

On-screen: Tropical Tees, Musibis, and Making a Team: Successful Collaboration in American Samoa
Hans Desale, PhD, MPHTM LLS 2023. April 26, 2024 Sarah Luna Memorial Ted-Style Talk Session 2024
Epidemic Intelligence Service Conference. CDC logo on bottom right.

[Applause]

PRESENTER: Yeah, first off, thanks for letting me sneak into this EIS conference as an LLS fellow and speak on this stage, but I'm really here to tell you the story of two island territories. And I think to talk about the territories, it's easiest to first talk about Spam. Spam doesn't go bad, right? You can travel miles and miles. It can travel for miles and miles. And when it reaches its destination, it's going to be in the same style that it was when it left.

And this becomes a nice metaphor in the territories, because when you look at the cuisine in each of the territories, you do start to see how ingrained Spam has become relative to how remote said territory was. For example, this is the capital city of Puerto Rico, San Juan. It's actually a pretty big city. We've got Costcos, we've got Walmarts, but we're still far away from the mainland and we do find ourselves resource lacking at times.

And I think this is reflective of our relationship with Spam and our cuisine. Spam is not really a part of the cuisine, but it's in everyone's pantries because we have to have it when we need it. Whenever there's an earthquake or whenever there's a hurricane or anything like that, we're going to be happy this stuff is there.

But compare this to American Samoa. This is Pongo Pongo, the capital city of American Samoa. It's that much more remote. And I think the island is something like 50 times smaller than Puerto Rico. There's no major shipping lines. There's no major shipping companies. The only way really to get things to the island is to fly it there.

It's really interesting. When you go to the airport, you'll see it in the baggage claims. Everyone has these giant tubs that they're bringing with them. And literally everyone has them because you've got to use the time that you have to bring things to the island. Here, Spam is a really part of the cuisine. You'll find it in almost any dish. You'll find it in multiple restaurants, and it's reflective of just how hard it is to get things to the island.

So what brought ourselves together or Puerto Rico and American Samoa was dengue. As Sonnet mentioned, I'm an LLS fellow at the dengue branch in Puerto Rico. And so, as you can guess, our work is primarily dengue. Both of our islands experience widespread outbreaks every couple of years. So in the time in between outbreaks, it becomes really useful to prepare yourself for the next outbreak.

In American Samoa, what we found is probably the same things you're all thinking, an integrated vector management system, strengthening lab capacity in development, and really the vaccine implementation.

Now, to safely implement a dengue vaccine, you have to have an idea of the seroprevalence of historical dengue. This hadn't been done in American Samoa in many, many, many years. So this was our mission.

We were going to travel from Puerto Rico to American Samoa. We're going to have to bring all of the supplies to conduct a serosurvey survey there. And then we were going to conduct a serosurvey on the island. With this information, we could determine whether or not a vaccine could be safely implemented and also just have an idea of what dengue transmission looked like in the Pacific.

I spent so much time giving the setting here, because what you're going to see is a successful comedy of errors. And I say this because this was actually the second time we attempted this mission. The first time we had tried to send our clinical epidemiologist, Janice, to American Samoa. Unfortunately, she made it as far as Texas, leaving her crying in the Houston airport. And we learned two important lessons at this stage. One, there are only two flights a week to American Samoa. And two, if you miss that flight, you're pretty much SOL.

So having this in mind, we really decided that planning was going to be essential. And the serosurvey planning team would encompass five different locations across the United States. We had our team in American Samoa who were the leaders. Since they were the SMEs, they knew what was on the island.

They knew what the island needed. But really after that, I wouldn't really say it was an organizational chart, a more of an organizational circle. Circle, sorry.

You see, each team served a purpose for the other teams. For example, the laboratory team set about validating what the rapid diagnostic test we were going to use for the survey. Using this sensitivity and specificity information, the modeling and the epi teams could actually design the survey and figure out what the sample sizes we needed in order to achieve the correct accuracy of said survey. Having the sample size information, the logistics teams could now figure out, OK, how many of each supplies we need to bring, how many tests we need to bring, how many lancets, bandages, this kind of thing.

