emergency preparedness and ensuring effective execution of emergency plans. Some examples include:

“Ensure that staff and families we serve are equipped to know ways to stay safe and healthy during hurricane season.” - Mental Health Supervisor

“Minimizing opportunities for exposure to infectious diseases in disaster shelters.” - Emergency Coordination Officer

“Getting accurate information out to the public.” - Deputy Emergency Management Coordinator

“To keep all persons as healthy and comfortable (less stressful, resources available, etc.) as possible during evacuation operations.” - Program Coordinator/ESF6

“Limiting Infectious diseases in the shelters.” - First Responder

“Infection prevention for our most medically vulnerable, securing the right PPE [personal protective equipment].” - Regional Special-Needs Consultant

“Ensuring that all ALF's [assisted living facilities] and nursing homes have plans in place for evacuation.” - Emergency Management Coordinator

“Ensuring strong communication lines with individuals and groups that can support the efficient delivery of services to all communities.” - Partners and Emergency Management Agency Support Manager

“To protect community health and understand community health priorities and needs.”
- Program Officer

2.2 DISCUSSION TOPIC AND QUESTIONS

Workshop 2 consisted of five breakout sessions that discussed issues related to disaster preparation exacerbated by infectious disease hazards and related health care continuity issues. Breakout sessions were simultaneously moderated with the same overlying format:

- **Round One:** *How will shelters work with state/local public health for rapid testing, surveillance, and outbreak investigation among evacuees?*
- **Round Two:** *What are best practices for infectious disease management in congregate care?*
- **Round Three:** *What are considerations (current support structures and unmet needs) for continuity of care for vulnerable/medically fragile populations?*
- **Round Four:** 2-minute question burst

2.3 Preliminary Qualitative Data Analysis

Overall Key Considerations

Some of the preparedness planning issues that participants are currently considering included:

- **Key Consideration 1:** Testing and Triage process during transport and sheltering.
- **Key Consideration 2:** Identifying community needs in advance along with shelter logistics, set-up, staffing, and safety practices.
- **Key Consideration 3:** Populations, staffing and volunteers

2.4 ROUND ONE: HOW WILL SHELTERS WORK WITH STATE/LOCAL PUBLIC HEALTH FOR RAPID TESTING, SURVEILLANCE, AND OUTBREAK INVESTIGATION AMONG EVACUEES?

2.4.1 KEY CONSIDERATION 1: TESTING PROCESS

Round One centered on the testing, screening, and triage processes.

- *What are we actually testing?* COVID-19 symptoms, other health conditions - temperature checks, blood pressure checks
- *Is COVID-19 rapid testing feasible for all those who enter a shelter?*
 - *Do we have enough testing kits?* Mentioned rapid tests still not readily available and relying on swabs; lag time is better, but there is still 7-day turnaround with high volume
 - Concerns regarding potential electricity outages and testing
- Training and standardization of testing protocols
 - Training how to screen and monitor
 - *Who conducts the testing?*
 - Training students to help
 - Working in conjunction with Departments of Health

- Need more teamwork and communication with epidemiologists and other healthcare workers in the community to be better prepared.
 - *How would organizations and providers connect to provide assistance/training?*
 - *How can we make sure the staff is safe if we want to maintain the workforce? If health is not a priority, they will not participate*
- *Who is being tested?*
 - *Will we test all residents of facilities, as well as staff members?*
 - *Who is managing medically complex/vulnerable populations?*
 - Concerns about testing and sheltering individuals with various intellectual disabilities
 - Testing elderly populations
 - Non-English speakers and immigrant populations (e.g., communication needs and lower health care access or utilization creating severe impacts from COVID-19)
- Others are doing pre-screening by phone and verbal checks (“rapid verbal triage”)
 - Managing non-compliance and unreliable self-reporting
- Timing of testing:
 - Prior to entering shelter:
 - *Should testing occur at a central location or multiple locations?*
 - *Will testing be required to get into the shelter?*
 - *What is the flow of information on results if people get tested elsewhere?*
 - Health screening and symptoms checks during intake
 - Managing exposure before test results (i.e., rapid test takes 15 minutes for results)
 - Testing and monitoring throughout shelter use; constant monitoring and symptoms checks for evacuees (again, managing non-compliance and unreliable self-reporting)
 - Monitoring after leaving shelter (e.g., contact tracing)

