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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Kathleen A. McCormick

K. McCormick: Kathleen Ann McCormick. K-a-t-h-l-e-e-n A-n-n McCormick, M-c-C-o-r-m-i-c-k. My title is Senior Scientist, Vice President of SAIC.

Interviewer: How did you make the transition into informatics?

K. McCormick: The way I made my transition to informatics was in graduate school, and my major professor had an M.D. and a Ph.D. in computer science. And we were… I was studying cardio pulmonary physiology, and at the time, the entire laboratory was online with 1970's equipment. So this is old Link 8 computers, with the ticker teletype, and the card type of computers. And instead of taking a minor and my doctorate in Italian or French or Spanish, which I was afraid I couldn't pass, I took computer science. And so as a cardio pulmonary physiologist, I'd still be calculating my data now if I didn't use computers. And I collected all the data online, and Dr. Birnbaum mentored me and his staff on how they use the computers to collect all the data and do that. So it wasn't it my first bachelor's degree in nursing, it wasn't in my first master's in nursing, it was in my graduate work in physiology that I started in the 70's becoming computer literate.

And we actually… I took FORTRAN and COBOL for programming languages. And I used to go to the lab with my stacks of cards, and wait to find some handsome computer science person to help me with, with all of it, and to mentor me through, through it. So it's a long time.

And on the weekend, there was a doctor in Wisconsin, who was setting up the first type of computer to read a case scenario, and then answer questions about the case. And the fun that we used to have in graduate school was after we would do our work with our animals, we'd all go into that lab and we'd read these case scenarios and try to answer the questions that he was building for the medical students. And this was in the 70's.

Interviewer: When did you realize that the technology would be useful?

K. McCormick: Well, I think the first job I had at the Clinical Center at NIH after my doctorate. And they had just built the computer system there; they were very innovative. And having studied the computers and using them for my research, I thought I had died and gone to heaven that the whole hospital was computerized and that they actually had implementing it. And so it was the combination of my research background, and then working as a… developing a program in clinical practice in a real live hospital, where the utilization of the computer was collecting the data for potential research, potentially to collect for quality, patient safety, and what we were doing in healthcare. So it was at that time coming back to nursing, while I had been away for seven years in a cardio pulmonary lab, studying computers, watching them develop, which was the old Teknekon system that became Eclipses now, and they had implemented it to see the potential value of collecting real patient data then in hospital practice.

So we queued the hospital database. And I asked the hospital database, 'What are the most important nursing problems here?' And it came out with a list: communications with the patient, pain management, mobility, comfort measures, sleep. And I brought it to Bernice Ferguson, the Director of Nursing, and said, 'Here's the main nursing problems here. Look at this.' And then we started saying, 'What else can we do with it? What else can we pull off this machine and get the data?' So it was taking from what I had been doing in research and bringing it to nursing in a hospital research environment.

Interviewer: You were poised.

K. McCormick: I, I was poised because I had that research domain, the new IT domain, and I walked into a hospital that was totally IT-literate, which was very innovative at the time. And one of the, the… as you heard from others, you know, it's been going on for years, and they keep getting better and more sophisticated in how they use the system.

Dr. Kathleen A. McCormick   Nursing Informatics Pioneer Interview

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

K. McCormick: Well, I think that at the same time working at NIH it became apparent that, that I was one of the only ones who understood it. And they were asking the nursing staff, I was asked to give courses on what is a computer, how do you use it, what can you use it for, what are the applications. And started a course at that time in the early 80's with Virginia Saba at the NIH, and it was the first course in what's a computer and how can you use it in health. And it was called the Graduate School of NIH, the FAAS. And at that time, we started, you know, teaching about it, and we used our class notes to write the first book in 1986 that came out as a textbook. We thought, 'This is important for all nurses, not just the NIH nurses. Others are going to need this, that if this IT can help us in a big clinical center of research, others can use it as well.'

So we taught the course, and at that time it was my avocation. It was like your hobby. So you're a first adopter, an early adopter. You're way out there. I remember giving a lecture on it in the early 80's with Virginia Henderson, and after I finished she said to the audience, 'What planet is she from?' And it was the stuff I was using in my job. And it was the first time I realized that we were doing maybe 10 years ahead of what other people were doing. In my personal research in cardio pulmonary research, I was developing the computers with students from Hopkins and the University of Maryland to support the research. And, again, it was considered my hobby and my avocation, not, not my, my job.