And we found themselves just moving in a circle like that until we felt, OK, we were ready to go. The other thing we had to decide about was the logistics. Because not only did we have to bring everything to the island, but once we were on the island, the test had to be able to be mobile actually on the island. Not only that, we had to test outside. So factoring both of these things in place, we created our plan for our serosurvey.

Our plan was we would bring all our supplies from Puerto Rico. We'd have two layovers in the mainland, and then we'd fly to Hawaii. There we were going to meet with the Pacific Island Health Officers Association. We were going to grab additional supplies. From there, we were going to bring everything to American Samoa. Now, this was a good plan, but remember, I said there's only two flights a week to American Samoa, and we were a little late buying tickets. So it turned out that our team was going to have to get sent piecemeal.

We were going to have four different teams basically arrive at different time points. The only way we could get flights to work. The first team was Lieutenant Commander Josh Wong and Janice. Lieutenant Commander Josh Wong arrived on the island safely. However, his supplies did not arrive. So he had to spend the first week presenting in his I Love Snoopy t-shirt to the Department of Health Staff and the MOH staff there.

Now he obviously needed clothes. His clothes weren't going to arrive for another four days. So he found himself going to the one department store on the island, discovering that, A, a 5'5" Josh could only buy clothes from the children's section of the American Samoan department store, and two, that the department store really had a wide variety of Aloha t-shirts. And this was going to be the first of many department store visits that we would make in this trip.

Now, the piecemeal approach actually ended up working out in our favor because I was able to arrive having picked up Josh's supplies in addition to my supplies in Hawaii. And I brought everything to American Samoa. I was on the second team to arrive on the island. Once we arrived on the island, we set about trying to figure out how we were going to actually test outdoors and how we were going to make our test mobile. We ended up finding a simple solution. It was these tupperwares. The tupperwares could serve as both cabinets, but actually, when we were in the field, they served as windshields for all of our supplies.

Everything we had was lightweight and there's very low technology involved in any of our testing. So actually the biggest issue we had was facing the monsoon and the wind anytime it would come through. The other thing we did once we arrived was we actually went through our testing process amongst ourselves and our internal team. And I think this served two really important purposes. One, it allowed us to iron out anything that we hadn't thought about from just our virtual planning sessions. And two, up until this moment, we hadn't actually seen each other's faces. The internet in basically all of our islands is absolute crap. And so it was unable to have any sort of video conferencing. We had to do everything with cameras off.

Until we arrived on the island was the first time we actually got to be in person and really start to interact with each other. And this was where our team building really started to come to play. Not just through our mission, but also just making fun of each other, sharing island stories and sharing meals. In American Samoa, our Puerto Rican team discovered musubis, which were marinated Spam on top of sushi rice and egg, wrapped in seaweed. And they were absolutely delicious.

And more than that, well, we found ourselves actually waking up earlier than we thought we would to get to the store to try and buy some before they actually were sold out because they were very popular on the island. But the other thing I think is it served a really nice metaphor for how things were going in American Samoa. Spam isn't exactly the most nutritious stuff, and I don't know, I guess depending on who you ask, it's not the most best tasting stuff. But American Samoa and the Pacific Islanders had figured out how to turn it into this amazing, beautiful wrapped package, just using simple ingredients.

And that was reflective of everything we had done really up until now. Think about the tupperwares, think about just the low tech aspect that we had to our whole testing process. So having this team now in place and our relationships now built up, we began testing. And I think we're always taught that we should have the local community and the local leaders be the face of our missions. And here we learned how important that was.

You're seeing Adam and Noelle, two American DOH staff, registering participants into our serosurvey. And through our testing, we faced a public health problem I think everyone in this room would be very, very happy to face. You see, our participation rates are way higher than we thought they were going to be. And the issue with this was we had budgeted and brought our supplies for the original participation rates that we thought we were going to have.