“So, how do you do surveillance when you’re in the shelter, in a congregate shelter and let’s say, yes, several hundred folks in there? Do you ask people to report if they have symptoms? So, you do a constant screening every 24 hours, every 12 hours you go through the population shelter and do a new screening, something like that?”

2.4.2 KEY CONSIDERATION 2: TRIAGE PROCESS

- Verbal triage for rapid intake if supplies or staff are low
- Isolation and quarantine protocols:
 - *What will we do for high-risk individuals and special-needs shelters?*
 - Three shelters within a shelter is not ideal; will need to isolate the ill and quarantine people in close contact

- Providing separate accommodations for positive, potentially positive, and negative individuals
- Creating separate isolation sections from the general population for those who may be more vulnerable to COVID-19
- Concerns over quarantining the ill and where to place them
- Food safety and restrooms management
- Managing risk of exposure
 - *How will we handle asymptomatic carriers in close proximity?*

“As far as the ongoing day by day testing of people or going around asking questions, I mean, we have some shelters that are over 1,000 people at a shelter that is logistically a nightmare, but if it has to be done. You’re going to need a lot of staff. You’re going to need a lot of manpower to walk through a shelter... a 1,000 people being sheltered and asking them, “Hey, do you have any symptoms today?” The other fact of the matter here is that we’re not going to catch everybody. The fact is if somebody comes into a shelter with COVID and it starts to spread, it’s just going to happen and we’re just going to have to deal with it at the time. We do the best that we can to screen out, but we’re not going to catch it all.”

- Cannot turn anyone away but heightened risk with COVID-19 and need to protect all inhabitants
 - Reducing shelter capacities to accommodate social distancing requirements
 - Reducing exposure duration (i.e., opening just before storms and closing just after)
- Requiring staff and population to adhere to protocols in shelter
- *Are evacuees bringing PPE or will it be provided?*
- Capacity issues from atypically high needs and expenses for resources and supplies (e.g., burn rate of PPE and additional shelter types)
 - Hitting capacity needs (and not achieving capacity availability) faster because of the addition of COVID-19 to disaster (e.g., staffing, space, PPE, sanitation staff and supplies, and financial resources)
 - COVID-specific shelter needs—adequate capacity for shelter beds, atypical supply maintenance (e.g., face masks and hygiene supplies); state pharmacies and use of community pharmacies
 - Every community’s capacity is different (e.g., one community is experiencing an US Border Patrol presence of, overwhelmed Department of Human Services, the presence of few nonprofit organizations, and shelters run by churches that are not up to code)
- Shelters should be treated as last resort to avoid congregation to the extent possible:
 - Ensuring those not in evacuation zones stay home or make alternative arrangements
 - Encouraging special-needs evacuees develop a plan that avoids public shelters (e.g., friends, family, or a hotel)

- Advising evacuees social distancing requirements will be challenging and not guaranteed?
- Purchasing dividers for shelters
- Shelter space—opening more shelters than usual:
 - During Hurricane Irma there was a Level A evacuation Level C evacuees presented at shelters
 - Providing care in non-congregate vs. congregate arrangements (i.e., in classrooms instead of clustered in gym and using more of school than usual)
 - Creates new issues of security and decontamination during and after event
 - Shelters in many locations not up to code for hurricanes (e.g., US Virgin Islands)
 - Lack of NGOs to help run shelters
 - Using hotels for families and workers coming to provide mutual aid:
 - Taking hotel rooms out of availability for evacuees
 - Hotel availability in FL historically difficult
 - Many are immediately along the coast and in evacuation A zones
 - Would need to ensure safety in higher floors closer to the shore
 - Most only have short-term use generators
 - Reluctance over liability, contamination, and reputational issues
 - Closed malls, outlet malls, or other facilities could be potential shelters

