



Which systems thinking skills do you use?

#1: Explore Multiple Perspectives

Decisions I make can have many downstream consequences, so being able to think about a situation from different points of view is critical.

#10: Characterize Relationships

If we change a data point, does it directly change something else? Indirectly? How many different relationships does that data point have? How many systems is it a part of?

#15: Respond to Changes Over Time

Some of our trials take years to conduct, and we'll often learn new information during that time period. We need to be able to create flexible trials and be able to adapt them.

SYSTEMS THINKERS IN STEM

A CONVERSATION WITH:

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1. What is your role within the STEM community?

My role supports the evaluation of HIV and COVID-19 vaccines through clinical trials. I serve as a liaison between the statisticians and data managers and the clinicians and operational staff who all support these trials to ensure that the data we capture are accurate, complete, and contribute to the objectives of the study.

2. What complex problem do you address in your work?

Working at the intersection of cutting-edge research and clinical trials presents some challenges for data management. Clinical trials are held to high standards and we want to be able to standardize data across studies as well. However, research is by nature dynamic, fluid, and can change directions. How do we try to keep standards in place while still allowing flexibility for each study to ask its own questions?

3. What elements do you need to consider when addressing this problem? The big picture is key when we have discussions around this issue. It's easy to get lost in the details of the specific study, and my colleagues are a group of passionate researchers who care very much about their work, so we spend a lot of time on the details. However, at the end of the day, we want to make sure we can answer those big picture questions, so being mindful of where each study fits in the search for effective vaccines is important.

4. How did you get to where you are today?

I was inspired by my high school biology teacher - he really got me thinking about the way parts and pieces come together to form something bigger! In college, I majored in biology (genetics and biochemistry) and went to graduate school in genetics. After grad school, I had several different types of positions that involved managing people, managing money, managing data, and even managing cats. I was fortunate to work at a startup, an amazing experience, and for non-profit organizations where I felt more at home. I am successful in my current role because of the breadth of experiences I have had.

5. What advice do you have for becoming a systems thinker?

"Pay attention and ask questions" is the advice my dad has shared with me many times. I agree, so I'm passing it on to you! If you can practice your observational skills in every day life, do it. Don't be afraid to ask "why?" Ask it to yourself internally, and when you can, ask it to someone externally. You'll find some people don't like to be asked "why," but there are some that really do! Identify those people that love the question and hold on to them in your life. They will be resources for you.