

### **Project Description:**

Team UX in Rx is designing a product that will help medical professionals, specifically nurses, more easily communicate information throughout their workdays. Currently, the common systems of communication and documentation include multiple incompatible programs, some of which are outdated and impede the efficient flow of information. I propose a software product that will streamline modes of communication, such as email and messaging, and that will integrate the programs that are used to document patient information before, during, and after appointments. This will hopefully decrease the amount of time nurses spend doing menial labor like typing, and will allow them to improve patient care through things like quicker access to patient records and reduced redundancy. Team UX in Rx is envisioning a platform that will facilitate the continuous flow of information between all involved parties.

### **Interview:**

Interviewee, referred to as DE:

- In his 30s
- Married
- Works as an Advanced Registered Nurse Practitioner at a Seattle Children's Hospital autism outpatient clinic

Transcript:

**LR: Why did you become a nurse? What were your motivations in pursuing your career?**

DE: I wanted to help people. I wanted to combine that with teaching people and having conversations with people; interacting with people and being able to figure out where they're at in their life, and help them out with whatever their goals were.

**LR: That's really cool. What is your specialty in your field?**

DE: My training is a Seattle University Masters degree in nursing. That was focused on a program for becoming a nurse practitioner (noted as NP from this point on), specifically a family NP. I'm interested in that specific nursing realm. When you get into that level of being a you can be a psychiatric NP, or a pediatric NP, or an acute care NP that has various focuses of their role- similar to different types of doctors, and the training they go through. The general idea is that with the nursing program that you apply for, you choose your program, your specialty from the get-go, whereas my wife, who is a doctor, she did tons of broad and really thorough training and education throughout medical school. Then, she homed in on the specialty... so from the nursing perspective, when you do the NP route, you hone in on the specialty from the get-go. So I wanted to be a family NP because I liked that idea of you know, kind of being a primary care provider and helping any level of - young child to later on aging adult, so I could be the first contact, the point person for any age person, knowing that I wouldn't have all the expertise to treat everything that they might come up with, but I could be a good starting off primary care role person. That was my initial plan when I went to nursing school, and then while I was in school one of my nephews was diagnosed with autism and so I had this interest in autism

and I did my research project and thesis for my masters degree on autism and I started out working in a primary care clinic doing a fill-in job for someone who was on maternity leave and that job finished; they came back from maternity leave. The job at the autism center opened up, and it was a departure from my family practice primary care nursing training, as I would be focusing more on autism... But I've found with this job that the autism expertise comes to play, there is lots of primary care stuff, whether it is nutrition or digestive problems that lots of kids have – then I'm able to use those primary care skills I have.

**LR: Is it unique for people to do more specialized fields in nursing, or do most people choose specialties?**

DE: Depends on the role in nursing – an RN, or Registered Nurse, is the most common out of school, the first step is to have a floor job out of school with inpatients. There are definitely some nurses who get training at the RN level, and are community RNs, who get more involved in research, and kind of the policy level, and engagement with communities. They try to understand healthcare from a community setting rather than from a medical unit setting, but then once you get to the level of a NP – all my classmates had to apply to the nursing program with a specialty in mid. Then there isn't as much flexibility with what you want to do – you know as an RN you get the general training and then you can specialize as you go and see if you like inpatient work, and if you don't then you can go get some outpatient experience, kind of helping out with general primary care clinics, or specialty clinics that are non-inpatient status, and jump into that as you go with your job. At the NP level, you jump into your chosen specialty and are somewhat locked into it. I proved that wrong a little bit with my job, because I got into my specialty and it's not like I was a psychiatric NP that had all this autism training necessarily as part of my nursing school training

**LR: How many hours do you work and how is that structured? I know some nurses work in blocks of a week, with a week off?**

DE: There are sometimes specific shifts, that's more for the RN or NP... but regardless of whether you're an RN or an ARNP, the first differentiation is whether you work in inpatient or outpatient care, if you're on inpatient service – like one of my friends, they ask when my “shifts” are, but I work in an outpatient clinic, which is only open during the day – during working hours. So I see patients during the day like you would at a primary care general outpatient clinic, so in that setting generally people work 8 hours, 5 days a week, so 40 hours a week... I'm on salary as a NP, so I don't get paid hourly. It just depends on how long it takes me to get my work done. With all the patients I see I have to get my work done, and that usually takes around 50 or 60 hours a week, which does include staying later in the evenings sometimes and getting some work done at home. That can be the same for NPs on an inpatient unit where they might have a shift that is 12 hours, but then they also have to get all their charting and work done, which can take longer. Regular RNs, they don't really take their work home with them. Once they're done with their shift, they

can just go home, there is nothing lingering that they have to work on at home – they're isolated to hours they're on shift.