Strategies

- Immigrant families, individuals who speak English as a second language—need representatives from those populations to help with communication
- American Red Cross is updating pamphlets; stay current on regularly updated and new information (<https://nationalmasscarestrategy.org/wp-content/uploads/2020/04/ShelteringInCOVIDAffectedAreas.pdf>)
- For staffing:
 - Employ those who are currently out of work
 - Consider recruiting students:
 - Nursing and medical students are great as assistants. Hope to use them when we have a vaccine. Using these as a clinic team.
 - Public health students, nurses, and school nurses are doing contact tracing

“In [state] as a source multiplier for us, we reached out to the school nurses who are currently not in their schools statewide, had them all complete the ASTHO [a contact tracing training program], which is an excellent tool.... It’s pretty short. It’s to the point. You can go online, print out a certificate. We reached over 400 of those and had them come on board, and we are in the process of hiring another 1,200 statewide that will be mobile strike teams. We’ve done them by epidemiological regions. We have five regions, so they can move from locality to locality. We’ve made them mobile, and we’ve put them into remote situations, so we give them a laptop. We’re using the tool, the SARA Alert app, which is helpful, and Buoy Health is also linking folks with testing centers by doing symptom checker.”

(**Note:** Links to these applications and programs are listed under “References and Resources” near the end of this report.)

“Our long-term recovery group... The elderly population was their primary population after the storm in 2017. That’s still their primary focus because that’s the most successful vulnerable population. I know that the long-term recovery center is putting in supplies requests and disease plans... They will be the ones that will definitely be covered because we are very serious about our elders here. That’s very cultural – they hold a lot of the generational knowledge for us, so we’re definitely dedicated to responding to them very quickly and efficiently.”

2.4.3 SUMMARY: ROUND ONE

All groups emphasized needing clear lines of communication between public health officials and shelters. One of the biggest concerns was ways to work together to provide adequate rapid testing, screening, and any necessary isolation within the shelter. Experts expressed a clear need for screening individuals prior to, and during their stay, with follow up after leaving. Public health officials need to define best practices for protecting the most vulnerable and provide shelter staff with training and standard protocols for screening and triaging potentially or confirmed positive cases. Shelters and government officials need to work together to provide enough resources (i.e., testing kits, facility space, PPE, and staffing). Shelters also will need to consider how to best enforce protocols and recommendations from health officials within the shelter.

2.5 ROUND TWO: WHAT ARE BEST PRACTICES FOR INFECTIOUS DISEASE MANAGEMENT IN CONGREGATE CARE?

Round Two included discussions identifying the needs of specific populations as they relate to planning, screening, transportation, sheltering, and communications. The discussion also included issues of shelter logistics, setup, and staffing for various populations. Of particular interest to group members was determining and enforcing policies for health and safety practices within shelters.

2.5.1 KEY CONSIDERATION 1: IDENTIFYING COMMUNITY NEEDS IN ADVANCE

- Vulnerable populations—special-needs individuals registering in advance:

- Allows contract tracing after leaving shelters (e.g., treat as a cluster exposure with follow-up calls)
- Special-needs shelter registrants make arrangements in advance of hurricane seasons, allowing jurisdictions to better meet community needs
- Florida uses CDC screening questions, but a standard training protocol does not exist
- Screeners need PPE
- Screening, monitoring, isolation:
 - Divert individuals with symptoms to either hospitals or hotels
 - *Is it feasible to have a “well” shelter and “sick” shelter?*
 - *What about last-minute arrivals to shelters of last resort?*
- Transportation:
 - Shelter rescreening at boarding points for buses:
 - Transportation strategies for symptomatic evacuees
 - Transportation options to get people to hospitals if medical symptoms worsen
 - *Will there be disinfection on buses? After every ride?*
- Communications:
 - Have conversations about intentions and CDC requirements
 - Misinformation and perceptions about how COVID-19 is spread—*How are the best practices communicated?*
 - Differing communications styles and languages:
 - People with autism may respond better to more visual messaging vs. text
 - Non-English speakers

“For individuals with autism spectrum disorder, for example, we promote a lot of visual, pictorial kinds of things with text as well. The text could be provided in multiple languages, but the pictures could help anyone with communication concerns, drawing out and having visuals.”