So knowing how difficult was to get to the island and this was going to be our only chance to really finish this mission, we didn't want to exclude anyone from getting tested. So we decided to change our algorithm. Rather than trying to achieve our survey milestones, we were just going to test everyone. As long as we hit our schools, we'd still be fine for the survey. The issue was, of course, supplies and how we were going to deal with that. So enter in the first EISO, Forrest Jones

Forrest Jones he rode in like a, I don't know, a knight on a white horse. Using our current using the current participation rates that we now had in the island, he was able to model out the rest of our survey, giving us an idea of, OK, how many supplies do we need to finish out the serosurvey, knowing that now we want to test to our participation rate, not the original survey milestones that we were trying to hit. Additionally, Forrest was able to take on the data.

As an LLS fellow, my focus and my responsibility was really on the testing side of things. Trying to make sure that was high quality, but also highly safe. I mentioned before that the internet isn't very good, so we didn't actually have an electronic database at this point. We were recording all of our results on paper. Forrest came in, being able to actually take that paper and turn it into the electronic database.

Troubleshooting the REDCap software, getting all of us access to the software, and figuring out how we could best use our lack of internet in order to leverage that lack of internet and our paper forms into this electronic database.

Also, I don't know what you guys are taught in summer course, but Forrest took his data responsibility seriously. Oftentimes serving as a paperweight during the storms to make sure the data didn't run away. So with this, now our team again finding its groove. And ourselves, it looked like we were about to hit the survey. We were going to finish our survey within our time frame.

But think back to October 2023 and something came up that really threw a wrench into our plans. Spoiler alert, the Government shutdown occurred. And for most of us, this was, or at least for me, this was the first time ever facing something like this and didn't know how to navigate it. Specifically for our team, what this meant was any non-essential CDC members had to leave the island and our budget was going to get

frozen. So we had to finish everything in a much sooner deadline than we originally thought we were going to have to.

So enter our second EISO, Sandra. Sandra was actually completing OBC and then she was going to arrive right after that to American Samoa. But with this new news, it turned out she was actually going to be the only essential worker we had on our team. So she finished OBC, traveled back to Puerto Rico, picked up all the additional supplies that Forrest had managed to estimate, traveled to American Samoa and then completed the survey by herself alongside the rest of the ASDOH staff.

In the end, we completed nearly 900 tests over the entire island. We surpassed our survey goals. And we were able to use this information to try and estimate the dengue transmission in the island, but also feed it into our models to really understand dengue transmission in the world. But I think, I mean, for those of you who saw Sandra's talk yesterday, got a better idea of the results, but she didn't have the time to really explain the background of how those results came to be. And I think something that's really funny now that I look back on it, is how many times we, during the middle of this survey, didn't know if the survey was even going to happen.

How many times we had to change things, how many times we had to wonder if this was a mission that was about to fail. But it wasn't. And I think part of that is how good of a team we really ended up being. We were like the musubis. We changed from this simple ragtag bunch of ingredients to this nice, colorful package on the island. I thought up until this-- honestly, up until this morning, I was really trying to figure out how to wrap this up. I don't really have a nice lesson to teach you guys. I don't have anything to say that I think wraps up the story really well.

More than I just wanted to share with you a really fun public health success story. In our work, I think that's something that oftentimes is rare. Just by the nature of what we do and what we work on. And that's what this really was. And my favorite part is the story hasn't ended. We still collaborate. We still meet twice a month to discuss dengue in both of our islands. And with the rising cases in both areas of our world, this collaboration has become more than necessary.

And here you're seeing, we're back to our cameras off because that's the way it was. But at least now we know what each other look like. But really, as we move forward, we'll just be like Spam. We're going to be ready. We're ready to travel and we'll be there whenever they need us. Thank you.

[APPLAUSE]

On-screen text: CDC Logo (in the center). 2024 Epidemic Intelligence Service Conference