Santa: Broadcasting from the University of British Columbia, this is Blue and Goldcast. I'm Santa Ono, the President and Vice Chancellor of UBC. On this season of the Blue and Goldcast, I'm speaking with the people who are leading some of the most innovative and creative work coming out of our campuses. Dr. Glenn Regehr is a researcher in health professions education in our faculty of medicine.

He's also the 2020 winner of the International Karolinska Institutet prize for research in medical education. The prize comes with 75,000 euros for further research, which Dr. Rick has put into UBC's center for health education scholarship. Glenn, congratulations on your prize and thanks so much for being on the show.

Glenn Regehr: Thanks very much. It's an honor to be here.

Santa: Well, we were very proud of you when we heard about this very prestigious award, and we wanted to talk to you a little bit more, first ask you about your field, health professions education. I think it's a relatively new field. Could you tell us a little bit about how you came to do this work and how you became involved in this field?

Glenn: Yes, absolutely. Health professions education is a relatively new field. It came about probably most strongly from the field of medical education, which has been probably around for about 50 years now, which is short relative to, say for example, physics. It really blossomed when a small group of PhD educators came together in Buffalo and started to think about the ways in which we might be able to think more reflectively and intelligently about the ways in which we educate our physicians.

What happened over time is that the field began to draw more and more individuals who had a variety of perspectives and PhD training in different disciplines. It has really burgeoned probably over the past 20 years or so, with Canada being one of the absolute leaders in this field. I'm proud to be part of a very strong legacy here in Canada.

Santa: If you look back to the history of medical education, there was a great physician teacher and scientist called Sir William Osler, who not only was a professor of medicine at McGill University faculty of medicine, but then went on to teach at the University of Pennsylvania and to be on the famous founding faculty of the school of medicine at Johns Hopkins, before he was recruited to the UK to be Regis professor of medicine, if I recall correctly. Canada has historically had quite a transformative effect on medical education. Can you tell me a little bit more about health education and how is it different today from what Sir William Osler really put forward? I think it was called the principles and practices of medicine. Is that correct?

Glenn: Yes, that's right. Again, things have changed fairly extensively as different educational theories have come to play. Going back to the early 1900s, there was even a movement towards shifting medical education into a more scientific realm. We developed what was often considered the standard 2+2 model of undergraduate medical education, the MD programs, which was 2 years of basic sciences, followed by 2 years of training and engaging with patients in the clinical context.

Those first two years were often set up really as lectures that started at nine o'clock in the morning and finished at five o'clock at night, and the students would just keep taking notes and they would have person after person after person lecturing at them. Over time we've come to understand that that may not necessarily be the best way to ensure that the information is actually retained over time, and so other educational theories and other educational approaches have come into play.

Now most M.D. programs, certainly all of the North American M.D. programs, intermix the four years such that students will often start to see patients as early as the first week of medical school and the kinds of learning that they do is less about lectures, which are all designed to get as much information jammed into a person's notebook as possible.

We've moved to more active learning kinds of models, such as problem-based learning and case-based learning, in which the learning is all organized around specific problems that the students have to solve with the understanding that those new problems that they're struggling with are memorable in a way that will allow them to learn the material in ways that are going to be relevant to the kinds of ways they're expected to use it later on.

Santa: I expected from a practical standpoint, technology might actually be very helpful in terms of, maybe there's a limit in the number of simulation devices, or maybe even cadavers that a medical school cohort might be able to study and examine. Is it true that technology can really help in terms of practically delivering the health education curricula?

Glenn: Yes, no question. As we start to have people come back into live connections and live educational experiences, the technology is going to continue to be around as we've got virtual simulations and virtual reality situations so that people can really see a very different kind of experience than simply reading the textbook or, again, watching a videotape.

I think all of those things are helping a lot to create a learning that better prepares people for the interactions with people. Of course, a big portion of what it is to be a good doctor has nothing to do with the knowledge that you've got or the technical skills you've got, but your capacity to be able to engage meaningfully with a patient and co-construct an understanding of what the patient's issues are and how a physician or any healthcare provider can help.

I think there's always going to be certain limits to that technology and we, as with any circumstance, want to make sure that we don't get so enamored with the technology that we lose track of all of those social and socialization activities that are a vital part of any educational experience.

Santa: Let's talk a little bit about the Center for Health Education Scholarship. I don't know if you affectionately call it CHES. Do you call it CHES?

Glenn: We do call it CHES.

Santa: Okay. What kinds of questions are being asked at the center today?

Glenn: The Center for Health Education Scholarship is a physical as well as a virtual space where we try to bring together PhD trained discipline researchers, with healthcare providers and educators who are on the ground doing the educational work on a day to day basis. As we bring all of those groups together, it opens up the doors to be able to really push a variety of interesting agendas and to ask questions in very different ways.

I described earlier the initial people coming into health professions education and medical education in particular, tended to be people who are trained with a background in education, so they had PhDs in education. Today, that's broadening out quite widely so that we have people like myself who have PhDs in cognitive psychology. We also have people who are sociologists, political scientists, kinesiologists, identity theorists, social network theorists.