- Concerns about people being in the shelter long-term if housing lost or damaged
- Partner with faith-based organizations – some are more trusting of the church
- Maternal and child health:
 - Mothers with other comorbidities
 - How to manage preterm labor
 - How to care for premature babies in a shelter

- Families/caregivers:
 - *What if one is sick? Place children together? Family isolation? Domestic violence?*
 - Limiting caregivers per shelter
 - 30% of individuals are asymptomatic and may be higher in children

“...treating your shelter operations when you have disasters like this, more like a family notification that the schools do - per emergency management terminologies, reunification. When we think [about] reunification, we know that we have to have the mental health component already installed into our shelters. So, why not incorporate that planning process into a natural disaster hurricane sheltering? Making sure that religious, faith-based community leaders are there, having systems in place, things to manage a vicarious trauma. Make that planning process similar and try to blend the two.”

2.5.2 KEY CONSIDERATION 2: SHELTER LOGISTICS, SETUP, AND STAFFING

- Cleaning and sanitation (including of transportation modes):
 - Finding local sources of supplies (i.e. distilleries and hand sanitizer)
 - Having cleaning/maintenance staff available 24/7
 - Cleaning procedures will need to be modified
- Managing spread of non-COVID-19 diseases (e.g., flu, tetanus, and other vaccines available at shelters)
- Plan to enforce rules
- Physical barriers

“Yes, the isolation is a big problem unless we’re using a school with rooms or allowed to use those rooms. We have a lot of congregate shelters so everybody’s been wracking their brains about can we hang tarps? What physical barriers can we have as some sort of measure?”

- Air circulation systems spreading disease:
 - *Negative pressure rooms?*
 - CPAP and nebulizers can aerosolize the virus
- Staffing:
 - Specialized personnel (including janitorial staff and outbreak investigation teams)
 - Medical staff (onsite or through telemedicine) to help identify COVID-19 symptoms and differentiate between colds and allergies:
 - Medical director (licensed physician) assigned to each shelter
 - For most general population shelters, staff are from Departments of Health; few nurses

- Do not have the staff to operate ventilators or conduct more invasive medical interventions (especially if in the height of the storm)
- Form partnerships prior to storm (e.g., businesses, private hospitals, military hospitals, and churches)
- Translators
- Standard processes, procedures, and protocols
- Supplies:
 - Storing them securely
 - PPE needs (e.g., masks, gloves, gowns, face shields, and shoe covers)
 - Rain gear
 - Items that used to take a few days to order online are now taking weeks and then still being cancelled
 - Pulse oximeters and oxygen tanks in every shelter
- Setup:
 - *Is congregate shelter even the best option?*
 - Less congregated (classrooms vs. gyms)
 - Isolating vulnerable populations
 - Shelter intake and management

Strategies

- Transitional Care Hospitals—covered by Medicare or Medicaid, have vent units
- Lots of local distilleries use alcohol wastes to make sanitizer; make connections
- Work with aging support agencies (e.g., AARP)
- EMS onsite at special-needs shelters to respond to bring them to hospital
- Resources for evacuees who do not have a home to return to after event (e.g., USAA provided volunteers and almost \$1M after Hurricane Irma to one organization to help house families until FEMA assistance was available)

“During Irma we had some of this issue with some of our people that came to the shelter and the DOH is authorized to provide hotel rooms for up to a week, but after that, the people are on their own. .. reached out to organizations such as the American Red Cross or the Salvation Army because sometimes, they have funding and they’re able to help these folks whose homes may have been destroyed, find alternate housing, either by sending them to live with a relative somewhere else, providing the funding to get them on a bus or a plane and get them out of there, or to find them something else that’s alternative... we’re using everything, all the tools we have and all the resources we have to bring in those partners that may be able to help us with those folks.”

