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Hello and welcome to Telling Science Stories. Once a publishing course at Simon Fraser University, this show is all about what makes good science communication. From journalism to YouTube videos, I speak with experts in the field about the techniques and theories they use to tell better science stories. I'm your host Alice Fleerackers, and this podcast was originally recorded on the unceded and traditional territories of the Musqueam, the Squamish, the Tsleil-Waututh and Shishalh nations.

I'm so happy today to be able to introduce you to Naseem Miller. Naseem joined the Journalist Resource in 2021 after working as a health reporter in newspapers and medical trade publications, where she covered a wide range of topics from correctional health care to clinical trials. She has an undergraduate degree in molecular and microbiology and a master's degree in multimedia journalism. So welcome. Thanks for being here.

Sure. Thanks for having me.

The first thing I wanted to ask you is what are the components of a really good health news story?

I think it all starts from the headline, because as we all know, we scroll through social media. We scroll through Twitter and even like on news websites, headline is what grabs our attention. And that's what gets shared. A lot of readers just quickly share that and not, you know, thinking deeply about what could be the story behind this or taking the time to read it really. So they find something interesting and they click that share button. That's why, especially for health reporters, for science reporters, it's really important to pay attention to what headlines they write. You know, there's a Twitter account called In Mice, I think, that makes fun of headlines that that sort of make this general statements about stories that were done in animals and make it sound like it actually applies to humans, which we all know it doesn't. So it's very, very important to write clear, accurate headlines when it comes to science, when it comes to health, to make sure you're not inferring causation that one causes the other, because that's usually not the case in science and medicine or misrepresent a study because shorter headlines are easier to write. But it could also be misleading. And then you get to the body of the story and what what matters up top is, say, the context. So one example I can think of is, you know, these numbers that came out a few months ago in one of the states in the US, where there was like a hundred deaths due to breakthrough cases from covid-19. You know, these are people who were vaccinated and they died after they got covid. What's a lot of the news stories fail to say up top was that majority of people who died were older and had underlying health conditions. So once you try to, you know, simplify things, then you lose that context. And the reader thinks, oh, my God, if I'm a healthy adult and vaccinated, I could die from covid still, which is really not the message you want to give out and it's inaccurate. So context really matters. But if you're reporting on a story, say, hey, was this ever done before? What's unique about this study? And, you know, if you're talking writing about medical devices or medical, new medical, new drug, like how much is it going to cost? I mean, you guys have a different health system than we do. So drug costs and medical health care costs is a big issue here for a lot of patients and insurance is covered differently. But still, the cost to patients is important. And, you know, say like the ongoing issue about, say, robotic surgery, is it really better than regular surgery? So put all these context, look at what else is out there. So these are some of the things you have to think about when writing science stories.

Yeah, that's great. You touched on something that was actually a big question I have for you, which is, you know, you mentioned providing the context and not misleading people with forgetting to add that there were mice involved in the study and not humans. But how do you and then also the headlines, you know, all of these things touch on this core tension of balancing accuracy and engagement or making something interesting. So how do you balance those two when you're writing your stories?

You know, with health could be it could be a little easier because when you're writing about health and medicine, it's a lot easier to connect to readers because it will probably affect them sort of right away. And I'm talking about stories like Covid, like, you know, and the infection rates or you're writing about the flu season and things like that. But when it comes to science and research, that's a lot more challenging because there is a certain audience for science stories and they are interested in that and they're fascinated by it. And for a lot of other people, it's kind of like could, you know, not be as interesting. And that's one of the reasons I don't know what's the landscape in Canada, but in the US, most newspapers, unfortunately, no longer have science sections because their readership isn't huge for science stories as important as it is. So that's left to some of the major papers right now that do science coverage, like New York Times, maybe a little bit Washington Post. And some of the national science stories might get picked up by other papers. And then, of course, you have specialty magazines, etc., you know, Discover and Science, etc., who do the National Geographic, the great science stories. So, you know, when I was a local newspaper reporter, when I was, you know, I always wanted to write, you know, cover science. But again, the readership isn't big, so it's hard to make the case for your editor, you know, that, you know, there is this research study. So, you know, one of the good advice that my editor said, well, she's like, why don't you find out more about the researcher? That's why that's at least that's how you can add the human angle a little bit. What's her backstory? How did she get to start on this specific project? And sometimes you find really interesting human interest stories in the person who's doing the research and leading the study. And then you can weave in, oh, and then she's using these nanoparticles to yada, yada. But then at the same time, you have to add in this is years and years away from reaching the doctor's offices. But, you know, at the same time, you're letting people know this is how bench science might one day end up in the bedside. So that's why science reporting, I think, is really important. And that's why I feel like there is so little appreciation for the scientific process. People have gotten used to or think that it's all black and white, whereas, you know, we do we learn and we update. And now people are like, oh, my God, why did you change the guidelines? Because, well, new evidence came to light.

