ICARE Interagency Collaborative Animal Research Education

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ICARE Dialogues: Contingency/Disaster Planning: Incorporating Lessons Learned from the COVID-19 Pandemic

Presenters: Interagency Collaborative Animal Research Education (ICARE) Project faculty members: Bill Stokes, Wayne Barbee, Bill Greer, Tanise Jackson, Carolyn McKinnie, Jane Na, and Susan Silk.

A record of this meeting will posted on the OLAW website (https://olaw.nih.gov/home.htm) on the ICARE Project webpage (https://olaw.nih.gov/education/icare-interagency).

Silk: I'm Susan Silk and it's my pleasure to welcome you to **ICARE Dialogues** and to encourage you to contribute because it is a true dialogue. Our topic today is "Contingency" (which is the USDA's word) or Disaster (which is the word the PHS uses) Planning. Our lead facilitator today for today's **ICARE Dialogue** is Bill Stokes.

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Stokes: Thank you, Susan. I extend a warm welcome to all of you and thank you for joining us in this **ICARE Dialogue** on **Contingency/Disaster Planning: Incorporating Lessons Learned from the Covid-19 Pandemic.** Your participation obviously reflects your commitment to assuring good science and we really appreciate you taking time to share your experiences so that others can learn from those. And we can all go about learning the lessons from this pandemic. And being better prepared as we move forward.

I'd like to begin with introducing the ICARE faculty that is facilitating the discussions today. As Susan said, I'm Bill Stokes. I currently work as a veterinary consultant for animal research and welfare. I have worked in laboratory animal medicine and research for over 40 years, including serving as an attending veterinarian for several government research facilities, including two of the NIH Institutes. And at NIH, I also directed the NTP, National Toxicology Program, an interagency center that was responsible for the validation and the global regulatory acceptance of three methods for regulatory testing. Most recently, I served as an Assistant Director for Animal Welfare Operations at the USDA.

And then with regard to disasters, along with many of the current OLAW staff, including Pat Brown who I see is online with us, I deployed to Louisiana with the Public Health Service following hurricane Katrina to assist the state veterinarian with animal rescue and sheltering efforts. So I had the

opportunity to observe firsthand the devastation that occurred and was involved in rescuing some of the animals from one particular research institute. If you're interested in that, there is a PowerPoint on the OLAW website Planning and Response Resources page (https://olaw.nih.gov/resources/disaster-planning.htm) that gives you some of the information that we learned from that. And eye-opening pictures of what things looked like there. This year, as we're experiencing more disasters from hurricanes, with a record 29 named hurricanes, I think that there's a potential that - at least in that category - that we may see an increase in those kinds of adverse events.

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I'm joined today with five other outstanding ICARE faculty members who have an incredible depth of experience. And they'll serve as co-facilitators to help to address questions and offer advice during the session. I'd like to ask them to briefly introduce themselves and we'll start with Jane Na from OLAW.

Na: Hello, I am Jane Na. I am a veterinarian and I became recently the director of the Division of Assurances in the Office of Laboratory Animal Welfare (OLAW), NIH. I went to vet school and did my undergraduate work at the University of Michigan. And I also did a laboratory animal welfare residency at the University of Michigan. Shortly after that, I went to the University of California, San Francisco, and worked in their office before I joined OLAW. I don't have quite as many years as Bill Stokes, but I am certainly continually learning and hopeful to share what I know about OLAW with all of you. I'm happy to be here. Thank you.

Stokes: Thanks, Jane. And then Carolyn McKinnie from USDA.

McKinnie: Welcome, everyone. I am a veterinarian as well. I graduated from Colorado State University and have been with the USDA for a little over eight years now - going on nine. I supervise the USDA territory from Guam, Hawaii, Alaska all the way through the Dakotas. I worked prior to this (inaudible) research. And I worked at the new vet their school at the time. And the Cayman islands for a while as an associate professor and prior to that I worked at a facility in Hawaii for a laboratory. I'm looking forward to today and, again, welcome. Glad you're here.

Stokes: Thank you, Carolyn. And Tanise Jackson.

Jackson: Hello. I am Tanise Jackson, the Director of Animal Welfare and Research Integrity at Florida A&M University. So I do have a little bit of firsthand knowledge about hurricanes and disaster plans. And what happens in Florida. And we're getting hit by a tropical storm/hurricane category one right now in the Tampa area. So glad to be here and looking forward to our great conversation about this amazing topic.

Stokes: Okay, well, we're glad that you are bringing that experience to us, Tanise. And then moving on to Bill Greer from the University of Michigan.

Greer: Good afternoon, friends and colleagues. Welcome. Warm welcome. It's good to be here, I am Bill Greer, and I have been involved in research compliance, animal care and use for 30 plus years. I spent 15 years on the PI side, developing animal vaccines. I spent about 14 or 15 years at Penn State, as the Associate Director overseeing the animal care, safety and whatnot there. And now my role at the University of Michigan, I oversee animal care and use, biosafety, autonomous controlled substances, many other compliance-based areas. I started the IACUC Administrator's Best Practice Meetings and IACUC Administrators Association with Ron Banks and work with Dr. Banks to administrate those programs. I look forward to saying hi to the ones that I have seen in the past and to new friends. So, thank you, Bill.

Stokes: Okay, thanks, Bill. And finally we have Wayne Barbe.

Barbee: Hi, everyone, I'm glad to be here. I have been involved in IACUC functions as part of my academic service for about 30 years. Most of that has been at the Virginia Commonwealth University IACUC, almost 20 years as a member, 17 as chair and a couple years as vice-chair before that, while serving as faculty at the medical center. As a cardiovascular physiologist, I have been involved in research for about four decades using a variety of animals in a number of experimental settings, focused primarily on circulatory shock. Glad to be here.

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Stokes: Thank you. Our objectives today, that the faculty put together are:

- First thing that we want to do is to review the OLAW requirements for a contingency/disaster plan.
- Secondly, we want all of you to share challenges that you have encountered during the COVID-19 pandemic. We'd like to hear the strategies that you used to address these challenges. What worked and what didn't work.
- Then finally we want to share these lessons that have been learned so that they can be used to update contingency/disaster plans so that we're all better prepared to respond to future pandemics and other emergencies.

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And so I wanted to just focus on that third idea a little bit. Some of you that have been involved in emergency planning, you have probably heard about lessons observed, versus lessons learned.

When we talk about lessons observed, that's an experience that is gained from actual events, actual emergencies. Tests, emergency exercises, where you learn. And you can learn a lot just in exercises. About what worked well and what didn't work well. But for those lessons to be learned, it's important to share and to use that knowledge that is gained from those experiences to improve our practices. And we want to do that so that we promote the recurrence of things that contribute to desirable outcomes. And we want to avoid recurring undesirable outcomes.

So, you know, if we follow this and we take the lessons that we have observed and we learn from those and incorporate them into practices, and then, if we revise our plans, that will make the plan more effective the next time that disaster strikes.

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You know, disasters -- we're always preparing for the unexpected and the preparations allow you to be as prepared as you can be, because you can never anticipate exactly what is going to occur. The focus areas that we're going to work through today during the webinar, we're going to start with going over requirements and resources that are available. And then we're going to move to talking about challenges and supporting and sustaining animal-based research. Challenges and ensuring IACUC functions and challenges that ensure ongoing adequate and appropriate animal care and welfare. And then finally ensuring personal safety, access and well-being, communications, many of those other things that are also important. We will start with the requirements and we'll hear from Jane about the OLAW requirements followed by Carolyn with comments from USDA.

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Na: Thanks, Bill. First, I'm going to go over OLAW's resources. In April, we launched a dedicated COVID-19 landing page. It has specific guidance for COVID-19 and more information. And here's our main website. https://olaw.nih.gov/home.htm And you can now update to the Covid-19 web page by clicking on that red COVID-19 banner.

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And then this slide coming up is the slide at the top of the page, we also have a link that goes to OLAW's disaster planning and responses resource web page which is a whole different web page that has a lot of other resources for disaster plans. https://olaw.nih.gov/covid-19.htm Not specific to COVID, but can be applied to the cases that it lends itself to. This landing page has 21 currently FAQs related to COVID and the pandemic. It includes links to guide notices and example disaster plans and other resources.

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Next slide. In addition, some of those other resources that I alluded to are COVID-specific webinars.

So there are three that relate directly to the pandemic. So in COVID-19 pandemic response resources and FAQs for animal care and use programs. Dr. Pat Brown, our director of the OLAW office, as well as Dr. Robert Gibbens of USDA, discussed a lot of the FAQs and just in general pandemic response for COVID-19.

Previous to that we had a march webinar that was pandemic contingency planning and its impact on animal care. Where also again Dr. Pat Brown and Dr. Bob Gibbens talked about contingency planning for the pandemic.

In addition to that, just when things were starting with the pandemic, we also at the beginning and end of our webinar on building an occupational health program, included some questions related to the pandemic at that point.

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So for institutions that are regulated by the Office of Laboratory Animal Welfare, we have the PHS

Policy which references the *Guide* that should be the main resource for animal care and use programs. And the *Guide* requires that institutions develop disaster plans:

- Disaster plans are to account for the well-being of animals and personnel.
- Disaster plan should define the actions necessary to prevent animal pain, distress, and deaths.
- And also it should be reviewed and updated to evolve with current lessons learned and actual disasters. We highly encourage drills and tabletop exercises to go through your disaster plan.

With disaster planning, it's advisable to conduct a risk assessment to identify the major hazards and threats to be addressed within the contents of your disaster plan.

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This is not an inclusive list. But these are potential considerations to include within your disaster plan:

- At the first bullet point, you need to account for back-ups for if you have any failures, including HVACS or alarms.
- When power cannot be restored or repaired, you also should have plans in place for animal transport, relocation, and as a last resort also prepare for euthanasia if necessary.
- The rest are items that we will be covering later today in our discussion. These relate mostly to supplies, personnel, and policies and procedures to ensure that your animal care and use program continues to function in order to support good animal welfare.

So with that, I will hand it over to Carolyn.

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McKinnie: I just wanted to discuss a little bit that we had a contingency regulation. We're really glad that OLAW requires a disaster plan - because ours was put on stay back in 2013, when we implemented the new rule. Because of some publicity, with a magician's rabbit, which is a very interesting story in itself, the USDA contingency plan requirement was put under review by the Secretary of Agriculture. In 2013, we had a stay of the animal welfare act contingency plan. We are currently working on rewriting the proposed rule to lift the stay. After we have put that forward, there will be a public notice and comment period.

Of course, the federal government takes a long time to work through things and it will take a couple years for that to happen. When there's a new administration coming in, everything stops for about three to six months in general. So there's no action going forward in that time. I just wanted everyone to be aware that that will be something for the future - to lift that stay.

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And here we just have some contacts. And, if you need to contact the USDA supervisor for your region or your inspector or call the USDA main line. Please subscribe to Stakeholder Announcements and check out our website. Again, Jane already mentioned some of the things that we have done in conjunction with OLAW, so go to the website for sure. Thank you very much.

Stokes: Thank you, Jane and Carolyn. Bill Greer, would you like to comment about some of the initiatives within the IACUC Administrators Association that will be providing resources in the future. (https://iacucaa.org/current-projects-and-developed-best-practices)

Greer: I am happy to, Bill. Thank you for the opportunity. One of the things that the IACUC Administrators Association started years ago is working with USDA and OLAW. Carolyn is on here and she was part of that as well. And we worked with folks from FEMA and others and we got a lot of insight and input and initiated the idea of having a common resource for our community.

If you're familiar with the ZAP Fusion program, https://www.aza.org/zahp?locale=en and if you type that into Google you will see it. It's the resources that the community uses to manage and to develop their own disaster programs. And this includes some tabletop exercises. Now, obviously, it includes a lot of things about COVID and ways to deal with, for example, personnel decreases and things like that.

After a couple of meetings with AALAS, the IACUC Administrators Association developed a working group. Carolyn Clark is on it and so is Julie Marshall. Julie is the IACUC administrator from the San Diego zoo. And an administrator from the University of Denver, Tyler Ridgeway. And collectively we are working together to kind of mirror what the zoo community has and developed something for the IACUC research side of the fence. We got things rolling and then COVID derailed us.

