

American Medical Informatics Association Nursing Informatics History project

Purpose

The overall purpose of the Nursing Informatics History Project is to document and preserve the history of nursing informatics.

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Debra Konicek**Introduction: Debra Konicek, RN, MSN, BC****Terminology Manager for Nursing at SNOMED****International, a division of the College of American Pathology.**

Interviewer: Definition of informatics

Debra Konicek: It is a special type of nursing that uses computers and electronic health records in order to gather the data you need to tell how the patients are doing or to tell whether the nurses are doing what they need to do to make the patients have good outcomes. It's a whole different definition when you talk to clinicians; it's about using the available tools that you have from the digital age to gather the information you need to a) make the decision and b) verify and quantify the decision.

Interviewer: Your career in nursing/transition to informatics?

Debra Konicek: When I first graduated from nursing school, I worked on an infectious disease unit. Then I moved to Indiana to a small community hospital of about 350 beds. I was one of the first float nurses. I said I'll come to work and you can send me wherever its busiest. That was an avant garde concept at the time. They asked, "You mean you'd go to the ER? You'd go to the ICU." I said, "Sure. I'll work every other Saturday 7 a until 7 p and I'll work two evenings a week." So I was the only float nurse.

Eventually, I was put in charge of special projects and I became a nursing supervisor. I would be in charge of the whole hospital on the weekends, do staffing, that kind of thing. So I started doing these special fun projects. I started out with a parish-nurse program that provided school nurses to Catholic schools. I helped set up a clinic for the indigent; we noticed patients were leaving the hospital without their medicines and coming back with strokes. I helped be on the board of the first indigent free clinic.

Then one day someone came to me and said we have this really cool, fun special project and we'd like you to be on the team. We're going to put an electronic health record in the hospital. We were part of a multi-system hospital system and we were going to be the beta site for this project. I was in from the very beginning – looking at the vendors, choosing the system, setting up training room, training the super users to go live. I was there a year after the system was implemented.

I moved to Chicago and ran an osteoporosis center for about three years – did women's health. I got pretty tired of talking about calcium and exercise and that type of thing. This ad had been in the paper for almost a year talking about terminology and electronic health record and using standardized terms to represent what nurses do, etc. etc. I thought, "I'm going to go and find out what this is all about." My biggest dilemma and my biggest disappointment when we had put the electronic health record system in this hospital was that the implementation team came back and asked how we were doing. I said, "I'm glad you're here; I've got a list of questions." What I'd like to do is see which of my diabetics that had these nursing interventions and these nursing procedures done didn't come back to the ER in 72 hours. They started laughing at me. Said, "You can't do that." I asked, "Why not, I have an electronic health record." That was how I slowly began to learn that if you don't code something the right way, you can't get the data out later. That's what this terminology job was about.

I went in for the terminology job and I guess I was the first person who had ever asked a question during an interview. In fact, I asked so many questions, they made me come back another time. So that's how I came to SNOMED and became the terminology manager for nursing. That was in 1998.

Interviewer: When did you start formally thinking of yourself as an informatics nurse?

Debra Konicek: Probably not until I started my formal education. I came to SNOMED with my only experience in terms of "computers, electronic health records" as being on this little project team. I quickly found out I didn't know what I needed to know. So, I was lured

into a certificate program at a local institution – you take four courses and we'll give you a certificate in informatics. After I took the third course, they said you know if you sign up for a master's program, you can fold these classes in and you don't have to take the GRE. By then I was hooked. I had taken enough of the basic courses that I kept learning and learning. As an adult learner, it was so much fun for me. And, I probably started thinking of myself as an informatics nurse about four or five courses into the program. I had been in my job about three years at that time. We started to network with other informatics nurses and started to join professional organizations.

Interviewer: Was there a particular moment when this came together for you...?

Debra Konicek: I think it was a gradual process. I had phenomenal mentors along the way who had promised me that certain things would happen and there would be an ah-ha moment and it would work. Our first project at SNOMED was to go out and invite all the existing nursing terminologies in the U.S. that were recognized by the American Nurses Association to be part of SNOMED, which is a huge health care vocabulary.

To that goal, I invited the developers of those terminologies to a meeting. I was naïve not to realize that this was the first time all of these very important, significant people – in terms of nursing terminology – were all in the same room at the same time. I didn't know that was as big a deal as it was. But we got everybody to agree and we put six different nursing terminologies into this huge health care terminology. I think the ah-ha moment for me was when I opened up this health care terminology that was being used to be the backbone of the electronic health record in terms of people being able to share data. When I saw that nursing concepts from a variety of places, a variety of origins, all either were synonyms of the same concept or all subtypes of the same concept. Right away, I realized that no matter what specialty you are in nursing and no matter what you're trying to document, if you use a standardized coded language to do that, we can all share data.