How do you deal then with this knowledge that your audience doesn't understand the process of science? Like, what work do you do to bridge that gap when you're covering new research?

What you can do really in all the stories as you report and really let your audience know what you're reporting now is for now. And it could change tomorrow. And that could really be a couple of sentences in your story. Like, as of today, this is the guideline or, you know, this could change or, you know, they made this announcement. It still has to go through these agencies before it gets approved. So always adding that there is a potential for change to let readers know that this is not a final. This is not the bill that was passed, you know, and we're done with it. This is this is constantly could change and, you know, it changed in the past. And now this is where we are. And it could change in the future based on all the data that could come out again with covid. We can say that a lot easier, too, because there's so much research going on and we are learning so much about it. But I mean, look at coffee and wine and chocolate. We still don't know. Are they good for you?

I'm just I'm just deciding they're good.

Yes, I know. They're all good for you in moderation.

Another question I sort of had was how you actually find ideas for the stories you end up covering, like how much is coming from your editor? How do you find the the initial aha moment that inspires the story?

I've never been a freelancer, so I put that in because the freelancer's life is very different from the life of a full time newspaper reporter or TV reporter, because you are in this newsroom environment where there's a lot of discussion between you and your editor. And, you know, I think that dynamics are very different. So for the students who might think about freelancing and some of this may apply to them, too, but I just wanted to put that footnote in there. When you are at a local paper or local news station, radio station, a lot of your stories come from relationships you make with people that you cover. So say if you cover the medical school, the local university, places like that, you start getting to know who's who. You get to know their researchers. Again, it's about building relationships. So, you know, you get to know somebody and you're like, hey, if you ever did an interesting study on these viruses, let me know. You know, if you get to phase three, let me know. And I'd love to write about it. So relationships are one thing. The other place you can find stories, of course, is our, you know, the journals. I follow science journals less because I cover health. But, you know, for health stuff like a New England Journal of Medicine, the Lancet, the JAMA, these are all, you know, they put studies out constantly. So you kind of monitor what studies come out and other places. Triple A.S. has this service called Eureka Alert, where, you know, if you sign up for their newsletters, they constantly say every day they send you a collection of all the studies that were published in a lot of journals. And you can specify what areas you're interested in. And there are interesting studies that pop up. So you can open it up, look at the methods, see if it's worth covering and see if it could become something bigger than that study. You know, you write about it. So that's another place. Once you're established, say locally or even at the national scale, you start getting press releases from universities, from all sorts of places, press releases. You got to take them with a grain of salt because whoever is sending it is trying to promote their whatever it is, whether it's their researchers or their product. So you have to always look beyond the press release, try to get the main study that the press release is based on and get somebody else from outside to kind of look at it, to get a sense of it. But, you know, sometimes it could give you story ideas. Yeah. In conversations like, you know, you go to meetings. I mean, COVID has changed that quite a bit, but back in the day meetings like regular meetings, just, you know, walking, talking to people in the hallway, you know, you could get to know new people and learn about some topics that, oh my God, like a doctor might say, I'm seeing so many more patients with sexually transmitted diseases, et cetera. Or so you can kind of look at your rates and area and find out what's happening, what's causing this, talking to doctors. So it's, you know, just keeping an eye out and stuff. And, you know, different reporters have different methods.

Yeah.

So but staying in the loop and talking to people is a very good way of finding stories. And just look at your own life, like, you know, see what interests you and start looking into it.

Yeah, I guess if it's interesting to you, it's probably interesting to someone else, too.