We actually did a session similar to this one last week with the IACUC group. And Tyler and Julie are going to get that rolling again. But we just wanted to let you know that it is one of the things going on within the community. We're open to other ideas. So if you have ideas and you want to participate and help us, please reach out to us and let us know. If you don't have my contact directly (wggreer@med.umich.edu) reach out to Susan (ICARE.SERO@gmail.com) . She can help get you in touch with me. We're looking for input from everyone. Anything that you can provide and anything that you can give for ideas is critical. We each have our own unique experiences and we can each contribute appropriately. Bill, thank you for this opportunity. Anyone have any questions? I'm happy to answer really quick and we can move on.

Stokes: Not seeing any. I just would refer you to there a resource handout that was prepared with the links to all of the resources that are mentioned as well as many others including COVID advice from the Veterans' Administration, the National Park Service.(https://olaw.nih.gov/sites/default/files/20.08.04%20%20Resources%20and%20References%20Animal%20Welfare.pdf) Take a look at that. It's an easy way to just click on links and to get to the resources. Again, there's PowerPoint presentations. There's sample contingency disaster plans. They have been prepared by other institutions. You can look at those. You don't to have to reinvent the wheel with creating a plan or updating a plan.

Stokes: We're going to move into more of the discussions now. And I just wanted to remind everyone, as Susan had mentioned, that this is a conversation and a dialogue. And we want to hear from you. So if you have a question, if you have a comment to share, just unmute and speak up. And you're also welcome to use the Chat feature. And if you have a question, you can also type it in there

And we'll try to make sure that one of us captures that and makes sure that it gets addressed.

So to start us off today I would like for each of you all to open up your chat feature if you haven't already. And what I'd like you to do is to just indicate in the Chat box whether you have updated -- whether your institution has updated - its contingency disaster plan since the beginning of the pandemic, back in -- I guess we can say that it started in February, even though we had first cases in late January. So just indicate if you have updated it or if you haven't, indicate if you think that -- you're aware that your institution is going to update it in the future. And we'll kind of test the waters to see where we are.

Silk: the yes answers are flying in. And they say they're always moving forward. Terrific.
Twenty-six participants responded that their Institutions had updated and or were in the process of updating their disaster plans.
Two participants mentioned that they identified some "needs improvement" parts of our disaster plan during our recent semiannual inspection and program review.
One participant responded that they have not updated.

Stokes: Okay. I'm pleased to see that and it is a good surprise because I thought that most - or many - people would be so busy dealing with all of the challenges that have been created by this pandemic. So I'm really glad to see that the institutions have taken the time to update their plans already.

Silk: Here's one person that said it took the pandemic to get them to update it. Another says they have updated unofficially but are still working on pandemic issues. We hope that we'll give you some ideas here today to include in your update, all of you.

Stokes: The first area that we're going to tackle is talking about supporting research. In preparing for a pandemic, that often involves triaging research animal populations, identifying ones that should have priority for being saved if there has to be a decision that they all can't be saved. And there needs to be proactive methods for deciding how you're going to handle taking care of those animals if there's limited resources. So I'm going to turn to Wayne and ask him if he can comment about some of the issues and the challenges in this arena.

Barbee: Thanks, Bill. In the spirit of the ICARE dialogue I just want to first briefly reach out to all of you. This is one of the more difficult topics in contingency planning, so we're just jumping right into the deep end. How many of you have started talking about triage of research animal populations or studies and how you will minimize or avoid early euthanasia?
And if you haven't had to do that because you functioned well and haven't had drop off in animal husbandry support or anything, are there plans to do that for the upcoming winter?

And while we're waiting for responses, I might add that in addition to what Jane said about disaster plans being a must, that there's one other "must" there. Animals that cannot be easily relocated or protected from the consequences of the disaster, must be humanely euthanized. And that has a lot of larger implications, particularly with your animal populations as they grow.

[Responses from the Chat line are in italics.]

- *We lost most of our nonregulated species last spring*
- *We have not needed to reduce out animal population to date.*
- *We did with the first COVID round but not with the second wave as of yet. Constant moving target.*

So, yes. Dependent on where you are in the country, we went through a shutdown in the spring. Many of you were returning to research. Push in the summer, the return to search is sometimes – sometimes, but not always -- the mirror image of the shutdown.

- *We have asked staff to not start any new experiments and just to maintain lines during the time when staff was not allowed on campus.*

This is very important to get started as early as you can. Because it does involve some angst. I can tell you from our own institutions that a lot of people will just say all of my research is important and all of my animals are important and I have to maintain all of them. So this will need the backing and the cooperation of the research teams and department chairs and that sort of thing.

- *We slowed breeding at first.*

Asking the staff not to start the new experiments and just to maintain lines when the staff was not allowed on campus. Yes, so that you can take care of those because particularly starting up new lines, it often involves breeding or intensive breeding regiments which puts a lot of additional work on the husbandry staff.

And this will also involve - I see the chat items, that slowing the breeding of rodents. So this may be reaching out to investigators who are keeping a number of knockout lines and saying, hey, we're down some staff. And so, yes, if you can slow the breeding first, then you can avoid euthanizing the animal. Keep in mind that slowing your breeding may have its own consequences because you're separating out breeding pairs. So for a short time you might even have new cages. A lot of people are indicating that the slowing of breeding -- that's great. Cryopreserve those valuable strains.

- *We slowed breeding of rodents but did not go to euthanizing existing animals unless the PI felt they would not be useful in 3-4 months or more when limits were lifted. We asked the PIs to ID critical strains.*

Several participants told us about strategies that are PI Driven.

- *No other new studies (except COVID-related) allowed to start during our shutdown.*
- *Investigators at our institution were asked to identify critical strains and recommended to cryopreserve where feasible; also required exemptions for continuation of studies with reasonable timeframes for completion.*

I know that it is wonderful for you to have the convenience of keeping these 10 lines going at once, but we could just -- we may not have the resources to deal with this. Can you decide which are the most critical lines, cryopreserve those, and which ones we can stop breeding.

- *Our struggle was the decision on what was essential was decentralized and thus not consistently communicated, received, or enforced.*

This is very important to get started as early as you can. Because it does involve some angst. I can tell you from our own institutions that a lot of people will just say all of my research is important and all of my animals are important and I have to maintain all of them. So this will need the backing and the cooperation of the research teams and department chairs and that sort of thing.

- *The VCR and AV worked closely in developing density plans for distancing and our IACUC was less involved. PIs reduced breeding and experiments and the AV really had the final say on what could be deemed "essential" research given the husbandry staffing available. Basically we went into to a pure maintenance mode. PIs are now more interested in cryopreserving.*

Participants are telling us about strategies that are driven by availability of husbandry staff.
We encourage a triage of research animal populations or studies as a phased approach and proactive. So what I mean by a phased approach -- the animal care and use program leadership, particularly the institutional official and the attendant vets, but also with research departments, and department chairs need to be involved in deciding what will happen in the event that research has to be shut down. And I mean anywhere from a short drop off, because of you're losing animal care staff, all the way to -- a total shutdown.

- *Utilizing cryopreservation.*

And then start identifying and preserving those animals needed for your critical research functions or your irreplaceable. So, for instance, you may have your Ph.D. student, senior Ph.D. students that you need to get back online quickly. Or some investigators that have good scores on grants that need to be done. And bring in other work -- then, of course, the COVID work.

Some of this is not too difficult. For instance, at the Virginia Commonwealth University, we always pushed investigators to preserve strains. And I must say, with some embarrassment, that was largely ignored until the pandemic came. Then there were a lot of investigators that jumped right up and said, hey, can we have this cryopreserved? So we went from one person who was always saying, “Why can't we get more people doing this?”, to being a couple months behind on that.

- *Scientific directors worked with PIs to determine what research was COVID-related and needed to proceed and what studies really couldn't be paused. All other research was paused but is currently in process of coming back. We continually evaluate the PI needs and the staffing available.*

- *Loss of students really hurt us.*

Loss of students. That will happen and that's an important pool of free labor. Let me tell you -- in my last years as a principal investigator I rely on a lot of students to help us out.

- *We started with care teams, but as researchers returned to work, we had to merge two teams (all our animal care staff) to care for population. Our third team is in the facility a couple times a week.*
- *Administration is realizing the financial need for IACUC*

So that's happened with some people with the shutdown. And so I'm just going to cover a couple of topics. Feel free to jump in and we still have about 20 minutes to talk about this because it's a difficult section.

Participant: We are not at this point updating our disaster plan. But my hope is to do so to incorporate lessons learned. But we have realized the need to include more people connected with animal research in the decision-making process and the communications that are being distributed across campus. It is taking time to formalize a memorandum of understanding between the universities in our large state-wide system. So we can be there as backups for other sister institutions, whether they need IACUC members or to ship animals to different places. So that was recently finalized.

Barbee: that is great. That's a lead-in to the next topic that I want to talk about which is minimizing and avoiding early euthanasia. So ideally you will have some plans in place for, say, a mild or a 25% moderate or 50% severe, and 75% to 100% reduction in personnel and lab work or lab animal research. But sometimes events move quickly and start moving faster than you have anticipated. And those situations you may need to consider some alternate approaches and a memorandum of understandings between neighboring universities.

This works easiest if you are part of a big campus system. Because you've got leadership at the top that says, hey, we're going to cut through the red tape and we're going to all work together on this. But even if you're not part of a big system you may have a sister institution down the road that has a housing area that is not quite as full as yours. Or has animal caretakers or vets or vet staff that they can share and move around. Those are things that can always help you to avoid early euthanasia, particularly if you're trying to get principal investigators to wind up projects.

Barbee: Did any of you use holding protocols for investigators who have suspended research on their own?

Participant: Not because of COVID. Our university is a mouse factory, so it was much easier for us, - it was never a completely closed campus. So we had to defined and identify and approved critical people. Animal care staff and even some of the PIs could come in and take care of their animals if need be with a lot of caveats and new procedures, of course. So, I'll bring upholding protocols because they're originally intended to handle protocols that have expired. But in a number of institutions if research is shut down and people are not able to use those lab animals that makes people pretty nervous.

Barbee: As a principal investigator, I was always pinching pennies and watching the budget. And particularly in years three, four and five of a budget, where things were often lean. If you've got investigators that are coming back and saying, hey, I can't use those animals. Can I get some relief? That is something for your institution to consider. If they're not doing any active live animal procedures or breeding with those, you could use that opportunity to suspend per diem but use a holding protocol to say, hey, we're moving those expenses there and that will be picked up by another office. But that's another thing to consider.

Has anybody had to consider euthanasia of a substantial number of animals and initiate these decisions regarding research priorities? Which were the most important animals? Which were a lower priority for your research? Which were a higher priority? Just interested if anybody has had to go through that. While I'm waiting for responses, I just want to indicate that you want to think about that, because those are difficult decisions.

For instance, you could find yourself in an institution where the vet just says, 'I don't want to do that, and you're not going to put me in that situation.

Under such circumstances, you might have to talk to the IO & say - if husbandry staffing drops to critical levels, not only do you have the authority, but also the responsibility along with other leadership to make such decisions.

Glad to see through the chat people indicating no, they have not had to make such decisions. That's great to hear.

And I am hoping that with this winter surge that we will not have to resort to that. But that is something to think about, particularly if you start losing animal care staff that are too sick to come to work for whatever reason. This can happen quickly if local infection rates are high, particularly in January or February, where it's thought that the pandemic might peak.

Stokes: Wayne, from what I am hearing it sounds like it would be a good idea to include triage criteria for research animals in the plan. And also as you indicated, who has the ultimate authority to make the decisions on which animals would have to be euthanized. If those decisions did need to be made.