The nurse can take the patient from the OR to the ICU and discharge them to the home. And, if we're all saying the same words, then we can all talk about the same thing and get

the same outcome. There's an old Chinese proverb that the beginning of wisdom is to call things by their right names. Nurses have a lot of different ways that they think is the right name. If I say "the ability to walk," and you say, "the ability to ambulate," the computer can't read the words. But it can read code. If those two terms are linked to the same code, you can share that data. That was a big ah-ha moment for me; it was like magic.

I opened up the release of SNOMED C2, which is this big health care terminology. I went looking for nursing concepts and found, oh my gosh; four or five of them are all linked to the same code and that's the way it should be. Then, the thing that goes beyond that is words you're not using in standardized nursing terminology. You're just using your word in rural Minnesota that you use for this. If it's mapped to a standardized terminology like SNOMED then you can interact with of all your nursing terminologies.

We can get credit for what nurses do. We have a way to do that. I think that was my big ah-ha moment. I wasn't smart enough to know that the ah-ha moment should have been when I had all these nursing big shots, as my kids call them, in the same room at the same time. I didn't know that was a big deal. I probably would have been terrified had I known that.

Interviewer: When was that?

Debra Konicek: 1999. When I came to SNOMED, it was a health care vocabulary but it had very little nursing content in it and I was mentored by two really brilliant nursing informaticians who gave me their vision of how we should start and their suggestion was to start with what already exists. Common sense. And then go from there to see what's new.

Interviewer: Was there any kind of dog fight? Atmosphere of that meeting.

Debra Konicek: It was very tense because terminologies to nursing terminology developers are like their children. It's like their babies. They got grants from the government, from nursing research programs or whatever to develop these things and they're very intimately involved with them. They know every concept, the background of it, why it was

formulated, that kind of thing. There's a big overlap among these nursing terminologies in terms of their purpose, or their environment in which they're used, that kind of thing. There was fear: if we do this, if we become part of a large health care terminology, do we go away? What's our reason for being anymore? That kind of thing. Had I known that was a lot of the underlying issue, I would have addressed that right away. But I was new, too. It was a lot of "how am I going to continue to be successful? Or is my place in the word going to be....."

Interviewer: Who helped you develop your career?

Debra Konicek: There were two key people. When I came to SNOMED International to be the nursing terminology person. SNOMED has a mechanism where they have a governing board and decisions about content are made there – a SNOMED editorial board. And, SNOMED is very nursing proactive. They already had on that editorial board a representative from the American Nurses Association and a nursing consultant. The representative from the ANA was Judith Warren and the nursing consultant was Suzanne Bakken. I went through the interview process and thought, yeah, this is something I think I'd like to do. They said come to the SNOMED editorial board and just get a feel for what happens there. It was held in a meeting room in Chicago at a big hotel. I went down and was there about 20 minutes and thought, "This job's not for me. These people are nuts. They must dream in code, they must sleep code, live code, eat code. This has nothing to do with clinical practice, has nothing to do with nursing. They were talking about huge ontological algorithms. I thought, "This is nice, thank you very much, but I'm not going....." So Sue Bakken and Judy Warren took me out to lunch and described their vision to me. They told me they would mentor me and help me. I was so excited after that lunch thinking this is what I thought it was going to be and here were two brilliant people who could help me with that. They helped me form the nurse working group at SNOMED, they helped me invite these terminologies there, helped me figure out how to put them in, and became a key part of my job life as well as my personal life. They were the ones who encouraged me to go to grad school. They're the ones who are after me now to get my

PhD and they've just been really, really wonderful mentors. And, they've introduced me to the whole nursing informatics mentoring community. The first time I went to AMIA, they made sure I met Ida Androwich – because she lived in Chicago.my advisor at Loyola. There's all this synergy, it's all this nurturing; it's all this caretaking. It continues to pay forward. I now have graduate students from Loyola who come and stay with me for two semesters at a time and I can see myself doing for them what was done for me. It's just so much fun.

Interviewer: Your contribution to field if Nursing Informatics?