Yeah, exactly. Yeah.

You mentioned the importance of taking press releases with a grain of salt, which made me just think more broadly, like, how do you actually verify the research that you report on?

I mean, if you're a science major and you're a hardcore science person, you probably learn more about the scientific methods and research, which is a huge plus. But a lot of us in journalism, really, we aren't trained in that, you know, and even if like me, I have an undergrad degree in molecular micro. But, you know, we just learned the basics back in the day when I went to school. We never had a class on, you know, statistical methods. That's usually like an advanced back in the day in my college. It was like more of an advanced thing. So you have to rely on people who now. So you just as a reporter, as somebody who's reporting, don't ever feel like you have to know everything or just, you know, say, you know, I'm sure it's fine. So always be cautious and say, well, what if? So one of the advice of heart is like make friends. And, you know, it's great advice that's benefited me is make friends with a local university statistician. Those people have an eye for looking at numbers and methods and pointing out to you what could be missing that, you know, this study. Yeah, I mean, they say this and that, but there is a you know, there is some information missing or yeah, they're putting relative risk. But if you look at the absolute risk, it's a whole different ballgame, you know. So I think talking to statisticians, epidemiologists are very important. There is a service called Sideline, which connects reporters with scientists. So a lot of times on deadline, you know, reporters can send an inquiry to them and say, hey, I'm working on a story about climate change. You know, do you have some this study came out? You know, can you connect me with a research climate change researcher who specializes or can comment on specific study? And they're really good at finding that scientists who are not, you know, industry spoke people. So I think it's important for spokespeople to talk about that. So always, always have more than one voice. So don't stick to just interviewing the person who wrote the study. Always to talk to somebody else who was not involved in the study to say, hey, can you look at the study and see what you think? Because that other person really doesn't have a dog in the fight. They can just look at it and say, well, you know, I think it's interesting. This or, you know, in my field, I think this will add something or it's just another study on masks. And really, it doesn't change anything. So that second voice or third voice really helps you understand how significant is, even though the press release might make it sound at least the biggest deal since sliced bread.

Yeah, I was I was laughing. I think journalists resource just put out a piece on uncovering research. And one of the tips was never use the words groundbreaking or life breakthrough.

Yeah.

Yeah. You mentioned deadlines. And that's actually something we haven't talked about, like how much time you usually have to write a story?

I mean, I guess in any situation, you have to talk to the editor, whether you're a freelancer or a newsroom, to see when they want the story. So sometimes news breaks and you are on the deadline for the day. So something happens in the morning and you have to file it as soon as possible. And that's the madness of daily journals. I mean, it doesn't give you a break, especially during Covid. But if you have the privilege of working on features, you might get an assignment from Scientific American. It's like, hey, why don't you go explore this microbe or whatever? So they might say, hey, we want this by next month. And it's for the February issue because, you know, magazines plan things so far and they answer usually. And as journalists, we always leave things to the last minute and try not to do that. So at least do a lot of your legwork, even if you leave your writing for the last minute. Do your interviews, do your reading as much as even though you have tons of time. But yeah, your deadlines vary. Always respect

your deadline. Always respect the editor's request for word count because those all give you good reputation in the industry. And that's how you get your next assignment, especially if you are a freelancer.

You already mentioned a little bit about headlines and social media. But are there other things that you kind of consider when you're writing, given that so much news and science news and health news is being kind of received via social media rather than, you know, that people are accessing it through these tiny boxes on their phones?