Barbee: Generally, senior animal care and use program leadership (i.e., IO and AV) should be principally involved in such decisions. And I haven't mentioned any specifics about triage plan, because it's highly individualized for your institution. I can just tell you that at VCU When we went through our original shutdown, that the COVID-related research was protected. The research of senior graduate students that were very close to getting the last bit of their data for their PhD was protected. And individuals that had gotten a good score on RO1 and were trying to finish up crucial experiments, they were allowed back in.

But other people were told - a lot of our large animal folks were just told, this takes a lot of our extra resources. And, yes, your per diem covers some of this, but not all of this, and some of our large animal research just got shut down. Communication is vital to avoid misunderstanding that could result in euthanasia of the wrong animal(s).

So, yeah, it's important going forth that you -- and this may need -- particularly in a decentralized facility, this may need to be communicated by area or particular strains or even species. And the communication is important.

Someone else talked about the emotional component to mass euthanasia. Yeah, that needs to be considered the fatigue of doing that. Particularly if large numbers of rodents.

Silk: Wayne, a participant says that the AV Makes the decision. Participant - on what does the AV Base his or her decision?

Participant: We haven't had to do that, to euthanize animals. But the AV collected a lot of information from the PI. about what lines were critical. I think that if it ever came down to it, where we were in a situation where there would be animal welfare issues, because that we couldn't take care of the animals, that the AV would ultimately make the decision. And they would use the input they got from the PIs and the research staff, I think. Because that was one of the first things -- notices that went out to the research community from our AV. And they specifically asked, please explain what lines are critical. What is the most important. And she asked them to reduce their breeding so that if there was an issue with staffing that we would have enough people on hand to take care of those animals.

Barbee: Good, strategy and informed discussions.

Silk: We have some questions here. Wayne, a participant said they had issues with lab staff leaving animals in euthanasia chambers within centralized facilities. That's a compliance issue, isn't it?

Barbee: Yes. And it's important that if you are talking about euthanizing additional animals that people get those reminders that - not only is it the right thing to do but the *Guide* says that animals which cannot be protected or relocated in disaster settings must be humanely euthanized. That means you're got to do this right with your CO_2 chambers and injectable barbiturates, or whatever you're doing you have to follow appropriate procedures. The fact that people may be euthanizing animals, in their labs doesn't give them permission to do it inappropriately.

Silk: A participant is asking, “What about teaching courses?” Were the courses still up and running? Did you still have lab courses?

Participants: I think that depends. Some PIs wanted to teach via Zoom. And they decided not to have these live demonstrations via that way. But that could be something like that where you're doing a demonstration with the animal on Zoom, so it would still be teaching.

Silk: I'm don't understand your question. Are you asking if those animals were exempted?

Participant: I'm asking what other institutions are doing. We have put a halt on most of our teaching courses. They are trying to push forward in-person for some of the lab experiments. But I was just curious what other institutions were doing.

Barbee: While we're waiting for people to answer, I can tell you this partly depends on the resources that you're going to be utilizing. How many people are going to be involved. And the species. So if you're doing some individualized teaching or handling of rodents, we have continued to do that at VCU, but with some exceptions to the general guidelines.

In other words, if there's a number of people that need training on handling rodents, then they have to wear enhanced PPE, not only the masks but also face shields and a couple other things, and with enhanced cleaning.

I do see some chats coming in. Undergraduate courses are not covered, as undergraduates are not currently allowed on the VCU medical campus. Another participant indicates that they stopped most teaching courses and stopped the additional animal orders. A lot of institutions have done that.

Participant. We still had all of our undergraduates on campus that were willing to come to campus. So we still had in-person classes. And there was some flexibility for classes, for the instructors, as to whether or not they were going to still have the labs. So I know that some people have rearranged their instruction for the fall and the spring. But we have worked with a lot to get the videography or photography put in place, where they did a dissection prior to the beginning of the class. And they recorded it. And then they have been able to show that to their students.

So we have worked with them to getting that into their protocol and sent a reminder email out to all PIs before the semester started to say, please, look at your protocols and make sure that you get this submitted so it can be approved before the classes started. I think that helped. We had a huge influx of people submitting that. But through going remote and doing more videography and photography, that we have also identified a need for a photo policy in place that just discusses data storage and retention of that and how students will access it, and how they'll limit the accessibility to those videos and whether they can be downloaded or just viewed.

Barbee: Good points.

Silk: it sounds like those videos will persist into the future - beyond social distancing - whether we're quarantined or not. It does seem like they will be useful aids for the students.

Barbee: Yes, the participant brought up a point of having the appropriate policy. And this may vary from institution to institution, depending on what your state FOIA laws are. We're very careful about those at VCU Because of all of the FOIA requests that we have.

So all good points. I think that we could continue talking about this for a while, time is about up. And somebody brought up the idea of amendments. And so, Bill, I think that Jane is up next to talk about IACUC functions.

Stokes: Yes, she is. Before we go there, a participant had offered a comment. She said that during their semiannual facility inspection and program review that they reviewed their disaster plan and found that they needed some improvements.

So I think that this is a good reminder that in the midst of this pandemic that as you're doing the program reviews that you may have a hold on doing inspections. But you should be continuing with your program reviews. And having that disaster plan reviewed to see if there's anything that needs to be updated. It's a really good thing to do, I think. And, of course, that's an IACUC function and with that I think that we'll move on to talking about ensuring IACUC functions during disasters and emergencies.

I want to thank those participants that submitted questions. We had several questions come in about IACUC responsibilities, and how those should be handled. Jane, I'll turn it over to you to initially to talk about the responses to those questions.

Na: Sounds great. One of the questions that we got from one of the participants was whether meeting minutes should reflect the method that the meeting was conducted. So live versus telephone, versus video conference. And like the format that we're currently on, most people have had to resort to digital Zoom IACUC meetings and things like that.

There's no specific requirement as far as if you have to specify which method that your meeting occurred in. But you can certainly note them. And it may be actually useful at some point because if, for instance, there's a member that has a conflict of interest and there's a protocol being discussed with that. In your meeting minutes you maybe could indicate that the individual was moved to the waiting room for deliberations and in this case that it would only make sense if you were in a web interface. For PHS, what is required is that you just have minutes of the IACUC meetings and with the records of attendance and the activities of the committee as well as the committee deliberations.

How or why or what fashion you that is up to each institution. Were there any institutions that had changes in how or what they included in their meeting minutes due to potential changes with the pandemic?

Participant: We did always put - conducted via Zoom or whatever, but we had a confidentiality section, reminding people that you shouldn't be in a public place during the meeting to keep any attachments, etc., during the meeting confidential. There's a disclaimer that we read at the beginning for all of the IACUC members.

Na: that's a good point. Any other considerations such as the disclaimer about don't be in a public place? That's good to hear about.

Participant: We already had the confidentiality thing. And the question about whether or not we should list what type of meeting it was, was mine. We're very concerned about FOIA requests and so I just wondered if we could just say that the person left the room. Because that could be any room. But I just wondered if you could see any FOIA issues with saying in the meeting minutes how you were to conduct them. And one of the reasons that I thought about it is because we are using WebEx and then switching to different teams. And I just didn't know if there were any FOIA concerns about listing that. I figured that it wasn't a requirement. But I was just curious about it. If anybody else did that.

Na: That's a good inquiry. And were there any issues on what platform you have used?

Participant: We have not had any issues, but we're still waiting for the minutes of this year to be FOIAed because PETA have been very active as you all know. So we do just say via Zoom at the top and then we use the term - they were put in the waiting room and they're brought back in. That's for all of our committees. I think that as long as you're notating that they're not there, it shouldn't really matter how. I can't imagine why.

Participant: I wondered if anybody had encountered that. Because we are too expecting a FOIA request at some point in the near future, and we just didn't know -- it's not something that we mentioned now and I didn't know what the practice was among the institutions. Whether that is something that they do or don't do.

Silk: We have a comment from a participant who indicates that they use the generic term "web conference." So they don't specify what kind. But that's certainly makes it understandable. And then also that the member recused themselves or left the meeting for when they're not supposed to be included in the discussions because of a conflict of interest.

Na: So that's a really good question. Thank you, participant. We also received a question - at what point would the pandemic no longer be considered a pandemic? I think this is a question a lot of people are kind of stumbling on right about now. I don't know if there's any exact right answer for example. But, not OLAW speaking, but, I suggest maybe the World Health Organization might declare when the pandemic is over. When the infection rates are below a certain level with widespread vaccinations with everybody or non-pharmaceutical interventions. Or both. I don't know if Wayne had anymore to add to this question.

Barbee: We're all hoping that post vaccine that we'll be able to get this under control and the World Health Organization will be able to say, - this no longer looks like it's going rapidly back and forth, but it's going down.

Despite what we hope for, this could remain a highly localized situation. In some areas, if you look at some of the pandemic modeling sites where they've got red, yellow, orange, and red, you may be at a green zone in your institution and the surrounding counties may have it really under control. And you can say that we're ramping back up and we can start our semiannual facility inspection and our program review, that sort of thing. And you can tell OLAW, yes, we're ready.

And on the other hand, there's some in the red zone and the hospitals are overwhelmed and you may not be ready to do that and you may need with your wavier because of the local situation. So I think what is more likely is that - it's going to start a decrease, but you may have to make decisions based on your situation in your local area. It depends what you have in your county and surrounding counties.

Na: Absolutely. So it's going to definitely depend on what's going on around you. And Wayne indicated that each institution might have to decide locally what is best for them. And OLAW did put out an FAQ https://olaw.nih.gov/covid-19.htm. If your institution was one that was granted a waiver, per PHS Policy, OLAW is allowed to approve or to waive requirements to the PHS Policy. And in this pandemic situation, the office has granted a few requests -- the waiver, for you to have semiannual inspections that exceed the six-month semiannual requirement.

For the institutions who have received that, there's no expiration on the waiver. So you don't have to worry about when is officially the pandemic over. You have to make sure that you're looking out for the well-being of the personnel and the animals during the pandemic and decide as an institution, as an IACUC, when it is safe to resume those facility inspections. We do encourage the use of the flexibilities that we had put out as a Guide Notice. https://olaw.nih.gov/home.htm

It's available on our website. https://olaw.nih.gov/home.htm And potentially linked on the resources page. But that also includes instructions on how to request waivers from OLAW, but the longer that you go between facility inspections, we feel that the potential for non-compliance does increase the longer those inspections are delayed. We do expect that the flexibilities are put into place in order to get those completed. But in a safe manner.

Silk: Jane, USDA and OLAW are so close to the community, so constantly in touch with the community, that I think that we don't have to worry about when it will be over because OLAW will be in touch. They have their hands full now managing where we are. We expect to hear from you when this begins to end about what your expectations are.

Na: Yes. So as things change and updates are available, OLAW will release Guide Notices. I didn't include a contact slide, but OLAW is always available for your questions by phone, by email. https://olaw.nih.gov/contact-us.htm We have a list serve that you can sign up to be emailed specific announcements when items of importance arise. Or you could always just give our office a call at (301) 496-7163 because we are available and also highly available by email.

Silk: I want to go back to a question. A participant commented, “If meetings are recorded, they could be records that are FOIAble and this would have to be evaluated by the office to see it poses security issues or could reveal proprietary details.” And then another participant offered that they delete the recordings after the minutes are approved, usually one month maximum. We've heard that in previous dialogues, and that is certainly something to be aware of if you are recording your web-conducted meetings.

Na: The same could also be said for using web for semiannual facility inspections. Or recording or taking pictures of the facilities in order to facilitate the social distancing and potential review later by the IACUC.

Silk: Two participants said they don't record meetings in order to avoid FOIA issues.

Na: We're okay to move on, if there's no more comments, I'm going to try to hit all of the questions that we received. Another question was, "If a community member dies or a complication makes them unable to complete their duties, how does the IACUC function or go on at that point?"

The -- unfortunate thing is, yes, we all potentially know somebody who has been affected by COVID. Or potentially pass away due to other unexpected circumstances. And if that is the case, and they are the only individual that fulfills that role on the IACUC, then the IACUC is not properly constituted. The IACUC cannot do official IACUC properties until you're properly constituted.