**LR: I'm curious about what computer programs or electronic things you use during your day, and how those are used.**

DE: WE use general outlook for kind of email and messaging both between providers and scheduling people, and sometimes for communication with families. The charting system is a program that feeds into Microsoft word, so you end up writing reports in Chartscript by 3M – like the tape brand – but they also interestingly have this charting system that is a little archaic actually. You have to simultaneously use that program, which also utilizes Microsoft Word. And then the charting programs – electronic medical records vary these days. There are two main ones. Epic charting is mainly for outpatient services. And Cerner is an electronic charting system – Seattle children's uses it for inpatient services – and also using that system for outreach and charting as well.

**LR: Chartscript is archaic? Does that cause you problems?**

DE: It's an older program, so the interface looks not at all new, like the 1990s from when computers came out. Like and online surveys with a drop-down menu list with an open box and drop-down menu of options. It's not very use-friendly, the interface is also an older program without a lot of technical support keeping it updated, so you have to use old templates, which were designed to be efficient back when they were originally conceived, but you can't update the templates as time goes to adapt to the new options there are for charting new recommendations, or adding new medicines to the drop-down when new medicines are added... so it doesn't get updated as quickly at least for Seattle children's.

**LR: What about your job brings you the most joy?**

DE: Interacting with families, whether it's the challenging interactions and hopefully resolving that frustration or hardship the family has, and finding a solution that can help them be successful. So being able to work towards the most successful outcome – not necessarily a positive outcome, but helping the family move forward with whatever the outcome is.

**LR: What about your job causes you the most stress?**

DE: Honestly the integration of all the electronic systems; the arcane nature of typing up reports, and spending a lot of time typing away these long, comprehensive reports. We're just to the point of the software called Dragonspeak, a speech recognition software – you can also do old style dictation through Seattle Children's, but that's even more arcane. So that would be something. But also, the integration of the ways we do our work: so we have one software program that holds all the records, and another that we type up the reports in, and then we have to upload it to the system that holds the reports, and then the various ways information flows. Email, for example, makes a lot of things easier, but from my –

maybe old person perspective – a phone call might be an easier, quicker way to have back and forth about a question. Email you send it, and then it's hard to follow up and keep track of things. That can cause redundancy which leads to lack of productivity, and even errors. Then you just lose things that get stuck in the mass of email, and aren't followed up on.

**LR: Do you have any physical ailments because of your job?**

DE: One of the things that Children's, and most offices do, is an annual HR competencies that say you've done web-based trainings, and tests that check if you know about safety on the job: like how you lift things or patients. There are a lot of repetitive use injuries, like typing. You know, two of my co-workers always wear wrist braces they wear from carpal tunnel and too much typing. We can get desks that are more ergonomic to them – that's a well-supported part of Seattle Children's, so it's actually pretty great.

**LR: Are there any things you have grievances with that you have suggestions for how to fix them?**

DE: Harping on the electronic charting system again, I would change that and the typing factor. Typing everything out, or having another way to do that that is efficient. Dictation is not great because it loses efficiency. The Dragonspeak software is ideal, and when people use it they like it because they get immediate feedback and see it as a written report that can be edited as you go, or immediately after. I want to emphasize the philosophical question about how people use email effectively or not effectively, and making sure they use it at the right time, but then using phone or other modes of communication before things get lost. It's a societal dependence of technology!

### **Interview Summary:**

Main problems faced are

- Archaic computer programs that hinder the efficient flow of information
- Lack of integration of computer programs used
- Inefficiency and overuse of email
- Long hours doing menial work such as typing up reports

### **Research References:**

<https://www.npr.org/sections/health-shots/2014/11/07/361148976/electronic-medical-records-bui-it-for-efficiency-often-backfire>

<https://www.beckershospitalreview.com/healthcare-information-technology/25-quotes-that-show-just-how-fed-up-physicians-are-with-ehrs.html>