It's a lot going on. And, you know, there's a lot of discussions about misinformation, you know, and how mainstream media, as they say, could play a role in that. And it's not that because a lot of journalists actually intentionally are putting out misinformation. But really, one of the things for sure in this crazy news cycle we have right now is to take a pause, especially when you see something that, oh, like this will go viral if I write about it. You know, one of the examples is from a news story out in South Florida earlier when the vaccines were released. You know, some lady posted on Facebook that her husband, who was a doctor, died two weeks after he got the covid vaccine. The news story went off with that. And, you know, it didn't have any context or interviews with experts in there. And it went viral. It got shared really widely in anti-vaccination groups that see vaccines kill. And this is based on one case of a family member who posted about it's heartbreaking to lose your spouse. But and then, you know, a few months later, a medical examiner came out and said there is no evidence that the vaccine led to this man's death. So if you come across something like this, run it by a scientist and a physician, and I'm sure they're going to put your excitement, like kind of dampen that and say, well, I don't know. And, you know, always think to yourself, is this a responsible thing for me to report on right now? What could be the consequences? Because that story, whatever you write, lives forever online. And even if you issue corrections, there have been some studies that come out. You know, the original story always has more traction than the correction to it. So it's very important to issue the correction or update these stories. But still, that original one lives wherever it's living. Kind of like vaccine and autism story. It's been retracted and people still believe in it. You know, we have reported on the retraction, but still. So take your pause or have that difficult conversation with your editor that I talked to this expert and you don't think this is a good idea to write this headline in this way because of X, Y, Z.

Yeah, I guess you can't take it back once it's out there in the void. The last sort of question I had was what advice would you give to somebody who is interested in trying to get into health or science reporting?

I'll just tell you about how I got started. And I don't know if that will help you. I mean, for especially those of you who are science majors or studying health or anything else, you usually you. It's great because I think having a specialty is going to be a big plus for you if you're applying to write. Because, you know, even though you are undergraduate still and it's not like you have a Ph.D. in anything, but at least you are in a world and know vocabulary that other people might not know. So that will give you a leg up. But, you know, I was when I was a micro major, I wanted to be a researcher. Of course, we all do that summer internships and God, I hated those internships. You know, and it was like the last one I had was with atomic Force Microscope and he was trying to scan these nanotubes. And I ended up just like playing with the coloring of these beautiful landscapes that the microscope produced. And I was like, you know what? I don't think this is not to be doing this. So of course, the question was, what are we going to do? And I was taking an epidemiology class and a professor made us read a New York Times Science Times that comes out every Tuesday. I mean, now you can't tell, but back in the day, it was still in Tuesday's paper. And I was reading about, you know, reading it for the class. I was like, you know

what? This is great because I can write about science, talk to scientists and never have to do any of it. No petri dishes, no fruit flies, none of that. So and I went to our local paper, like a student newspaper and told them, hey, do you want me to write about the science and research that's happening at the university? And they're like, sure. So I started featuring the professors. I mean, some awful profiles that I cringe at when I look at now. But but journalism is a craft like you learn by doing you read, read, read, you write, write, write. So just I didn't have a I'd never taken a journalism class. So I had my editor really taught me at the school paper how to write that. Oh, you don't write in first person. So but that's how you learn. You learn by doing it. So and I started writing about science, you know, the scientific research that was coming out. I would summarize them in a column. And then from there, I went to a journalism conference where, you know, you go by the booths to get a job. And of course, because I didn't go to J. School was a lot more difficult to get a job. But I did get an internship, which was great. And it was an assigned section for a summer, which is great. And then from there, I got my first job at a tiny newspaper in Indiana. So that's how I got started. But really, just for you to be able to get a job or to write, you need to have clips, which are your writing. So find out a way where you can have some stories, whether it's your school newspaper, whether it's another small publication, or maybe you're already a great writer and start pitching your stories and ideas to different publications you're interested in. And just don't get discouraged by rejection. I mean, we read that a lot about book authors and poets and stuff. But this thing is true for freelance journalists. You just take your rejection and just do it again.

That's great. Maybe as a class exercise, we can just practice dealing with rejection.

Yeah, you know, or just start pitching, like write your pitches. I mean, there is a lot of advice online. And I'm sure you've told your students about the open notebook.

Such a great resource.

Such a great resource. And they have like a free, I think, science writing course there. So, yeah, just find resources and learn and do like write, just even if it's for yourself, like summarizing a research study. Like see how somebody like your favorite science writer, like if it's Carl Zimmer or whoever, break it down. How did they do it? And try to emulate it. It's OK to emulate. Don't plagiarize. But it's OK to adopt somebody else's way. And until you find your own voice and you do it, it's a craft.

Well, that's all the questions I had for you today. Is there anything you wanted to add before I let you go?

No, I mean, I'm really glad you're doing this course and I wish all the best to students. If I can answer any questions, just let me know. And thank you so much for this opportunity.

Thanks a lot.

Yeah.