The more obvious IACUC duties are anything that requires a full quorum, that you are absolutely not allowed to conduct in an improperly constituted IACUC. But also anything that is a PHS Policy function of the IACUC itself would also be the expectation is that there's a properly constituted IACUC. The key is that you want to prevent getting into that spot. So it's excellent to have alternate, non-affiliated members. And you could also have alternate members in other categories as well – such as non-scientific, just in case you have some unforeseen complications and you need to continue to do your IACUC activities.

Silk: Just to clarify, Jane, it's not just the non-affiliated member. You need to have all of the required roles on a duly constituted committee…

Na: Correct, yes. So minimally, five members and including at least one institutional veterinarian, scientific, non-scientist -- scientist, and non-scientist and other roles for PHS Policy.

Silk: Can you clarify the difference between duly constituted and attendance?
Na: The difference between duly constituted and attendance-- so OLAW, our PHS Policy, the *Guide*, does not require specific individuals to be present at the meeting. For IACUC actions that require the quorum, you require a majority of the voting IACUC members. So, an example, if your IACUC had a total of 10 voting members, the number for quorum has to be greater than 50%. So greater than five. Which is like 6 -- oh, my gosh -- six people. And it doesn't matter who is present at that meeting-- as far as the required roles are members of the IACUC.

Silk: So -- not to bleed this to death, being on vacation is different from being dead. [laughter]

Na: Absolutely, yes. So if you are, on vacation or just sick -- out sick -- you are allowed to miss the meeting. You still are considered a person on the IACUC. But, yes, if an individual dies or is not expected to return to IACUC service, it would not be a complete [duly constituted] IACUC at that point.

Silk: You all stay healthy out there. [Laughter]

Na: Yes, please. But would a trend of lack of attendance being interpreted as not constituted? So, if your institution, in good faith, has tried to have that individual increase their attendance and worked with them, and it's - as long as they're still on the IACUC, even if they're not super participating, you should look into finding a replacement for that individual, doing things and assessing your program as far as why there's a lack of participation from that individual. You know, the spirit of the PHS Policy, the rules requirement is so that there are different perspectives associated with the committee itself.

Barbee: Jane, if I could throw in a personal - albeit short - story. I'm aware of an institution that had a non-affiliated member who was a buddy of the IO. He was a pharmacy tech and can started off as an excellent non-affiliated member, but then went into business for himself and bought the pharmacy. He was not there for eight months in a row. This was brought to the attention of the IO by AAALAC site visitors, who said - he's busy, I'll make sure that he gets back. Well, AAALAC came and they said that you may not have violated letter of the PHS requirements, but you certainly violated the spirit.

It's our opinion that you may have duly constituted IACUC by letter, but not in spirit. And you need to do something about this. While they were trying to decide whether the AAALAC Council would make this a SFI (Suggestion for Improvement) or Mandatory issue, we quickly recruited an alternative. So if the non-attendance of a required member category goes on for long enough there may be somebody that decides to look at this and to raise questions. In this institution's case, they scrambled to recruit another member quickly.

Na: Yes, the solution is that your IACUC is proactively dealing with that situation and does not allow it to persist for months on end. There definitely needs to be action there. Some comments from participants. As far as there's improved attendance since switching to virtual meetings. And one individual says, people are asked to step down or not renew their appointments if they miss too many meetings. And another individual indicates they do have that problem with their non-affiliated members. So, please, address this. Seek out alternates. It's always great to be on the hunt for alternates, even if you feel that you have alternates as well, because who knows what may happen.

Barbee: Yeah, unfortunately, the free lunch is for IACUC members is normally no longer happening with the virtual settings.

Stokes: Jane, going back a little bit, there was a question from a participant that he said that he'd like to hear from you about OLAW's responses for PI's funds for studies as a whole.

Barbee: Thank you, Bill. I was going to bring that up to Jane. Participant, could you clarify that? Is the question - if the PI Has their study on hold, can it be picked up via holding protocol?

Participant: What I was talking about was for those individuals whose studies have had to stop as a result of lack of resources, etc. And what happens to their funding, for example, if there are an RO1 grant that is being administered by NIH? What happens to the animals that are there, what happens

to the research programs? Does the funding get delayed? Or are there other problems that may occur as a result of that.

Na: On a routine basis, individuals receiving NIH grants are permitted continuations, like extending their funding, but, certainly, in specific cases the individuals should discuss with their Grants Management Specialist or Program Officer. Because each has specific nuances. So we always encourage individuals to reach out to their contacts from the granting Institute/Center at NIH.

Okay, I am going to scoot on to the next question. If a disaster occurs and the electronic system is not accessible to review protocols, what then? Are there best practices to have unnecessary loss of animals because the replacement protocol cannot be reviewed or approved due to electronic failure?

This is where disaster plan comes into play and you should already have plans in place to deal with potential electronic system outage. Your software license may lapse and for some weird reason it's not accessible. Does anybody have their own contingency plans or want to share steps that their own IACUC have instituted to plan for this?

Some institutions may have back-up electronic copies of each protocol. In the event that they're not accessible by system, you potentially have them available like on a flash drive and continually update Another participants says that they have back-ups saved to a cloud. Perfect. It's going to still be available. There may be a little more paperwork associated with dealing with not having the electronic system to help you with it. But, yes, we do expect backups. And we do expect IACUC functions and protocols to continue to be reviewed and approved.

And IACUC to be properly constituted. So with some institutions, smaller ones, they have paper. You could also fall back on the photocopying and using commercial deliver to get them to IACUC members. Some people are indicating they have hard copy. So, yes, that is certainly one of the downfalls of electronic systems.

Silk: More comments in the chat. Pretty similar. Institutions have back-ups for electronic systems and disaster planning for institution level system back-ups. But you should, you know, ensure that your IACUC has as well. We heard someone say they have an easier time getting a quorum with electronic meetings. And here's another comment saying that people are more forthcoming with their discussion?

So, you know, there are silver linings to everything and one of the things that I want to think about is how can we learn something about the advantages and carry those forward with us. At the NIH, it's hard to park for most everyone and this has an impact on IACUC meetings. Bill, at Michigan, are you seeing changes that are helpful as a result of the pandemic?

Greer: Yes, Zoom has made our meetings full. One of the issues at the Ann Arbor campus is parking. And we've got people scattered all over. So if I don't have an 8:30 meeting -- well, I have a quorum but not as many people as I'd like to have. But we went to Zoom in April and since then, almost everybody shows up. And so it seems that Zoom is something that comes out of this - down the road,

even after the pandemic that the institutions can use. Maybe not solely but at least mix it up. Where folks can see those participating from Zoom and the rest of the folks are around the table in the room. I think that it will be a norm now. That's what I think. We'll see.

Jackson: Absolutely. That is exactly what has happened at my institution. Much more participation. People are on time for the meeting. And I have noticed that some of my members are much more engaged via Zoom than they were in person. That's a whole other conversation for another whole topic. But, you know, were they feeling intimidated inside of the room next to somebody as opposed to just seeing their face on the screen.? So that has really been feeling engaged and more comfortable. Previously, I had disengaged so-called IACUC members that now, with the pandemic, really wanted to know what was going on - on campus. So they now are really being engaged. And they have something to say. Which is which is a good thing overall because you want all members on your IACUC to be equally engaged.

Barbee: I see a comment from a participant. With a Zoom meeting, people that normally can't travel or are unable to get to the site, can just pop on and off. Could pop on and do what they needed to do and then jump off. People who had passed their notes on to the other reviewer and pass on in writing and some things may not get communicated adequately or there wasn't an opportunity for back and forth. They can come on and say, hey, let me know when my protocol is up. And they come on and do the business they need to do and then jump off. Sometimes that makes your quorum requirements and dealing with alternates coming on and off a little bit more difficult, but, when I was chair, my attitude was that I take the members however I can get them. [laughter] If it's 10 minutes to produce this -- present your protocol and then you have to leave, that's great. That's better than not showing up at all.

Participant: If you're talking about benefits, not necessarily in terms of the meeting themselves, but I am an IACUC administrator - so I help the PIs with their protocols. Using Zoom in our electronic system has been a huge help for compliance and for understanding, because I can just pop on whatever platform I'm using and be able to interact with them one-on-one and we can discuss the protocol. And if they don't understand a question, I can put them on hold for a minute and call up the reviewer and ask for clarification. The turnaround time - and the and the level of service that I can provide to the PIs - there's a benefit to using the teleconferencing as a way to increase compliance, increase understanding and, since we're all sort of isolated, it's a great way to stay connected.

Na: Having communication with your PIs is good with Zoom.

Participant: I don't know if I should raise my hand or click a button. That's what I'm dealing with in meetings right now with Zoom. I'm at a really small institution and we've actually become much more efficient. We used to use full committee review and we now use DMR. And the committee members are getting a look at the administrator side because they have more work to do on that point. So it's been kind of interesting to watch them to take the reins. I don't enjoy it a whole lot because I'm watching them and trying to make sure they don't do go off the rails too much. But yes, it's been interesting.

Na: Absolutely. And we have a participant indicating that they developed Zoom instructions for meetings. And then established a plan for how to vote - using the vote options. And another comment from - participation is way up. Perfect attendance. Members can join meetings wherever they are. And, yeah, it definitely has caused us to have some new ways about doing things and trying out new things and having individuals to become more comfortable with technology.

And she indicates also that there's IACUC regulatory training to new hires virtually. And also she said that promotes more engagement with new hires as well. And they have is more virtual meetings and trainings with investigators for reviewing IACUC expectations and changes in processes. So, yeah, improve communication due to the availability and platform available.

Participant: I, too, come from a small university where we don't even have an electronic submission system and we have had the hard copy files that this -- this pandemic has helped us finally to go paperless. Where a lot of our members were very hesitant to get protocols to review digitally. Now that is just the way that it is. When you're forced to do something like that because of a circumstance it helps people to move to a different level which I think that will save us a lot of money and time in the end.

Silk: There have been lots of positives to going virtual.

[five minute recess]

Stokes: So the area that we tasked Bill to lead up questions and discussions was ensuring personal safety, access, well-being, communications, coordination with outside authorities and the institutional authorities. He has some experience in those areas. And so, Bill, I'll turn it over to you.

Greer: I'm just going get started. And see what you guys have to offer. One of the things that I will say is that we're all from different states. Some of the safety or protection measures were as a result of our governors or government agencies. I don't know if you followed the media, but if you do, you saw that Michigan Governor Whitmer was one of the most aggressive governors with shutdowns and restrictions. So one of the things that we really had to think about as we planned for personnel protection, social distancing, and issues like that was the mandate.

So it didn't really matter what we thought that was appropriate at our institution. We were driven a little further with some of the mandates. We literally met with our governor and our representatives from our governor and tried to get researchers identified as critical personnel so we could get them in the labs and keep them working. That didn't fly. She wouldn't allow us to do that.

We are a medical school, so we were able to keep the clinics running and some of the clinical research going and some of the COVID research going. So with that caveat, I don't know if you want to talk about the impacts that your government agencies had on your institutions and whether or not they had any significant impact on what you could and couldn't do. You know, did they really change your plans or not?

Let's just see what others are saying. Because that's not something that we have control over. And as you know, it looks like we're going to get another COVID peak. It's starting to creep up again. Our VP for Research reminded us yesterday that in Michigan we got the prize for having the most cases of COVID in the country yesterday. And I don't know who had that today. And so why don't you weigh in and what kind of impact did the government agencies have at your institutions and what things just went into place because you were mandated to do it.

Participant: I know at the county level that we're basically still shelter-in-place with the University, and non-essential personnel are not ready to go, so I'm happily working at home since mid-March.

Greer: Yeah, I think that was one of the first things that came up was the fact that if you weren't considered critical personnel, that you had to work from home. And that kind of sets the stage for what we did with the University of Michigan. Let's talk a little bit about your plans in your vivarium.

We have a significant number of animal care technicians that come in on a daily basis. And we had two things to worry about with the animal care technicians. One was to make sure that we didn't spread COVID rampantly among them - if we would get one case. And then the other thing was the animals that we had to take care of.

