

Ask the Expert: Clinical Reasoning

I'm trying to think the best way to tell that story. Yeah, sure.

On-screen: [Christopher Runyon, senior measurement scientist, growth and innovation.]

So I was always interested in the way that people think. So that's why I studied Tibetan Buddhism when I was at UVA and it was fascinating and I enjoyed it. And then when I realized I wanted to further study that I'd need to return and get some of the more foundational work in psychology or philosophy. If I wanted to continue to study thinking and reasoning.

On-screen: [What is clinical reasoning?]

The simple definition of clinical reasoning that I like is it's a process by which physicians observe, collect and interpret data to diagnose and treat patients. It's an integral skill that's gotten a lot of attention throughout the years.

But now with the advancements in technology and different methods, we now have new available ways to assess and evaluate how well people are going through the clinical reasoning process. Multiple choice questions are great but we can only learn so much about what somebody is thinking and how they're actually working through the information. So that's usually referred to as like an outcome measure.

So, somebody will go through the clinical reasoning process and then make some decision and then they'll select their single best answer there.

But with the advent of these new technologies and these new methods, what we can start to do is break down that process and evaluate some of the constituent or component parts so we can learn better where maybe somebody is making the error in their reasoning or they're not maybe synthesizing information together correctly or they're not gathering the right information from the patient.

On-screen: [How does this research impact the medical education community?]

So, I see my research impacting the medical education community by helping to develop and illuminate good measures of clinical reasoning so medical educators can have a better idea of where their students are doing well and then where there can be places for improvement. And overall, that is just for the ultimate goal of helping students become better physicians and thereby protecting the health of the public.

On-screen: [How does this research impact the future of assessment?]

So, because of some of the expertise and the people that we have here at NBME, I'm able to collaborate with others and come up with innovative ways of measuring clinical reasoning that we haven't done before, especially with the advent of large language models and natural language processing.

We can start to think about different ways of building assessments and asking questions and presenting tasks to learners that have never been done before so we can start to get unique information on their skills and abilities that we weren't able to capture beforehand.

On-screen: [What's important about this research?]

A well-designed assessment can help you think about the information differently. So, for example, if you think of a math exam where you need to go in and you just give them the answer to a question, you're going to prepare for that very differently than if you'd be taking a math exam where you need to come in and show your work and your reasoning process all along the way. So when you're preparing for an exam in the second instance where you know you're going need to show your work, it allows us the opportunity to see what the whole reasoning process looks like. And we can identify areas that are strengths and weaknesses and help you improve and be a better physician.

I don't want to give the false impression that the work I'm doing here is completely unique, and nobody's thought of this at any time before. If you just turn to the literature, you can see that there are numerous books and articles and, and work that's been done by fantastic scholars, and it's still happening today. So it really is about collaborating with those researchers and nurturing those relationships.

On-screen: [Follow us on our journey. reassessfuture.org. Copyright 2023 NBME. All rights reserved.]