Debra Konicek: My primary contributions to the field I think would be in terms of the convergence of all these different nursing terminologies into one large health care terminology – health care terminology that's provider-neutral, but yet those nursing concepts live within this large health care terminology. So when you're building an electronic system, you can choose a nursing concept to populate a field that a physician uses; you can use a physical therapy concept to populate a field that a nurse uses. We're all using the same types of concepts to represent the patient experience and what nurses do. If you asked me what I want to be remembered for – or why I was invited to be part of this video – I'm thinking its because of having this vision told to me by these two really brilliant women, that I was able to through the support of a not-for-profit medical society that values electronic health records being able to share data and that nursing was a key piece of that – giving me all the tools I needed to make nursing a key piece of that. So now we have a mechanism to represent what nurses do in a standardized, coded way so that we can get credit for what we do and we can represent those nurse-sensitive patient outcomes.

Interviewer: What impact is this struggle (to come up with terminology) having on the field of nursing and on nursing informatics.

Debra Konicek: I think on the field of nursing, it's a whole spectrum. Nurses now at the graduate level are getting introductory courses into why it's important that you document what you do in such a way that you can collect data about it later. There are intro informatics courses

now at the undergraduate level. At the graduate level, it's a no-brainer. It's just part of their curriculum. No matter what kind of specialty they're in, in terms of the electronic...the electronic health records are here. And they're coming. And if you want to be part of that, you need to be involved in the development of them so they can represent your practice and be user-friendly for what you want to do. If you're a nurse practitioner that's billing you're going to have to learn how to do that as well.

The biggest challenge to the field of nursing is the nurses who are the average nurses in the United States – those nurses who are 47 years old, working in systems, who are scared to death of electronic health records. It's even getting them used to the idea of electronic health records and then bringing up that next piece of why it's important to document what you do the way that you do to get credit for what you do. That's a real hard nut to crack – a real hard idea to get across.

I try to put myself in those kinds of places. Not just where informatics nurses are but where regular nurses are. Like going out to domain specialties. Like going to the anesthesia nurses; going out to the endoscopy nurses, or nurses that really want to represent their practice and talking to them about what those issues are.

Interviewer: What needs to happen next?

Debra Konicek: That's a big question. There's a variety of people who have a responsibility in terms of that. From my experience of putting an electronic health record in the hospital, I realized that the people who are at the actual institution where you're putting in the electronic health record have the responsibility to their seasoned nurses, as do the education people in the hospital. This shouldn't be a big surprise that when the electronic health record comes in, the seasoned nurses are surprised that there are some quality things they need to be doing based on certain criteria to make sure the patient has a nice outcome. By the time the electronic health record comes in, the educational piece in terms of continuing education or hospital education department should have already been there in terms of: the evidence shows us it really makes more sense to do it this way. Those types of things

should already be there. Then it's a nice jump into the fact where, yeah, in order to take care of that quickly without any extra pain to you, if we build your template for the peds. ICU and the way you want it to look and we build in those data elements that are going to collect that data that represent best practices, you're home free. If you can build a screen for them so that when they populate it, they get an automatic report later, they buy in. There's a lot of responsibilities there: it's the initial institution, it's the initial nursing group, it's the education department, it's the vendor who makes it easy, and it's people like the nursing informaticists who make it happen.

Interviewer: Advice for people thinking of this field?

Debra Konicek: I have a funny story about that. Someone asked my students the other day what did it take to become a nursing informaticist? That's a great name. We call our nursing informaticians and informaticists but we really are nursing infomaniacs. We are nurses that are crazy about data. Then that went down the wrong road – if you're a kleptomaniac and an informaticist, do you steal data, etc....

This was a diabetes educator who wanted to get into the field. It's telling her, "What are the things you like about your job right now that the computer could help you enhance that.....or understanding knowledge of how you collect data would help you enhance that, or in terms of being interoperable with other professions or other systems. How would that help you? I'm a really enthusiastic supporter of terminology. I think it's fun. I think it's an addiction. When I talk about that, a lot of people come up and ask how can I get involved in your work?"

Nurses always want to get credit for what they do. When I talk about the peri-operative nursing data set, about the fact that this will allow the OR nurses to absolutely have great data to show that OR nursing makes a difference to patient outcomes and they can't be replaced by technicians. Those kinds of things turn people on. People want to get credit and they want to become responsible members of the health care team. They don't want to be left behind. The quickest thing you can do for a nursing group is say only the

doctors are ?? because they're going to get this functionality. Nurses not yet. Why not? We should have gotten it first? We do the most documentation. It's an easy sell.

Interviewer: Do you have a guiding principle or vision?