So one of the things that we did was to split our shifts. We split our husbandry staff into two groups. So we would have one come in and work for 10 days straight or 14 days straight, to make sure that we could take care of our animals and then they would go off on a quarantine period, while the other team would come in place. And the idea there was obviously that we wanted to make sure that we didn't get a scenario where we had to quarantine the entire group and, thus, not be able to take care of our animals. Any of you guys do anything unique in your vivarium to make sure that you had people to work if you had a breakout of COVID in your husbandry team?

Participant: We also had shifts with some of our caretakers. But then we had documented in one of our meeting minutes that the care staff could pull in researchers to help to support if they did that.
Participant: We had a brief period where we had a lot of people come down with COVID and they paused non-essential things like, surgery training, which they just -- we still did it, we just had to put it on hold for a couple weeks while everybody -- while we got all of our staff back online.

Participant: Did you get pushback from staff, Bill, that the University was controlling all of their time with 14 on and 14 off?

Greer: We did not. No pushback at all. People appreciated the fact that we were trying to ensure their health and well-being. All of this happened in concert with ramping down. So, focusing on the husbandry team, we wanted to get their shifts in place so that we could do what we needed to do. We took a departure from the *Guide* from the IACUC about this because it resulted in some times where we couldn't change the cages on a regular basis. We were watching them and making sure that they were dry and making sure that the things that were needed to ensure animal well-being were occurring. So we knew which, for example, animals were diabetic and their cages were wetter than others. So the staff would think about what they needed to do so they could cover everything. And

we were able to do it without really cutting our animal population more than what the PI wanted to cut them.

When the order came to work remotely and researchers couldn't do lab work anymore, we told them that they could decide which animals they wanted to house and wanted to maintain with the idea that if we ever had a problem with husbandry staff, i.e., COVID, that we may have to have them cut their numbers back even more. There was a natural desire to take the animals down to about 80%, which occurred. Simply because the PIs weren't breeding. We didn't have to euthanize really any animals due to the pandemic. It was choice. We were able to care for them and it was up to the PI. The PIs used a couple of logical explanations. One, some of these animals were already on research and because the governor expectation, they couldn't come in and finish a project. If we could with the veterinarians helped and we did things like that, but some of those animals had to be euthanized simply because they were mid-stream. And the other thing they did was just stop breeding and stop producing. We immediately stopped ordering animals and this all goes back to, again, the whole idea of maintaining that safe environment for the husbandry team.

There's a lot of chat coming in, Susan, I can't keep ahead of it. So I don't know if there's particular questions. But, please, feel free to jump in and let us know what's going on in your institutions. I will give you one more tidbit for the vivarium. One of the things that we also did is to promote six-foot distancing, we required maintaining a population density of one person per 144-square-feet. Which means that you could barely get two people into an animal room. So we also had to juggle that. And times when we could put two caretakers in a room and do a cage change and a turnover quickly, that soon slowed things down.

So, it decreased our ability to be efficient. So these are the impacts that occurred from safety measures. Why don't you weigh in and tell us about your vivarium and the things that you did to protect your husbandry team. And your veterinary team and your vet techs. We're working remotely and have few researchers in your facility unless they're doing what a participant suggested, which is to come in and to participate in the animal care.

Silk: Let me summarize some of the comments coming in. And what I see throughout the comments is concern and a generosity of spirit for the animals and the research. This does not surprise me. This is the kind of community that we have where we do take care of each other. There's mention of administrative pay for people that can't come in. People that are mentioning cooperation and the way that they addressed the specifics at their institution in a way that benefited the animals and the people. These are terrific. And I know that you guys are all reading them too.

Participant: Bill, I had a question. I don't think that you're unionized but for those people that are, how was that handled dealing with the union and what the union would require?

Greer: We had some union staff that we had to juggle. I am sure that there's others that have more union staff than we do. Good question, participant. What did you guys do or did you even deviate from your shift work or schedules for employees?

Participant: We're doing communication via chat. So kind of follow the chat and see if there's a lot of comments and a lot of points and we limited the number of researchers -- the university mandated COVID safety training.

Participant: We did the same thing. We also gave some administrative days related to COVID. So we were paying people.

And we had laboratories donating PPE to the folks in the vivarium, and we needed PPE in the hospital, so we had to juggle to make sure that there was enough PPE In the clinics. So it ended up being a process where we donated PPE from our animal facilities and ended up getting some back from researchers. At the end of day, we didn't have an issue with PPE. And we got close, but in all cases, people were protected.

We had an interesting question come up the other day when we were talking about this. Did anyone turn to - I don't want to say generic - PPE. Because it works well, but someone had a great idea that they were using, for example, the gloves that folks used to wash dishes and picking them up in supermarkets and things like that. Maybe some sort of aprons. You know, some of the masks, where cloth handkerchiefs or anything that would help to protect folks a little better than nothing at all.

Greer: Any other ideas? We may have to live this again. We had our fingers crossed and hoped not. What did we learn through the ramp down? And we're still only ramped up 60%. So we're not back to full capacity. But, you know, what did we learn -- that if we had to go through another ramp down, any changes? What do we get?

Participant: The reason I asked the union question is because I wanted to know if you had to go back to the bargaining table. Was there re-bargaining that needed to go on? And should that be built into your contingency plan going forward about coming back to the bargaining table.

Stokes: I think that one of the things that those that have unions should consider is making sure that there's a union person that reviews the contingency disaster plan. And signs off on it. So that there's agreement upfront with regard to changes in scheduling, hours per day. A lot of folks went to longer hours per day. And then fewer, you know, especially where they had two teams where people might go to 12 hours a day for six days and six days on or off or longer as Bill explained.

There were a couple of comments from other participants. They provided letters to staff. Essential staff. So they could get on campus. I guess that in some situations where you've got a perimeter security on a campus or parking area is that you need to have that to be able to be able to get in during these clampdowns.

Greer: That's a good point. Best practice.

Stokes: I was going to just say, Bill, that was one of the things that I was thinking that folks would bring up for the state regulations. So if you end up with your state having a state of emergency and they shut down your highways, what do you guys do to get your husbandry staff in the facility? Did

you give them a letter or was there no concern? I know that some cases where some folks were pulled over when they were coming into the office and had to explain what their job was. And I've not heard anyone say they got arrested. They were always allowed to go in. But, a point that you just highlighted, Bill, that would make things a lot easier. It would be a document that you could provide to state police, campus police or whomever that may question your reason for being out and about.

Participant: With that comment, it wasn't just to get on to the campus. Those letters were written such that they didn't say dear policeman -- but we were told if you were driving to make sure that it was in your glove box at all times and if you had to take public transportation, to have it on yourself at all times. So if that you were questioned it explained with the official government letterhead on it because I'm at NIH, it was a very official letter saying that you were essential and needed to be on the road. We had those for level red zone when they go national emergency type things. So animal care staff have had that at various times with our disaster plans such that if there's a shutdown on the roads, at least the animal care staff do have to be allowed to come to work.

I haven't heard of anybody actually being stopped. We all carried them and then kind of all forgot about them.

Greer: Who writes them from your institution? Is it just somebody in a higher level position or something that you have to get through…

Participant: It's signed by the I.O. And it's discussed with the local police forces.

Barbee: Perfect. So that connection is there. And it never hurts when you write those letters to have a bit of forethought to who is going to be reading them. So if you mention that you're a biomedical research center that does trauma research and treats people with accidents and that kind of thing, the highway patrol is likely to take a look upon those with a little bit more fairness than they might otherwise.

Participant: Not to change conversations too much but it's kind of related. Our care staff had the ability to get to campus but our institution chose to not get a waiver for inspections and so I still have a need to go to campus for inspections and compliance visits. It came up that all of the facilities are locked and I didn't have access to the facilities. I scrambled to figure out how to do that. So I have not been stopped in the terms of having a letter to show that I should be there. But I had additional hoops to jump through to try to get into the facilities themselves to meet with PIs that I otherwise could have walked in to do. So that's an interesting challenge.

Na: That's when the flexibility that OLAW was talking about, about the video conferencing and videoing those areas that you needed to see with the PIs. That may be another way that you could have gotten around getting that done. Without having to jump through extra hoops.

Participant: Yeah, I agree. I think that I'm the boots on the ground. And so I think that the decision was made to do it anyway. And so I had to figure out a way to do it and video was not the preferred mechanism. But we had those discussions, especially with looking at controlled substances and

whether you need to stay in the room and how to keep the social distancing. We were able to work it out. But, yeah, we had similar discussions for that. How can we do this in a different way?

Participant: We had a waiver for the spring inspections, but we just did our fall inspections. We had one foot-soldier who went around zooming the inspection to everybody else. And I was always on all of the Zooms taking the notes and we had the other committee members joined and it worked really well. And, you know, talking with the P.I.s where the person was going to meet them, if they had to come to the door, etc. Other than Wi-Fi issues and making sure that she had battery back-ups for the phones, it was definitely very doable.

Participant: It's interesting that you say that because I participated in some Facetime inspections of USDA facilities to have two people there. And I felt - as the person on the other side of the phone - that I couldn't see enough to consider it need to be an active participant in the inspection. Did you find that there were issues with those?

Participant: Well, our foot soldier was a former animal care tech. So she kind of knew what to look for. We'd talk and - okay, go check the expiration on the machine. So she was careful and good about that. I believe that another participant will back me up but for USDA you have to have two members doing inspections but they don't have to be doing the same inspections. For the USDA species.

Participant: Correct. For us it was a bit of facility access which is why I did it via Facetime but that would have been the alternative for that.

Participant: We did it all in a week and it was a lot of inspections and it did take longer when she was Zooming because we'd ask questions and stuff back and forth.

McKinnie: I was going to say yes. To IACUC members, they don't have to be together, so if one goes left and the other one goes right, as long as each one has the opportunity to inspect, if they want to. Or each team has the opportunity.

Participants: We have contracts for a satellite facility. We found veterinarians in that area that the satellite facility was in and did a Zoom call with an IACUC member.

Silk: Here's a question from another participant. I'm wondering about a larger issue of the level of detail in these emergency disaster plans. Given the variety of disasters that might occur. Some of what we are talking about is that it should be in a SOP rather than a policy and the institutions that have a separate policy versus a plan and a SOP with details.

Participant: Our institution has chosen not to -- I'm fighting this battle -- but we chose to not update the disaster plan because they argue that they and can live elsewhere and so we are trying to get the best way to put that in place.

Greer: Yeah, I think that one of the things that we'll start thinking about is - how did this pandemic affect our documents? I mean, a lot of people just put pandemic as one of the for examples. For example, tornadoes and hurricanes and fires and now pandemics. So now we're learning what pandemics can bring upon us, especially going this long.

So it's to your point, where some of the stuff that you want to get in that document, but you want it to be nimble enough to have it available and out to everybody. So, I don't know.

Participant: Bill -- or -- Susan, I submitted that question that you read to the group. And so what I found -- because at our semi annual, we decided to re-do our disaster plan that needed to be looked at. We had a IACUC sub-committee working with the AV. And the vets to look at it, to see, you know, because a lot of it fell to our AV, in terms of doing in the heat of the moment. And, of course, we found that it was very outdated. And we have a plan now that is coming to the IACUC meeting next week for their review and approval.

But what one of the things that we found was that it went from about five-pages to now it's at least a 25-page document. With whom does that get shared? I mean, do we send that out to all of our PIs? Do we post it on our website? There's some stuff that we wouldn't necessarily want on the public website. So even if we put it on a closed page, there's so many different disasters that can happen from us in our city – between the earthquakes to the, wildfires and electrical cutoffs, you know the shutdowns by PG&E to pandemics that are affecting the staff more directly rather than the animals. It's just how much detail is in it that somebody is going to get this document and go, oh, goodness, I can't read all of this.