“One key partnership that I think needs to be made ahead of time is with – we call them transitional care hospitals. Those are not skilled nursing facilities, not hospitals. It’s that in-between... and typically covered by Medicare, or Medicaid, or private insurance that have the capability to have vent[ilator] units. That would be a better place if you had somebody on a vent[ilator], because putting somebody on the vent[ilator] is not as simple as it sounds.”

“You’re not going to find negative pressure rooms but you can find a different space within the school or whatever building you’re in and either isolate their handling system or shut it down to avoid the air exchange with the regular congregate area.”

2.5.3 KEY CONSIDERATION 3: SAFETY PRACTICES IN SHELTERS

- Education on prevention:
 - Might need shelter prevention education during the preparedness stage
 - Educating public on disease spread and best practice
 - Communicating rules and expectations
 - Cleaning and sanitation
 - Limiting interaction between evacuees
 - Limiting coming and going from shelter
- Masks:
 - *Who should be asked to wear them?*
 - Requiring masks for age 10 and up
 - Consider those who can’t - may not be a viable option for those with asthma and COPD, Some may not be able to wear a mask for 8+ hours.
 - *What about while sleeping?*
 - Could offer no mask option while families are in their designated patch.
- Sample policies:
 - Anyone entering a shelter will have to be masked the entire time
 - VA requiring masks indoors in any public or private building
 - One area mentioned that as of May 30th, anyone 10 years or older must wear a mask in enclosed buildings; excludes PK-12 public school; Class 6 misdemeanor if you refuse and the Health Department is enforcing entity
 - One county will be requiring masks for everyone at special-needs shelters and asking them to bring their own masks but will provide if arrive without

2.5.4 SUMMARY: ROUND TWO

Across the breakout groups, there was agreement on several major strategies and practices that should be standardized and addressed. For example, intervention should begin before the storm. Communities should attempt to make new needs assessments of their communities based on pandemic risk—perhaps allowing groups most at risk for COVID-19 complications to register in advance of hurricane season (similar to special-needs populations). Another step would be to form important partnerships and connections with local businesses, churches, and other available organizations in order to best coordinate supplies, space, and other resources.

Under evacuation scenarios, resources were the chief concern of many groups, particularly how to provide PPE. Most groups recommended staff and evacuees should be wearing masks as much as possible, making accommodations only as necessary. However, enforcing compliance was an issue of concern; education on proper techniques of prevention and clearly communicating expectations could mitigate. In addition to supplies, shelters should have medical staff onsite. During the evacuation, the experts recommended screening, testing, and regular monitoring. Cleaning and sanitation must be prioritized. The need for standardized protocol in all this is paramount.

All agreed that congregated shelters were high risk and suggested alternatives ranging from providing individual hotel rooms, dividing groups into individual classrooms, erecting physical barriers in group spaces, limiting the number of people at each shelter, and limiting interpersonal interaction. Minimally, steps should be taken to protect those at highest risk for contracting COVID-19; providing them areas separated from the general population was recommended.

Evacuees with symptoms or positive test results will need quarantining; however, this practice has additional challenges when it involves a family evacuating together. Contact tracing and related training should occur in this environment, particularly considering potential test-results delays. Other practical considerations included transportation to shelters and from shelters to emergency care facilities, preventing other disease (i.e., beyond COVID-19) outbreaks, and how to follow up with evacuees to control potential outbreaks after the disaster event.

2.6 ROUND THREE: WHAT ARE CONSIDERATIONS (CURRENT SUPPORT STRUCTURES AND UNMET NEEDS) FOR CONTINUITY OF CARE FOR VULNERABLE/MEDICALLY FRAGILE POPULATIONS?