Debra Konicek: My situation is unique in the fact that the team I work on, I'm the only nurse. I'm the SNOMED nurse. My vision is to help other professions understand what nurses do and how you represent that in a clinical record. Right away I got thrown all the content-related, psycho-social functioning related to the patients' ability to wash themselves, that kind of thing. But now as a respected member of the team, it's fun to see how other content areas are recognized as relating to nursing as well. To see the respect that physicians have for the nursing process. "...let's think about this. It's an assessment; it's a plan; then it's an intervention; you have to set a goal for the patient first; and a goal is a type of observation but you do set a mood to it – the patient will do this...." There are a lot of key learning I'm bringing to non-nurses that are really going to get nurses rewards down the road in terms of electronic health records. When we go out to talk to vendors, to user applications, they want me to come along because of my insights. Not necessarily my nursing insights but my end-use of clinician insights. How does the anesthesiologist and their data set relate to the peri-operative nursing data set? And what are the overlaps? And what are the combined learning that we can use so we don't reproduce the same things. If we're verifying the patient's name, allergy, and site of procedure and so is the anesthesiologist that's ridiculous. We're all doing the same thing at different times but it's patient-centered, not doctor- or nurse-centered. That's my vision for what I bring to the profession as we go forward.

Interviewer: Do people get it that terminology supports the whole profession?

Debra Konicek: Oh sure they do. The orthopedic nurses call up and say we've made an orthopedic nursing data set because we want to be able to represent what we do. We say tell me about some of the concepts that are in that data set. They go, we have cast care. We say, that's great but you know what? So does the nursing intervention classification, so does

the home health care classification, so does SNOMED. Try to find something you do that's unique to your profession that's not anywhere else. That's a lot of fun for them to look and see what that's all about. But to that extent, too, I'm not advocating that everyone make their own data set. They're hard to do; they're hard to maintain; and it's a lot of work and it's expensive. So when nurses come to me with those types of ideas, I usually try to steer them to something that already exists. I see that as part of my role, too. As more and more nurses become more and more digital and more electronic-health-record driven and they want to develop their own "pathways," standards of care that are populated by standardized coded elements, let's figure out a way we can all work together to do that. We don't need to be creating these things independently.

Interviewer: What do you like most about your work?

Debra Konicek: If you'd asked me five years ago, I'd have said what I like most is the puzzle. It's taking concepts and finding out what type of a thing is this, where does it go, what type of things can I say about this concept to make it unique from other concepts so we don't have collisions and those types of things. I've matured beyond that now to the point where the most fun thing about my job is this networking. Helping people solve real problems about representing what they do. It's working with vendors; it's working with groups like the nursing terminology summit; it's working with my nurse working group in the UK, and having people come from Denmark and Austria and The Netherlands, Ireland, Wales, Scotland all sit in the same room and talk about the same issue. How they're trying to solve it and how that interacts with how the nurses in the U.S. are trying to solve the problem. We might call it different things but it's all about the same issue. It's all about patient care. What turns me on now is working with other nursing groups from around the world and helping to try to solve problems for an end-user nurse at the bedside trying to put a system in place that's going to represent what she does. And helping the vendors and the users figure out the terminology piece that pulls that all together.

Interviewer: What qualities do the leaders share; what does it take?

Debra Konicek: It's not a lot different than leadership skills you would expect in any other type of organization. Who are the Mother Teresa's of the world. Any kind of natural leaders all have the same characteristics. I don't think they're that much different in nursing informatics than any other nursing leaders. The focus is the same as nursing leadership. It's what you would expect: it's the people who have the vision; it's the people that care about making a difference; it's the people that have the respect and the ability to carry forth sometimes really wild ideas and get buy-in from disparate number of groups, that kind of thing.

I think it's been hard for me professionally because being in nursing administration, I felt comfortable being a nursing supervisor, being in charge of a whole hospital, telling physicians they couldn't do things, managing complex trauma cases, that kind of thing. But this is really different for me. It was learning how to be among nursing leaders in a field I knew really not a lot about. I tell the story all the time when I give presentations but I think what brought it home for me was when I came home from that meeting with all those nursing terminology people and I was so excited and so worked up. I have four teenagers at home. I was say, "you won't believe this....this and this and this...." One of my sons said, "Mom, did all those big shots you had in the room know you weren't a big shot?" I said, "You know what, Andrew, they were absolutely well aware of that." But, they were kind and they were generous and they knew that at that time in 1999 and now they're my colleagues and they still give me lots of new information and still help me increase my knowledge. They've brought me up to their speed and accepted me as an equal even when I didn't have a clue. They let me grow, they let me ask the questions that I needed to ask to find out what I needed to do, and I'm just forever grateful for that. I hope I learned those skills from them and am passing it on to the next generation of nursing infomaniacs.

Interviewer: What's the view from the summit -- current state of affairs?