Silk: I think that is part of what I hoped this conversation could help us start to think about – maybe Jane maybe wants to weigh in on this, but I don't know that everything has to be in the disaster plan. My objective is that we don't lose things that we've learned that we can use later. And so where it's documented, Bill Stokes and Bill Greer, does it matter where it's documented as long as it's available later? And somehow there's a lot of work involved in distilling this down to what's essential. But Bill and did a terrific webinar last week about this through IACUC Administrators Association Best Practice Meeting. And what that group came up with was that it's important to be nimble. And it's important to communicate. And to that end, it's important not to lose what you've learned and have to reinvent that wheel.

Greer: That was the direction that I was going to go in, Susan. I mean, we were all forced to ramp down pretty much. And now, we're all going through, or have gone through a ramp up. That's where the nimbleness comes into play and where the procedures came in for us. And, you know, we learned a lot of lessons and we're still learning.

And the question isn't whether to document. The answer is, yes. It is when are we going to document? And I will tell you as we ramped up, our attending veterinarian and myself met with the IO weekly and we came up with things that were logical as far as the ramp-up phase.

We were only going to allow a percent of researchers on campus during a given period. And that was going to be driven by a requirement one person per 144-square-feet of lab space. We identified shifts. We actually had PIs that would work from 8:00 to 5:00, 5:00 to 7:00. I'm making these times up as an example. They'd come in when their time was assigned. And we created an app that you had to log into every day. You have to enter your temperature and let people know that you were going to be on campus. And where. When we first started opening up the buildings, we actually had people at the doors and you had to go through a screening process. They checked your temperature. Your name had to be on the list. You had to have a duty in that building. All kinds of things that really worked well for us. We do want to memorialize that in a document somewhere so that if we were ever have to relive this that we would know what we've done. We hope that we don't have to do it again. I mean, we had a meeting yesterday and because of the more instances of COVID that are showing up in Michigan, and we said, are we going to have to do this again. We hope not. But we do have PIs saying that we're working at 60%, now let's go to 80%. And we're saying, no, we're going to stay at 60% for now and we hope that we don't have to go back to 30%. So I think that nimbleness that Susan was talking about is critical. And meeting with those in positions to make some institutional decisions.

And hold people accountable. Personally, we had a few people that didn't follow the rules and individually, their lab was shut down. And she had no problem as the VP of Research saying, "We asked to you do this, you had an option to do it, you chose not to and so now you will wait. And we'll let you know when you can ramp up and be in your lab again." So it really takes hard-nosed decisions and enforcement of those decisions. And in this particular case, you know, it was done directly by the IO and through IO, and with the IACUC's involvement and support. So that was pretty much our ramp-up and that's how it worked for us

And those are the things Susan and all of us, that we want to document and remember because if we ever have to do it again, that was our experiences and the knowledge that we came out with.

Susan: I was in the back office of the Director of NCI during Rita and Katrina. I spent a lot of time and effort documenting what we did. Because here we suddenly were with patients that had no hospitals. People in clinical trials that had no hospitals. And doctors that couldn't find their patients who were scattered all over the country, especially into Texas. And they were on investigational compounds. We had to change laws to get those drugs available to people. Those investigational compounds were unlicensed. They were, of course, manufactured according to GLP, but not abundantly available.

I don't have my boots on the ground anymore. But you guys all do. And it's really important for you to think about the problems that you solved that -- that as this recedes, we hope into the past, that those ideas are going to leave you. And, take it from us, you're not going to be there forever. So you've got to get this cultural information documented to the younger ones that are behind you. We've got to reach out and help them.

Stokes: Yes, I think that it is really important to document what you did. And that document may be referred to in your disaster/contingency plan, but it may not be, a scripted part of it. But it could be

referred to. And, you know, your plan may say that, as you began anticipating some like a pandemic, which we had some heads up that it was coming, then you would start putting together a team that is going to make the decisions. But they would be able to refer to those documents where there would be a menu of lessons learned and best practices for different emergencies and disasters that could be tapped into. It's that institutional memory that needs to be incorporated somewhere as an appendix to a plan. Every situation is going to be unique and you'll have a team that makes decisions. But if they can refer to some of the pre-scripted procedures that have worked well in the past, it makes it easier for them to simply to implement them and to choose from them.

Participant: I'll add that the SOPs can be useful when you are doing something with a lot of detail over and over again that doesn't need to be basically written down in a whole policy. I'll give you an example. We're asking individual PIs that need to exceed certain -- it when they ramp up on their individual labs to file an exception, but for that observation, and training, where we're developing an SOP. They'll allow up to three people and certain circumstances up to three hours and we got in the additional cleaning and the additional PPE. So that's being turned into an SOP to decrease the regulatory burden and so that we don't have to inspect a thousand -- a hundred different labs. We can just apply that.

Silk: I went somewhere the other day that you had to hold your face in front of a box that took your temperature. And they told me my temperature was 91 degrees. Therefore, I was fine and I was admitted. Can you even be alive and have a temperature of 91? This was somebody with a dumb SOP who did not realize their thermometer wasn't accurate. I went to the doctor recently and when I entered the waiting room they documented all kinds of stuff about me. When I left, the woman was gone. And I said aren't you still documenting all of that stuff? And they said we don't do that during lunchtime. So what the heck is going on? People are not using their brains and they're following crazy rules. If that was important at 10:00, why were they not doing it at noon? They were still admitting people and still had a full waiting room.

Greer: We had the same thing, Susan. We were doing inspections and I have a staff member that gets migraine headaches and she frequently will get a slight fever with her chronic condition. And so she was trying to go in and to help to facilitate an inspection and she was coming into a headache session or off of one. But they detected a slight fever at the door and they sent her home and put her on a 14-day quarantine though she explained that it is related to her condition. So I think that we're all dealing with some of that too. And, I mean, I guess that we're doing the best we can. But you are right.

Silk: We ARE all doing the best we can. And I will say that I didn't make a scene in either of those places. But maybe when we document our procedures and have time to think, we could improve the procedures. Minimize what has come to be known as hygiene theater and focus on effective procedures.

Greer: There was a comment in the chat box that the devil is in the details. And this is where tabletop exercises can show shortcomings in the details. And I would be interested in hearing from

individuals if they have exercises in their facilities and programs to try to test out their plans, what their experience has been.

Participant: For our animal issues response team, we've done a couple tabletop exercises, but nothing for testing our disaster plan. And I think that would be very valuable for our institutions. While I was the attending veterinarian and in other positions at a university, we did a tabletop exercise using the incident command system which I encourage everyone to become familiar with and to get some sort of training on.

But in that particular system, this was not related to COVID, this was just an emergency plan, for example, like a shooter on campus or a terrorist that might blow something up. And they had invited people from all over the country. And we had a special government grant in order to do this.

And when they went ahead to do the tabletop exercise, one of the things they found out immediately is that the particular building they chose to be the headquarters had no ability to communicate to anybody outside because of the lack of ability for radio signals to penetrate either into the building or out of the building. So the whole exercise failed as a result of one oversight by somebody trying to look at communications. So, again, the devil is in the details. Tabletop exercises are very, very valuable for pointing that out. You can learn a lot of lessons from those exercises.

Greer: It's a good point, participant. Another tidbit of information - to the point of being nimble – when you move animals to a particular location or to use a facility that is designated for animals. And all of a sudden, your research hospital says, guess what, we will take this as a COVID area and they bring patients in and you don't get to use it anymore. So you have to find a place for your animals. We did an IACUC Administrators Best Practice Meeting years ago and one of the folks from Louisiana was talking about one of the hurricanes they lived through and they had to move the animals north to a facility out of the hurricane zone.

When they got there, the National Guard was there and they had taken the facility to shelter people. They had all of these animals in cars, trying to preserve strains and things like that, and when they got there, no place to put them. So, again, being nimble with your disaster plan and trying to think of every possibility is critical because you never know what a disaster is going to bring to you next.

Stokes: Well, that's sage advice, Bill. And I want to thank you for leading this discussion. It's been very informative. We're going to move on now to talking about ensuring animal care and welfare in your …

Greer: Really quick, Bill, before you do, I want to thank everybody and I'm going to hop off and get ready for my next webinar. So I thank you all and I look forward to seeing you again. So take care.

Stokes: Thank you, Bill. Tanise is going to lead us off on some of the things that we need to worry about in animal care. How do you handle changes in available staffing? How do you ensure the animal health and well-being and husbandry during these crises, particularly when you don't have enough people to take care of everything? So Tanise, I will turn it over to you.

Jackson: Thanks, Bill. And we have talked about issues that I had planned to bring forth. And it seems like this group is really on the right track of things that I was thinking that we needed to discuss. We've already talked about alternating the husbandry staff. And about using maybe less cages. And we looked at departures, if we were able to change animals a little bit less. When we think about it, and in some of that, we talked a bit about this, about reducing burden. You know, are we doing cage changes too often?

I noticed that I found some burning issues in my institution where I was changing a little bit too often and now I know that I can reduce and still be within the guidelines. And we want to make sure that when you make those changes that you do add that to the IACUC to approve those changes and you don't want to miss that step. Since the IACUC are still meeting, those are changes that we can have brought to the group via Zoom.

We have also talked about how maybe we can transfer animals to other buildings and Bill just gave a great example about that. You know, make sure that you write where those animals can go and even put in some alternate locations because during a pandemic, certain areas are cut off, especially this happens in hurricanes, just like Bill mentioned. And certain areas that are normally available now become not available during a hurricane for sure. Because everybody is scrambling to move out of the path of the storm. We've also talked about cryopreservation and which to identify as essential strains and who needs to go first and make sure that you talk to the researchers. We have used this to really use our Zoom meetings as a good way to engage with our researchers. Because it's easy for them to pop into an IACUC meeting, especially if there's a question about one of their protocols.

It's really easy to have them pop into the IACUC meeting via Zoom so there's always great things happening with virtual communications. We've already talked about MOUs and how many have MOUs with other institutions when it came to the pandemic.

And like I said, you probably had it in your disaster plan, but we need to talk a little bit about how we can expand it, just a little bit, to encompass more things.

One thing that we actually haven't talked about related to the decrease in the staffing, but have you trained up other people in your area. So that's a question that I wanted to ask. How deep is your training? At my institution, we have our animal care technicians, but we went back and trained students and other people. So how deep have you taken your training level so that if you have certain individuals that are quarantined, that you have somebody else that can step right in.

You can unmute and answer that question. Or you can put your answers in the chat. Are we just really tired and don't want to talk to me? I don't know? I'll just provide an example. If you're a facility that has a wide range of species, including, hoof stock and non-human primates. Say you have two non-human primate technicians, and they cover each other for holidays and vacations and weekends. What's the chances that both of those people, during a pandemic, could get sick or have to go into mandatory quarantine because of an exposure. Are you prepared to take care of those non-human primates? So you may have other husbandry staff, but have they been TB tested? Have

they had measles? And do they know how to use the PPE that is required? And do you have written procedures they can look at to see how often you need to change those cages, sanitize them? Feeding? You would like to maintain enrichment for those animals. So are all those procedures written down and readily available for folks who don't normally do that task. And if folks have put together plans that address some of those things, we certainly would like to hear from you and to hear if you had to implement those.

Participant: In my quietness, you said four things in a row that I had not thought of that I thought that were really practical, extremely useful and I was busy writing them down. So, don't think that silence is necessarily a disinterest equivalency.

Jackson: Thank you, participant.

Barbee: I'll just add that we had about 30 members from various research teams volunteer to do rodent husbandry. That was great. And just for those particular tasks.

Jackson: Oh, that was a big help. I think that participant, you were trying to say something?

Participant: It's really interesting because we are such a small institution, and a very small animal program. But your point, Bill, when the technicians may or may not be pulled away, our PIs are so very involved and will step up and go into their animal rooms and take care of their animals. So, you know, we don't have a lot of the students that come in and do it. They do rotate through and I work with these students and we don't have any dedicated animal care tech staff which is surprising and something new for me. But our PIs will go in and step in. When the pandemic first started and we were all sent home, a couple of our PIs would go in and their students would go in they would take care of their animals.