2.6.1 KEY CONSIDERATION 1: POPULATIONS

- Compound vulnerabilities as a result of COVID-19
 - Mental health (stress from pandemic AND storm)
 - Consider social needs/socialization
 - Substance abuse/dependence
- Ensuring that those who are vulnerable have a plan in advance
 - Likely more people will wait until the last minute to shelter due to COVID-19 fears
 - Getting in contact with people is difficult (particularly if not pre-registered)

- Encourage people to request extended prescriptions in case of longer sheltering; potential to use runners for medical supplies (e.g., medicines);
- Offer guidance for vulnerable populations that shelter with friends/family

“There are folks who need wound care, need psychological care, need bathing, personal care. They often know the first name of their provider but haven’t put it together and I keep thinking we should find a way to tackle this way before hurricane season in Florida and in other locales before a disaster hits and they come in all sizes and forms... it’s a gap.”

- Those in shelter, how to decide who goes and whether their family goes with them? There are so many... avoid sheltering? divert to hospitals or hotels?
 - Mental distress and family separation issues if trying to isolate individuals.
- How to identify and plan for those who are medically vulnerable/have health conditions
 - Screening should also ask about chronic conditions, not just COVID-19 symptoms (app?) e.g. asthma, COPD, immunocompromised individuals
 - Need to plan for medications, including secure storage and refrigeration if needed
 - Some mentioned using a ‘runner’ to transport medications to and from shelters

“[Immunocompromised] Anyone who’s sick and immunocompromised indications, hypertension, diabetes, kidney, heart, liver disease, anyone that’s high risk for COVID.”

- Individuals over a certain age (e.g., over 60 years old)
- Pregnant women and infants

“We certainly don’t have the struggles that US Virgin Islands has in terms of availability of blood or NICU space, but I do worry about management and preterm labor or comorbidities of our moms who have cardiovascular issues or pulmonary issues. It’s really hard to manage preterm labor in a shelter with 500 people..., our moms... preterm deliveries. I worry about that being managed in the shelter settings. Premies, preemie graduates, the last thing we would want is a 35-weeker who got to go home now surrounded by 200 people in a shelter.”

- Individuals with disabilities, e.g., autism
- People with disabilities who are able to live independently:
 - ADA, Title I, Title II, Title III.

“We’ve been working very closely with our centers for independent living and other disability serving organizations to help step in and provide some of that personal care assistance for persons with disabilities that are in the general population shelters. ...in previous storms if someone with the disability that is living independently, if they go into a shelter because of the storm, and because of that, they lose access to the services that were helping them stay and maintain their

independence, then they become dependent again and we don't want to see them discharged and when they leave the shelter, sent to a nursing home or some other ALF which is their outcomes. They will have much more negative outcomes and degrade quickly. So, in light of that, that's when we started to implement some type of shelter transition team ... to make sure that they are embedded in those shelters to provide the services as needed."

- Cultural competency and addressing implicit bias:
 - Citizens of the US Virgin Islands and other more-distant evacuees
 - Undocumented residents (i.e., fear of seeking help)
 - Continuity of care for non-English speakers

"...I'm hoping that a part of these trainings and conversations...maybe for staff shelters in terms of unconscious bias in case of bias and how they affect interactions. Because many Asian population are receiving discrimination right now... Then also, how do we accommodate the ADA communities, particularly... the deaf and hard of hearing community, it might be helpful to have mask with visors on it so lips can be read. Also, in terms of effective communications according to Title III, Title II, you can use VRI services and also landlines - I mean, the Language Line services in shelters in order to help those communication gaps."