We even have a discourse analyst in our community, a rhetorician who's trying to understand the nature of communication and the ways in which communication works within these kinds of a system. It really opens up the possibility to address the real day-to-day phenomena of education from a variety of different perspectives so that we end up really starting to understand the nature of the problems that we're dealing with, with a much broader scope and a much bigger toolbox for being able to focus on things.

For example, one of the pieces that we often struggle with in health professions education is an inflation of grades. We're trying always to make sure that we're effectively identifying individuals who are struggling so that we can support them and help them get through this process in a way that makes them a very effective physician. When we're trying to think about that question of why do the grades tend to be inflated? Why is there a relatively infrequent process of identifying individuals as being in trouble? The early work on that was really from a psychometric perspective, thinking about the raters as flawed assessment tools and so they were trying to train the raters to become better at doing that kind of thing.

As we've started to bring in other folks, we started to see other perspectives on this, such that the cognitive psychologists are saying there's actually a bit of a cognitive burden around that, and the ways in which physicians on the ground think about their students and essentially are assessing their students, may not be compatible with the tools that we have available, or that we provide them to make their assessments. That incompatibility between the way they're conceptualizing their student and the way that they have to assess their student creates problems. Other people might come in and say, it's really about relationships, or a social network theorist would end up saying it's about the relationships. It's just really hard if you're trying to be a mentor to also be a gatekeeper at the same time. It creates a different kind of a way of thinking about it.

Others then come along and say, well, actually it's a systems problem because when the preceptors end up identifying people that are in trouble, there's some difficulty with regard to the documentation or some concerns with regard to documentation and so those individuals often feel like they aren't being well supported in their ability to be able to flag those individuals in trouble. Whether you think about it from a psychometric perspective, or a cognitive perspective, or relational perspective, or a systems perspective, all of those things create interesting different approaches to

exactly the same problem, so that we can make sure that we're solving a multitude of issues, rather than trying to keep banging at one particular version of the problem over and over again and not solving it effectively.

Santa: Actually, that's pretty remarkable, the breadth of what's going on at the center. I was just thinking the other day about banking. It's very different from what you do but I remember when I was in secondary school, we had to go to a branch of a bank and wait in line to actually get some money. I remember around maybe 30 years ago or so when I was doing my PhD, actually even longer than that, that the ATM machine came in and suddenly appeared. You didn't have to go to the branch and now you can do all of that on your mobile phone. I'm sure in your 25-year career in health professions education, there have been similar milestones and shifts in how you educate in the health professions. Can you name one or two things that are most striking to you in your 25-year career that have happened?

Glenn: I do think that one of the major changes has been this movement towards thinking about learning from the student's perspective, rather than thinking about teaching from the teacher's perspective. That process of thinking about learning from the student's perspective has really opened up our ability to think differently about some of the ways in which we've been trying to teach people and engage students. Even things like the Socratic Method, which is using questions for the purposes of being able to invoke deeper thinking from students.

Once we start to ask the students what's happening from their perspective, we start to see that they are thinking about the problem very differently or thinking about the situation very differently than the preceptor is. With the preceptor thinking that they are invoking this knowledge and the students often seeing it as a performative act, a situation in which they have to prove their knowledge and their ability to answer quickly. Rather than exploring it in a deep and intensive way, they're really trying to figure out how to look good in front of the teacher. One of my own colleagues did a really interesting study around exactly that issue.

What he ended up identifying was that students weren't even necessarily trying to prove that they were really, really good physicians because they know that they aren't. What they were trying to do was project for the teacher, a sense that they were very teachable so that the teacher would want to spend a bunch of time engaging with them. Starting to understand the ways in which they're doing that process and the ways in which they are constantly or frequently, almost metacognitively monitoring the situation for how they're looking in front of the teacher, has led another colleague of mine to look at the whole issue of educational safety, and try to figure out how we can create safe environments so that the students become engaged in the learning process rather than worrying about whether they're being evaluated or how they're coming across to the other person.

Sean quite nicely pointed out that when people are fully engaged in the learning process, they're treating their preceptors as mentors rather than as gatekeepers to the profession. So, helping preceptors focus on issues of the educational safety and making sure that the environment is a positive learning environment, is one of the things that has been a really important and valuable shift over the last little while.

Santa: I've just participated in an event in the UBC Faculty of Medicine, which was sort of a recognition of systemic racism in the health professions. You know that Mary Ellen Turpel-Lafond just released a report, a study of anti-indigenous racism in the health authorities and the role that educational institutions must play in addressing that, because we actually form and teach and produce healthcare professionals of the future. I'm just curious, one of the things that was said in that event was pretty profound to me at least. That was that we have a tendency to celebrate and to pump up the egos of students that are accepted into UBC.