Participant: We're like you guys, we're very small. We have a small animal program. But when COVID-19 hit, and right before spring break, we were all closed down for two weeks. Our Director of Animal Facilities that was doing everything and all of her students were sent home and they didn't want them back for their safety. So the PIs did go in and take care of the animals. We did reduce the amount of animals and stopped any breeding and just concentrated on husbandry during that time. And basically, we talked to them about -- until COVID is over, not to start any new programs, any new colonies, or species. So that we're kind of looking at this. But I'm writing down cross-training, cross-training, because if this happens again, with the spike that we're getting, we need to make sure that we have non-student personnel that can step in on these different animal husbandry protocols.

Participant: You are right. Like I said, small rodent colony, and they took down the breeding, so that was good. They have a large aquatics program, and they do a lot of actually bird -- aviary research here so I'm making notes about cross training and seeing where we can go with this. Because now they're looking at things. You know, here in my state, I have been back in the office for a couple of months now, but my office is so removed from everyone, and they have students that are, in class and virtual. I still rarely see anyone. I'm kind of blessed that way. But we're waiting -- we're waiting

for the next surge to see and when our university says to go home, I'll troop up the hill to my little house and that will be fine.

Jackson: We have great comments in the chat. Someone put in the chat that they developed a binder for the training. But sometimes you may need to add a visual picture there. Because maybe how a caretaker would explain - or how it is explained - how you were changing the cages, if you had a verbal there and you added a picture to that, that could be extremely helpful, especially for someone who is unfamiliar with doing that particular task and verbiage. Like we started at the beginning and used acronyms and no one knew exactly what we were talking about. So it is important to add that maybe you want to add a visual picture to help to explain. I mean, because it's critical to the animal. How do you put a rodent cage back on the rack correctly and lock it down, if it's a ventilated cage, that's really important because it's the life-and-death of the animal. If you don't have a picture of that and someone doesn't quite understand how you describe that, it could be really be important. So when we think about creating these SOPs and these procedures, make sure that you add that extra little nuance to make sure that everything is extremely clear.

Barbee: Yes, working instructions for all major equipment. Exactly. And those emergency procedures have been developed in the employees and trained and even those new volunteers are trained. There was a question about cage wash versus other tasks. That's something that we decided that - no, it's really more important that only our existing husbandry people skills to be cross-trained because with cage wash, while it may sound like a neat thing to learn, there's all of these chemicals and a lot more risks and a lot of things that can be done wrong. And so we chose our volunteers that would be doing rodent husbandry and would not be cross-training for other people with the cage wash. Just more dangerous, and a lot more legal and safety things to think about.

Silk: PIs, as time goes by, are seeing their careers slip away from them. And, Wayne, you mentioned the urgency for getting back to work. I would guess that ultimately all of the people that are depending on this research for their careers will be volunteering and they'll be in there taking care of those animals. And it seems to me that the job, then, is to make sure they do it well, because if they have the cages flood and they drown all of their animals, this is the expertise that the care staff has that they don't have. But I do think that you will find willing volunteers among those who are trying to publish that research.

Participant: We have had research staff step up. There are a couple research areas at our institution that we ramped down. We did have a big ramp down - so our rodent population is less - so our care staff was able to keep up with it. And our care staff has cross-training in a lot of the different functionality. But we weren't very deep in, and the demand was low so our program decided to shut that down for the time being since we didn't have depth of training for that care staff. And our BSL-3 research has increased in volume, so we actually have brought in researchers, as well as tried to train more care staff for that because we needed to increase the depth as well.

Jackson: Is that BSL-3 COVID-related work?

Participant: Yes. COVID and COVID-related, yes.

Jackson: Thank you for raising that issue, participant, and how you dealt with it. I think that biohazards and chemical hazards and radiation hazards, you know, you need to make sure that the people that are cross-trained know how to handle those safely so that they don't put themselves at risk. We care about the animals and we also care about the people that are taking care of them. Because they're really important. We don't want them to be injured or become victims themselves.

Na: I want to point out one of the documents that I reviewed in preparing for this was some of the guidance at the NIH. Our intermural program recommends having three-deep cross-training for every position in the facility that is considered essential. And, participant, did you want to maybe comment on that? Or do you have experience in making that happen?

Participant: I'm not sure that we actually get three-deep. It is a wonderful goal. And I would say that we do have cross training among care staff and vet techs to enough extent they can switch species. As far as cage wash, most the care staff actually have been promoted from cage wash. Cage wash seems to be the starting job here. And then you move up to be a caretaker. So any of the caretakers could jump back and work cage wash, which is good. One thing that we do have is multiple contract companies that provide labor to the government. And they all agreed that if a facility became too short on staff, but another contractor had some staff that they could spare, that everybody would work together. I thought that was really helpful. They might not know the building they were going into, but they would know the job in another facility and they could pick it up fairly quickly.

That's great to have that arrangement and cooperation, but I don't know about three-deep. I think that getting two-deep is probably all we really achieved. I think that is a neat idea thinking about who you have on your staff who has other skills. Or people that have worked their way through your employment system. Probably are ones who could already, like, pretrain.

Jackson: Absolutely. Though they may have done it before, they may need a bit of re-training, especially if it's been some time and they have not done it for a while, and especially if procedures have changed. So, having those SOPs in place telling exactly what to do and even a visual attached to that is going to be really be crucial. And so I think that we've talked a lot about, you know, expanding what we normally would have in a disaster plan. And I think that we learned a lot just from this pandemic that can be applied to other disasters or other issues that you had in your disaster plan.

There was another comment in the chat, a former facility manager had written instructions for almost all of the equipment that was right next to the equipment, including our emergency power back-up. And so I'm sure that it was extremely helpful for everybody.

One other thing that I need to note is the rules for social distancing and mask wearing that, of course, had to change in my facility because previously, you weren't required to have a mask on just come into the animal facility. Where now that is a requirement. And so looking at we ended up putting signs on the doors for the time period that the animal care staff was in the rooms just as we started to ramp back up, so that we could keep the social distancing in the room. And the researcher wasn't

going to come in and try to do work at that time when normal husbandry staff procedures were going on.

Participant: Yes, Tanise, we went to that - the calendars and the SOPs. - the SOPs are very detailed. So I don't think that we have as many pictures as what you are saying but the pictures really do help. Especially with equipment. And how to run the floor machine. And how to run the cage wash. How to drive the tractor on the farm. [laughter]

That one is really detailed because most of our staff have never been on a tractor and they have to suddenly drive one, it's going to be difficult. But we did find that those things really did help. Your thought about the re-training - veterinarians can become vet techs and vet techs can become caretakers and everybody can step down a level or two if you're really short. But you do need that SOP to say, okay, how are we doing it now. So that you can step in and to do that role. Because the last time that you did that, maybe it was 20 years ago.

Jackson: Absolutely. So I think that kind of concludes the different things that I wanted to kind of discuss. So, Bill, do you want to talk a little bit about supply chain and then we can get close to wrapping up.

Silk: Before you guys move on. There was a question that I'm really puzzled by from a participant. Are we having these issues with wildlife? Well, wildlife don't have care staff. So what are you thinking here?

Participant: Well, our institution has a lot of wildlife research. We do a lot of teaching, fish research, trapping. And there's a lot of student organizations as well. So we're having issues with whether or not that research can happen and how it can happen using socially distanced tactics. Also there's a level of enforcement - with students that they don't always like to follow the rules with regard to masks. And then there's faculty researchers that are sometimes having to step down. We have one protocol that is up for renewal for herpetology and she doesn't have the time anymore because of COVID. So we're just -- I'm just curious if there are other wildlife research. If there's other campuses experiencing issues?

Participant: I came from a marine lab and while I'm not there now, I'm sure that having social distancing on a boat with paper masks, it proves an issue when you're going out to collect live samples and bring them back to the lab to do your research would be challenging. I know that I have a friend that works for NOAA and they're struggling to figure out how to go out on the research cruises to get their data and to collect their samples, because of the issues of COVID. Because how are you going to quarantine 16 people that live on a boat for two months?

Or they're not going to all get sick on the boat when they're out. So I understand. And then I can see where in some situations where you might be outdoors in a field research lab but if you bring those specimens back as live animals, then you're dealing with an IACUC issue and when you're not actually observing them but actually manipulating them out in the field, I could see where it's a huge

challenge to catch a fish and to do a surgery on them, and use social distancing techniques at the same time.

Participant: We're having similar issues, somewhat similar, field researcher issues with social distancing. We were not allowed to have more than one person per vehicle. You don't want one person in the field, so you have to have two people to go out to a field site. And do you bring the animals back or work with them out there? And just that balance and IACUC just reviewed a protocol where the PI was trying to justify transporting the animals multiple times because of the social distancing requirements and just the struggle of justifying something that they wouldn't otherwise approve because of the pandemic and social distancing. We did a lot of collaboration with the state agencies. So we still had ongoing work. But how the work has been done has changed. And there's been some struggles there.

Participant: We are not regulated under USDA or OLAW and so there's been some flexibility, but our emergency operations committee has put a halt to a lot of research. Just for safety sake.

Silk: well, Bill, I think that we'll put this on our list for topics to consider possibly under another webinar. What do you think?

Stokes: I think so. I think that there's a lot of unique challenges to field studies and working with fish and wildlife, particularly where they're brought into the lab for certain periods of time. And have to be maintained. And then perhaps re-released. But there's unique hazards associated with many of those species.

I did want to talk a little bit about logistics. You know, those of you that order things on Amazon, you probably notice that COVID had an influence on how often you got those. If you're an Amazon Prime member and used to getting them the next day or the same day, it stopped happening uniformly.

And so the whole logistics chain was affected by COVID. And, obviously, this affected the ability of animal research facilities to obtain critical supplies. And this is something that you you really need to account for and include in your disaster plan is how you're going to assure that you have enough supplies to care for the animals. This includes all of the different types of food, all of the different types of bedding. Veterinary supplies and anesthesia agents and euthanasia agents and you have rodents and using CO_2 euthanasia. So there can be a lot of problems that occur.

Some of the things, best practices that we have heard about, is having at least a month's supply. If you are in a hurricane-vulnerable area, you probably want to have that much, at least, available. You may even want to stockpile more. And then, to be prepared for disruptions. If you have ongoing critical studies, you need to be able to make sure that you've got anesthetic agents needed for those studies so they can be completed, particularly if you start new studies during this time.

Participant: Are all of these supplies and reagents available to ensure that the protocol can be carried out as it's approved by the committee. Question -- I would ask if that -- the logistical problem of keeping up your use dates on all of those products and having to move all of that stuff through your

system -- because you couldn't possibly stockpile and keep it because it would go out of date. I'm thinking that is a big logistical storage issue for an institution. I would think -- at least it would take some -- I'm not saying that you shouldn't, I was just thinking about the big bags of stuff and the million vials of medications and how you move that stuff through and keeping it fresh.

Stokes: That's a really good point, participant. A friend of mine works for an organization that had a warehouse full of n95 masks. Probably six months to a year's supply. But it had been there for 10 years.

Participant: Some stuff, obviously, doesn't have an expiration date and I am thinking about expiration dates on things and checking that as, wow, that adds a huge -- to me a huge piece to the dimension of keeping things. You need to be aware of expiration dates and to have a plan for rotating stock. So that it doesn't age out and deteriorate. And in that case when they went to use the masks, all of the rubber bands that hold it on your head just fell apart. Then you have the question of appropriate storage. It probably should have been cold storage and probably wasn't.

Stokes: That's exactly right. So the logistics didn't include appropriate storage. Another key part of that would be to have arrangements with other institutions if you run out of something because you have ordered it and it can't get there because of supply chain issues that you could borrow supplies and have some kind of a memorandum of understanding or a memorandum of agreement for that. But I'd be interested in how people have dealt with the logistics issues and challenges that you have faced in that area. Do you have things to share on that?

Jackson: Bill, there's a comment in the chat that says that we have enhanced our VVC policy to allow for faster changes to the protocols for substances that have been known to be hard to find over last few months. So that's another way of how we were reducing the burden.