2.6.2 KEY CONSIDERATION 2: STAFFING AND VOLUNTEERS

- Need for extra security, medical, dorm managers, staff in general due to more shelters
- Concerns regarding lack of staff (e.g., medical, sanitation, interpreters, and chaplains)
 - Absenteeism due to COVID
- Staffing shelters with a wide range of health professionals to meet various evacuee needs
 - *Who foots the bill?* (e.g., in cases without health insurance)
 - *What about hazardous duty pay?*
 - Remote work and telehealth
- Additional support staff/volunteers (interpreters, Chaplains)
- People who volunteer to staff shelters may be among the most vulnerable to COVID-19 (e.g., retirees).
- Mental health training or staff to provide mental health checks and trauma care
- Some are considering or contracting with EMT's, National Guard, students, clearing staff

Strategies

- Planning for the worst-case scenarios
- Using federal and state guidelines for long-term health care facilities as an information source

- Making pre-event connections between groups to share information
- Assembling and distributing local-regional contact information for subject matter experts and technology experts
- Partnering with military hospitals; many have training in disaster trauma; the Medical Reserve Corps (MRC) can work with them
- Planning with local Departments of Health
- Following protocols for special-needs shelters (SpNS)
- Seeking assistance of organizations focused on particular segments of the population (e.g., AARP and USAA)
- Relying more on telehealth and other remote work (e.g., virtual mental health counseling)
- Engaging with obstetricians, midwives, and doulas to offer care in shelters as a solution for continuity of care for pregnant people/infants
- Potentially introducing regional special-needs shelters to pool resources (or to isolate those known to be infected with COVID-19)
- Providing extra training for shelter staff on first aid, mental health self-care and checks, socialization, and trauma care
- Creating a guidebook (e.g., pocket guide) for local shelters that can be customized as needed.

2.6.3 SUMMARY: ROUND THREE

There is an overall concern that medically-fragile community members may be hesitant to come to shelters for fear of exposure and sheltering-in-place may put them at even greater risk. There are also greater resource requirements (e.g., PPE, sanitization supplies, and medicines) and additional medical personnel needs that are not typical for general-population shelters. Regional special-needs shelters may be useful. Protecting staff from COVID-19 infection and spread as people come and go from shelters, return to their communities after the disaster event, and in cases needing longer-term shelters (i.e., if homes are lost).

2.7 ROUND FOUR: 2-MINUTE QUESTION BURST

The following list includes additional questions shared by participants during the final 2-minute question burst:

- *At the heart of some of this is how can we build resilience into shelterees [evacuees], staff, politicians?*
- *Can federal and state guidance on long term care facilities be a source of policies that could be applied to special-needs shelters? (Note: Links to some of these policies are listed under “References and Resources” near the end of this report.)*
- *Can we come together regionally/statewide to adopt a host-sheltering agreement?*

- *With reduced numbers of spaces available at shelters, is the best method to accommodate the additional spaces needed by developing MOU's/agreements with other locations?*
- *Do we have a duty to provide medical care and isolation section and who's going to do that?*
- *Does consolidating shelters to address potential homelessness face additional challenges given potential infectious disease situation?*
- *How are shelter and evacuation planners are coordinating with local EMS agencies?*
- *How can we best tap into the skills of medical and nursing students while also increasing their on the job training to staff shelters with clinicians to work alongside non-clinical staff?*
- *How can we come together regionally/statewide to adopt a host-sheltering agreement? With reduced numbers of spaces available at shelters, is the best method to accommodate the additional spaces needed by developing MOU's/agreements with other locations?*
- *How can we create a culture of preparedness for all Americans? What kind of training and leadership would it take?*
- *How do we address the ongoing supply chain issues and workforce (retention and burnout)?*
- *How do we best address the needs of pregnant women?*
- *How do we do QA [quality assurance] with so many different ideas and approaches?*
- *How do we help staff... so they will come?*
- *How do we prevent and address non-compliance with those infectious disease management policies? Other questions?*
- *How do we protect not only the shelter staff, but their families?*
- *How will cleaning efforts be added or modified?*
- *If they become sick, is there going to be a replacement readily available?*
- *If university campuses have to evacuate, how are we going to communicate with their parents?*
- *Is anyone partnering with AARP for assistance?"*
- *Is there a new category of shelter needed? "last resort for people who are sick"?*
- *How is everybody going to deal with the new nebulizers, particularly for our COPD clients and young children in schools and shelters, and what alternatives are out there for those individuals that have difficulty using a handheld metered-dose inhaler, and how to deal with oxygen needs in shelters as well with the issues with air sterilization?*
- *Pet issues?*
- *Square foot requirements?*
- *What about people who aren't ambulatory?*
- *What are other counties, other regions doing as far as providing medical coverage to their general population and special-needs shelters? What resources have they pulled on in such – do they have it? Do they not have it? Are they pulling on medical students that are supervised remotely? What are others doing?*