Debra Konicek: The terminology summit was organized in 1999 and 2000. It eventually became a think tank of how to solve this problem of all these different nursing terminologies, SNOMED,

messaging standards, international terminology standards, how does this all fit together and how do we get this unified voice and solve this dilemma? We had vendors come; we had standards development organizations come; we had people come from different countries. We found out right away that we were ignorant in terms of what the issues were, what the different models were for terminology in terms of electronic health records. We had to learn things like HL7; we had to learn a lot. Those first two years were learning a) how to collaborate, b) how to not be afraid – to let people know we didn't know, and c) to learn.

As part of that learning grew, we started to form individual working groups to tackle individual issues. Working groups grew out of the summit; each year new working groups formed. My view from the summit presentation today was we had a presentation this summer. Now that we're a little bit more street smart about these terminologies, how does one map between terminologies if you're using different ones?

Interviewer: Where are things now?

Debra Konicek: The summit has become an established known entity now in terms of where to send terminology problems from a nursing perspective. It comes in a variety of ways Things get funneled through me from nurse end users. Right now there's a nurse working group from the summer that's looking at how you represent terminology in assessment scales. Like if you're administering a scale to tell how much pain your patient's in or what risks there at to develop a pressure ulcer or what's their coma score. How do you represent that terminologically? That came from vendors and from nurse end users sent to SNOMED and I sent it to the summit. So we have a work group looking at that. Some work groups have done a task and finished. They've finished a project and published a paper and are ready to take on a new task.

Every summer we rethink it. Should we do this again? Judy Ozbolt can tell you more about that. She's the summit guru. Every summer we get re-energized. We form new work groups, new tasks, and we agree to meet again. That was basically our

responsibility – to let the AMIA informatics group know what we did this year and we do that every year. We give them an update – and gave them more information in terms of our website we're going to develop and asked them what kinds of things they want us to put there.

Interviewer: Is the terminology issue ever going to be settled?

Debra Konicek: Yes. With electronic health records and with standards, if we have governments or funding agencies like third-party payers like insurance companies and government users and other countries all agreeing to share the same terminology, which is the vision for SNOMED CT, that will be solved. In terms of everyone's going to be using the same underlying fundamental reference terminology to drive this system. It's never ending. It's a moving target all the time. Different vendors are always going to want to add their own disclaiming. In Alabama, if you want to call it MRI, and in Connecticut you want to call it Magnetic Resonance Imaging Scan – or if a nurse wants to call it intake-and-output and someone else wants to call it measuring-fluid-volume-in-and-out – those things are always going to happen. It's going to be up to end users to define what they see on the screen. It's going to be up to vendors to keep that collection. It's going to be up to vendors and end users to send that to SNOMED or to Nursing Terminologies to be added as new content, to be added as synonyms of existing content.... Maintenance: It's like any large body of knowledge. Research. We find new things. We have to add new viruses. We have to add new procedures. When Christopher Reeve had his diaphragm paced, we had to add a diaphragmatic pacing concept to SNOMED. Those testings are always going to be going on. I think the problem of shall we all use the same thing, shall we all use it in the same way, I think we're on our way to having that solved. As the U.S. initiative toward the electronic health record for all citizens becomes more stable and as the B..s? and L...s? of the world talk about interoperability, standards are key to that. Vocabulary is number one and terminology is full central. We're always going to have maintenance updates, refinement issues. That's what makes it fun.

Interviewer: Anything I haven't asked you about NI that you think is important to add?

Debra Konicek, RN MSN BC

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Debra Konicek: When I was asked to participate in this, I was thrilled because, as a new – I still consider myself a new nursing informaticist; I've only been doing this job since 1998 – the thing that was always missing for me was where to go to learn about what had gone before me. I am a huge advocate of Florence Nightingale. At SNOMED I would celebrate her birthday every year and I would put up her quotes because she was such a forward thinker in terms of informatics and in terms of statistics. I could read about Florence but what about all the people who came after Florence in terms of nursing informatics, especially recently since it's become a new field, since the '50s. People were talking about Harriet Worley; where could I go to read Harriet Worley's story? I met Virginia Saba and the first few times I met her, I was just so in awe I couldn't begin to ask her the questions I wanted to ask. So, this is such an important piece of work for the nurses who are coming after me. Would I love to give this video to my nursing students from Loyola? Wow, absolutely. Would I love to give it to brand new nurses going into the undergrad program? Sure.

That was something I always thought was lacking – a history of where it's come; histories of the processes, what we did, how computers came into nursing, that kind of thing. In terms of the leaders, in terms of who had the vision for what and how that all evolved in a timeline. That's what was missing for me. We've come a long way since Florence Nightingale. We really have, but she's still my hero.

End of Interview