Stokes: That's a great suggestion. For those of you that have VVC, that does streamline the process for changing some of the agents that are being used. If you've got SOPs in place for those, particularly euthanasia agents, and procedures, and those of you that don't have VVC, you might want to consider incorporating that into your programs. Because it does provide a lot of flexibility and reduces the burden. Thank you for pointing that out, Tanise, and thank you, participant, for that. Anybody else face logistic issues since the pandemic started?

Participant: I think that it was mostly lacking things. Which is different than stockpiling and managing things.

Participant: I have a question. Has anybody experienced issues with budget cuts at their institution? IACUC has been hit really hard with us because we had to take a base cut because of COVID. And we're going to have to take another cut. So we almost lost our IACUC chair because she's technically a staff person. And IACUC had to fight with the deans to get to keep her just for a little bit longer so they can find a chair because we're having such huge budget issues. So I guess that I was wondering what other solutions or if anybody else has been experiencing that as well?

Silk: Before we go off on that direction, I wanted to go back to the supply issue and ask Bill, can you buy food at a pet store and can you use grocery store rubber gloves?

Stokes: Well, you know, that is interesting. It seems like there's been plenty of pet food available. I think that the issue comes down, if it was truly an emergency and you had canines in your facility, certainly, you could get by with buying a similar diet that is available at pet store. For some of the other species or some studies you would need to consider the impact of that on the study, particularly if you have been using a certified diet or something where it's important to know that there are not certain contaminants, either microbial or chemical contaminants in the diet. But that certainly is an option for obtaining diets and perhaps even bedding. A lot of the times if you still have the ability to sterilize bedding that is procured from the feed store or the pet store, that could be a viable alternative. You have to be cognizant of the potential adverse effects on the studies that are being conducted. That's a good back-up source.

Stokes: Christina said that she's in Canada and their biggest concern was around border delays for shipments coming in. And luckily their food and bedding supplier stocked up their Canadian warehouse early on and was able to continue service with only intermittent delays on items. So that's true. Things that have to cross borders, that can certainly get backed up during some of these crises.

Silk: I interrupted a participant, so I'll try to make it up to her by addressing her question. Which is to say that this doesn't apply to you, but it does apply to most institutions, in that the presence of an IACUC is federally mandated. So, you know, OLAW has the power of the purse, as we say. And USDA has the power of law. And both of those federal entities require that the institution have an IACUC. So staffing cuts is an important issue but in a USDA regulated or PHS Assured institution, it's unlikely that the administration would jeopardize their funding or the possibility of getting cited by USDA by cutting the IACUC chair out of the program.

Participant: I want to add to that for the participant that we had similar issues with funding. And, one time they wanted our director of animal facilities to just work nine months and not work during the summer to save some money. And a lot of times, you know, the departments made decisions without knowing the regulations and what research is doing. So we would always have to go back to our IO to address it and to let them know that due to federal regulations, we need to keep those positions full time. That always was the case and we never had an issue once departments realized that. And so we would just have to keep going back there. And explaining.

Participant: Yes, the administration has indicated that funding would be available for next fiscal year, but they didn't have anything to finish out the rest of this year.

Participant: I think this we've had those issues and those pushbacks. But, we would let them know -- and then we would have to show, hey, we've got funded research. We had to keep going back to say, hey, this has to be one of your exceptions and a lot of times those positions making those decisions don't think about all of the areas that it's affecting and so we just have to remind them and to be proactive and, you know, and eventually they get it.

Stokes: I think that we've moved through most of the topics. I would just like to open it up to see if anybody has any concluding comments or questions that they'd like to ask while we're all together.

Participant: I would ask a question. I am not sure if this applies. But I know that some animals do get COVID. I'm wondering if there's any issue that if a worker gets COVID, someone who takes care of the animals, is there anything that has to then be done to check that the animals haven't also had it?

Stokes: We certainly know that there are several animal species that are capable of picking it up. Particularly, dogs have tested positive. And felines are susceptible and have tested positive. Certainly, mink and ferrets are extremely susceptible. So if you did have an employee that tested positive and might have been exposed to some of those susceptible animals, it would be good for the attending veterinarian to be informed so that they could put those animals under quarantine and perhaps do some follow-up testing to confirm that they did or did not have it.

But, you know, putting them under quarantine would be a prudent action to take when it happens. So it really is important for the institution to know if an employee -- if they're out sick, that if they do test COVID positive, that you're informed of that. And that the veterinary staff is informed of that. Good question. Thank you.

Participant: The National Science Foundation -- was it four years ago -- had written up about resiliency planning. And they had advised that there should be a person in charge of all of that. And they wrote up a whole protocol. (https://www.researchamerica.org/news-events/newsletter/safeguarding-biomedical-research-facilities-natural-disasters-and-attacks) And in the three years I have never heard anybody say they have adopted this policy or they have somebody who is specifically hired to deal with resiliency and develop a resiliency program. So I'm just putting it out to the institutions online, are you structured that way or is it the IACUC that is really responsible for your contingency plan?

Silk: What is that? What is a resiliency plan?

Participant: So resiliency -- there's a lot of terms flying around. You have contingency plan and adverse planning and resiliency. Resiliency is the ability to withstand some type of adverse effect. And so they have labeled their report "resiliency planning."

When Bill -- Bill Greer and myself and Rob Banks did this section at AALAS, it was very new. But it's been almost four years. I guess that the fact that everybody is asking what is resiliency planning, indicates that nobody saw the report. And the report was really geared for facilities that were getting federal funding. Because the whole point of the report is that if you are getting federal funding it's your job to protect the research and the money that we put in. So I'm just curious if anybody was doing any of that.

Silk: Don't think that everybody else doesn't know just because I don't. I have been retired for two years.

The PHS Assures NSF funded studies under an MOU with OLAW (https://olaw.nih.gov/NSF.html). Therefore, studies funded by NSF that use live vertebrate animals are required to have an Assurance with OLAW and comply with the PHS Policy and the *Guide*. Those institutions would meet federal standards by fulfilling OLAW's requirements for a disaster plan, described in the *Guide* on pages 35 and 74-75. Information about resilience could be included in the institution's contingency/disaster plan.

Barbee: I'm going to make a shameless plug for Dr. Nicolette Petervary's article from earlier this year on disaster planning that mentions resilience planning and having a resilience officer and that sort of thing (ILAR J 60 (1); 74-85, 2020). I say shameless because I was one of the editors on that issue. But I thought that she did a good job and she covered a lot of territory and there were a lot of references there.

Certainly that article would be good as well as many others. And, obviously, resiliency is what disaster planning is all about, how to minimize adverse effects when you face them. When you face adverse circumstances. My question is going to be, how is that supposed to be different than the disaster plan. Something I guess that I'm not familiar with it, so I need to go and to read into it more. If our institution reviewed it ,they determined that we had enough units that covered a portion of it. But we don't have a dedicated person. So I don't know how it fits into our disaster plan and our risk management and general council and our animal resource program -- I don't know.

Stokes: Well, that might be an area that -- if we have another **ICARE Dialogue** on field studies and wildlife, which is often funded by NSF, we might be able to address that in that session.

We are coming to a close on our time. And this has been a wonderful discussion. And I want to thank everyone for contributing their comments and questions and I want to thank all of the co-facilitators Jane and Carolyn and Tanise and Bill and Wayne for their insights and Susan and Erin Heath for their behind-the-scenes work that made this session possible. And, again, I am encouraged by everyone's enthusiasm and interest in this topic. Because that is how we continue to have good science and good animal welfare, despite facing the adverse circumstances of public health emergencies such as the one that we're in. And other disasters. So my last ask of you all is to encourage you to take what you have heard today and go back and look at your emergency disaster plans. And incorporate things that you think might be helpful. So the next tme, whether you apply it when this situation gets worse or the next pandemic or other disaster, that you'll be able to handle it easier and take advantage of this knowledge that we've shared with each other.

So with that I'm going to turn it over to Susan to close us out.

Silk: I want to thank the presenters who did a terrific job. And I know that they did quite a lot of work. I thought that this **ICARE Dialogue** was very valuable and I thank all of the participants who participated and made the discussion so rich.

The ICARE faculty will be taking off a little bit from our outward facing outreach during the holiday time. And in the new year, we expect to come back to you with new topics and new presentations.

So, please, stay tuned. We get wonderful support from OLAW and they will be announcing when registration is open for additional **ICARE Dialogues**. You'll get that information on your OLAW listserv. So, please join us again for more of these discussions, which all of us value so much. I do thank all of you.

Comments from participant, Stephen M Dempsey, DVM Consulting Veterinary Services, Raleigh NC.

November 19, 2020
Dear Susan,

Thank you, the presenters and participants for the excellent program. Kudos to all for their valuable input and OLAW's support.

Not to add to the confusion, but aside from the NSF Resiliency Report mentioned another term frequently used in industrial/commercial environments is Business Continuity Planning (BCP). I think it's just semantics as to what we call it. They all refer to essentially the same thing - planning for the unexpected or unusual situations. It just may be a matter of scope and purview.

I cannot overemphasize the use of tabletop exercises to ensure that everyone knows and understands the entire plan and, in particular, their role(s) and responsibilities. As I related during the seminar, I had the unfortunate experience of participating in a disaster planning tabletop exercise that failed because the organizers failed to perform a dry run, and at the beginning of the exercise discovered that the building they chose to serve as the headquarters was not able to send or receive radio signals from handheld radios that had been distributed ahead of the scenario. The exercise proceeded with landlines and cell phones, and participants received an unexpected bit of experience in the value of performing these exercises. As the adage goes: The devil is in the details.

Another area we didn't cover, but is extremely valuable for handling almost any disaster situation is the Incident Command System (ICS). This system was originally devised by the US Forestry Service to coordinate and communicate with firefighters on the frontlines of wild forest fires after a tragedy caught several firefighters in a fast moving blaze who perished. The ICS system is now used in every natural disaster scenario including hurricanes, floods, wildfires, earthquakes, and every other catastrophic event for the past several decades. There is online training and review courses available through many US government agencies and non government organizations (NGOs) that use the system or participate/collaborate with other disaster response teams throughout the US and around the world.

A topic we discussed yesterday that is near and dear to me is cross-training. Again, I cannot overemphasize the importance of having multiple people aware of and proficient at performing or taking over tasks that are usually not part of their usual routine. I've worked at facilities where I was able to convince senior level vice presidents that they were not so high up that they could not perform basic animal care responsibilities. The added advantage to cross-training higher level administrators and principal investigators in these very basic needs is that it gives them an appreciation for the work that animal care staff performs 7/24/365 to maintain the studies that will eventually allow them to market new drugs, get grant funding, and publish papers. Their eyes are opened to the valuable contributions that these staff members contribute to the overall success of the institution and the welfare of the animal, along with an appreciation of the physical, mental and detail-oriented nature of those positions. However, cross-training should be viewed as a two way street within biomedical research. In addition to insuring that we had multiple people trained in animal husbandry procedures, we also trained animal caretakers on how to perform a variety of veterinary and technical procedures and essentially created back-ups to veterinary and research technicians. We had numerous incidents such as hurricanes, ice and/or snow storms, floods, tornados and others events, where the only people who made it to work were animal caretakers, Because of their cross-training in technical and research techniques, they were able to administer drugs or other agents, bleed or sample animals, and perform other technical services that maintained the continuity and integrity of studies that would have otherwise been lost or been repeated. Yet another way to contribute to the 3 Rs and save invaluable time, money and resources. When faced with the potential loss of groundbreaking research or the need to repeat a long term study to support regulatory submissions to the FDA, EPA or other agencies for approval of new drugs or chemicals used in people, animals and industry, the time and resources used for this cross-training is miniscule. The other advantage for this up-training is that it provides a more varied work environment for the staff, an opportunity to develop/promote staff to higher levels and increases the individual technician's self confidence and self-esteem knowing that they and the contributions they provide in their daily routines are valued and recognized.

Thank you again for the excellent program.

With kindest regards, stay safe and healthy,

Steve

Stephen M. Dempsey, DVM

Consulting Veterinary Services, Inc.

10033 Sycamore Road

Raleigh, NC 27613-8319 USA

Email:cvs27613@gmail.com

Cell: 919-579-3516