- *What happens when we run out of PPE?*
- *What is the optimal PPE for use with clients and staff?*
- *What is the viral load from multiple clients using nebulizers, O2, CPAP, BiPAP?--*
- *What kind of staff would be necessary to have at general population shelters?*
- *What staff will be needed and available in shelters?*
- *What would be a good way for a shelter to conduct a real time safety audit?*
- *What would the percent capacity would be the maximum for shelter during this time of a pandemic?*
- *Who would be the ideal staff?*
- *Who's going to train and when are they going to train?*
- *Will shelters provide face masks and have sanitization options?*
- *Would it be feasible to have field hospitals or DMAT sites near a lot of shelters to help with treatment?*
- *Would it be feasible to have isolation areas and shelters?*

"I guess a question, a worst-case scenario, a nightmare scenario would be Cat 5 hitting a Tampa area and a shelter that has – and a shelter where there's several persons with intellectual, developmental disabilities, somehow COVID runs rampant through a shelter with persons with disabilities even with all the mitigation strategies in place, if it gets in there and then what do we do?"

2.8 REFERENCES AND RESOURCES

The following resources and documents were identified by participants in Workshop 2 (Health) of the CONVERGE NSF Working Group. Some are more localized than others.

- American Red Cross: *Sheltering in COVID-19 Affected Areas*: <https://nationalmasscarestrategy.org/wp-content/uploads/2020/04/ShelteringInCOVIDAffectedAreas.pdf>
- Association for Professionals in Infection Control and Epidemiology (APIC): <https://apic.org/professional-practice/emergency-preparedness/https://apic.org/Professional-Practice/Implementation-guides/>
- *Infection Prevention and Control for Shelters during Disasters*: https://apic.org/wp-content/uploads/2019/02/Shelters_Disasters.pdf
- Association of State and Territorial Health Officials (ASTHO) Training: <https://learn.astho.org/products/making-contact-a-training-for-covid-19-contact-tracers>
- Buoy Health Symptom Checker: <https://www.buoyhealth.com/symptom-checker/>

- Centers for Disease Control and Prevention (CDC) *COVID-19 Screening Questions*: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/dialysis/screening.html>
- CDC *Preparing for COVID-19 in Nursing Homes*: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/long-term-care.html>
- Center for Autism and Related Disabilities (CARD) *Autism Spectrum Disorder and Hurricane Safety*: http://card-usf.fmhi.usf.edu/docs/CARD_2018HurricaneGuide_FINAL_digital.pdf
- Centers for Medicaid Services (CMS) *COVID-19 Long-Term Care Facility Guidance*: <https://www.cms.gov/files/document/4220-covid-19-long-term-care-facility-guidance.pdf>
- Federal Emergency Management Agency (FEMA) *COVID-19 Pandemic Operational Guidance for the 2020 Hurricane Season*: https://www.fema.gov/media-library-data/1589997234798-adb5ce5cb98a7a89e3e1800becf0eb65/2020_Hurricane_Pandemic_Plan.pdf
- National Institutes of Health (NIH) Disaster Information Management Research Center *Disaster Apps for your Digital Go Bag*: <https://disasterinfo.nlm.nih.gov/apps>
- Occupational Health and Safety Administration (OSHA) *COVID-19 Guidance for Nursing Home and Long-Term Care Facility Workers*: <https://www.osha.gov/Publications/OSHA4025.pdf>
- Situational Awareness and Response Assistant (SARA) Alert App: <http://www.statussolutions.com/technologies/automated-alerting>

2.9 PROJECT TEAM

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