Whether it's the faculty of medicine or nursing or pharmaceutical sciences, it's very hard to get into UBC and there's something appropriate, I think, about celebrating their accomplishments and honoring them. What was said, I don't know if you were actually attended that event, but what was said is that perhaps we should do a little bit less of that and to teach throughout the health professions, the fact that we are servants. Whether you're a biomedical scientist, or a physician, or a nurse, or whatever aspect of the health professions.

That we shouldn't begin by pumping them up because they don't need their egos pumped because they have succeeded, by definition, in gaining admission to our programs. That perhaps, that is the moment that we should at the very beginning provide them a context of the kinds of people that we're caring for. That's the moment to really teach the fact that as we deliver healthcare, whichever profession we're in, that we are cognizant of the importance of culturally appropriate approaches to the patient. What do you think about that aspect of the health professions and your center?

Glenn: It's a great point. I think that the work that the Faculty of Medicine is starting to do, as well as all of UBC, is incredibly important. I think that that's going to be-- I hope it's going to be a major shift in our ways of thinking about things. One of the things that we're talking about is really an issue of identity. How does one position oneself in society and relative to others around you? That issue of identity and identity formation is now starting to come to the foreground in our thinking at the center. Trying to understand what that process is of transitioning a person from a layperson to a health professional. What gets gained through that process and what potentially gets lost through that process.

As the exercise teaches a person how to become proficient at managing patients, that proficiency itself is a bit of a danger because it's very easy to forget at some point along the way that while this may be the 100th patient that you've seen with this particular disease or problem, it's the first time that patient has ever experienced that disease or problem. The issue of trying to figure out how that process of routinizing your ability to care for people, doesn't routinize your way of engaging with people, so that people become something other than an individual person that you're working with, is something that a number of individuals are working on.

Cheryl Holmes who's currently the dean for the undergraduate medical program has been working a lot on this issue and is really trying to understand how we can continue to engage the students. Not just at the beginning but throughout their entire training process, in reflecting on their own enculturation experience and how that changes the way they think about health and the way that thing they think about patients as a result of that kind of a process. I think that we're really at the cutting

edge of some really interesting work, trying to understand a little bit more about what the Professionalization Process does to the Humanization Process that we want to make sure continues to be a part of the Health Professional Training Activities.

Santa: That's wonderful. Now the Karolinska Prize is worth more than 100,000 Canadian dollars. It's a lot of money and you could have done anything with it, but you decided to invest it in the Center for Health Education Scholarship. Why did you do that and how will it be used?

Glenn: My goal was really to figure out the best way to use that money to advance the Science of Health Professions Education. One of the things that I think is absolutely true is that I didn't get to win, to achieve the Karolinska Prize because I was an independent researcher. I was able to do what I was been able to do over the past 25 years because I've always had an amazing team of people around me. We've always worked very hard to create interdisciplinary teams that include PhDs from a variety of perspective, as well as clinicians on the ground and students, so that we have as many stakeholders as possible at the table when we're even developing the research question that we need to be developing. I think that many of the times when we try to engage community in our research enterprises, what we do is we set the parameters for what the legitimate research is and we bring the community members in and they have to figure out a way to adapt to our way of thinking.

I think one of the great things about the Center for Health Education Scholarship is that everybody is adaptable in the way that we're thinking, so that we're not in a situation where we define the edges or scope of what's legitimate science. We end up negotiating that because we've got individuals with a bunch of different perspectives coming to bear. I really think that because of the way that we work at the Center for Health Education Scholarship, we end up asking better questions than we would otherwise ask.

My goal was really to maximize the interplay of individuals within the space and to increase the network of people that we can draw on to make sure that we're asking good questions and engaging in good kinds of work. It felt to me that the best way to do that would be to create a fund that would allow people to come in and visit CHES and engage with people at the center, so that we can keep our minds as flexible as possible and expand our network as broadly as possible.

In the end, the money is dedicated to supporting individuals coming into the center and working with us for one to four week periods of time, with the intent of expanding our thinking and expanding our networks of collaboration across the world.

Santa: Well, that's really fantastic. I got to tell you, we're very proud of you. For those who are listening. The Karolinska Institutet is the institute that selects the recipient of the Nobel prize in physiology and medicine. It's a renowned institute. To have you representing UBC honored by them, makes all of us tremendously proud and it's so well deserved. Thank you so much for being with us today on Blue and Goldcast. Hopefully we can talk again in the near future about how we at UBC can be even more supportive of you because we are a great institution because of faculty like yourself. So thank you so much, Glenn.

Glenn: Been a pleasure and an honor. Thank you.

Santa: Glenn Regehr, thank you so much for being on Blue and Goldcast today. Glenn Regehr is a professor in the Department of Surgery and associate director of the Faculty of Medicine Center for Health Education Scholarship. That does it for this month's episode. You can find links to our guests work as well as previous additions of the show @blueandgoldcast.com. You can also find us on your favorite podcast app like Apple Podcast or Stitcher. You can tweet at me @ubcprez. That's prez with a Z. I'm Santa Ono. Thanks for listening.