And it was when I got to AHRQ and I was working with Mike Fitzmaurice is developing accelerated electronic health records outcomes management, decision support, talking about unified vocabularies and uniform vocabularies, and the differences between them that it started becoming apparent that I was nurturing this, this whole discipline of informatics, too, [uhm] at the same time.

Interviewer: In the early days, were you met with skepticism?

K. McCormick: Mostly, most kind of reaction I got was I was a futurist. I was always labeled a futurist, someone who had vision, someone who was seeing what other people couldn't see, connecting the dots, people who could put things together and establish networks to support things like this.

Interviewer: What do you see as your major accomplishments?

K. McCormick: I think as I look at what I've contributed most to the field of nursing informatics is has been in preparing a critical mass. When Virginia and I first wrote the first book, we were establishing a text that allowed schools of nursing to actually teach a course in informatics. We were also, which we didn't realize, starting to stimulate in people the vision, their vision, to become specialists at those areas. So I think… and we were… and we were stimulating and international market, too, at the same time. It… we were… our books were known in English-speaking countries. And so internationally, they were starting to get the idea of nurses in informatics. And some of them were way beyond us, even.

                  I think the textbook, my personal research, and using the computers to support it have been significant contributions. And then combining them in the concept of the evidence-based healthcare, and directly the guideline program, and then decision support system of how you actually embed these into the IT to get the bang for the buck at the bedside where people are making the decision, or now as we're seeing with their Palm Pilot or their wireless system that they're actually making decisions as they're seeing the patients.

Interviewer: You do work at AHRQ.

K. McCormick: Yes, at AHRQ, I directed the Clinical Practice Guideline program, and established some of the methodology, issued the first AID guidelines out of the agency, and co-authored the one on urinary incontinence in the adult with an […unintelligible…].

Interviewer: What time was that?

K. McCormick: That was in the late 80's.

Interviewer: Did that work at AHRQ involve information technology?

K. McCormick: Well, after the Guideline program, I started working with Dr. Mike Fitzmaurice on computerized decision support, the electronic health record, and accelerating those programs. I was project manager for some of the early standards work, and we implemented some of the standards development things that were going on. AHRQ actually facilitates the standards development at ANSI in the ANSI HISP

Interviewer: Who were some of the folks that you have collaborated with?

K. McCormick: In nursing, I think Virginia Saba and I have, have shared a lot in the development. Virginia focused more on the community aspects, as well as getting the content for what is a computer and how can it be used. I focused on the applications. So it… I've, I've written the chapters or I've now in the past two editions coordinated the editors and the writers for the chapters that describe the applications: How can we use this stuff? Where are we using it? What's innovative? I've also maintained the future-type things. So for nursing, I think Virginia and I have collaborated on the informatics area.

                      In terms of other mentors in nursing, I think Faye Abdellah, is a very important person. When I was coming out graduate school, here I am a nurse with a master's, with a master's in physiology and a master's in… and a Ph.D. in cardio pulmonary, with a minor in computer science and, and pathology, and I asked her, 'What should I get into?' And she said gerontology, aging, computers, and stick with nursing. So did. And I became a fellow of gerontology, a fellow in medical informatics, and a fellow in nursing.

For callings outside of nursing, I like Mike Fitzmaurice who I mentioned, who I worked with at AHRQ. He's very involved now with the NHIN, with HIPAA, and standards, and has the vision, also, for where the electronic health record can go.

In terms of others, while I was in the public health service, Dr. C. Everett Koop was the Surgeon General for 12 of my 30-years' career. That's a long time. And he influenced me in terms of his vision for healthcare, but he put me on the Board of Regents representing him at the Library of Medicine. And there I learned how Don Lindberg thinks and works. And so I was like the tenured Board of Regents person, and I sat on the Board of Regents, and I learned a great deal. I call it my post-doc in medical informatics and health informatics by sitting on that board, and being a part of that.

Then after I retired from the military and from the government, I went to work in a company called SRA International, and Dr. Gary Nelson mentored me. And he taught me how to build a business plan, and what… how to convert this stuff into business. And I have to say that Gary Nelson was very influential now in my new type of work.

Then I left SRA and I'm now with SAIC as a senior scientist and the people there who run the program are now my new mentors in information and how they think and what they do.

Interviewer: Talk about the early meetings.

K. McCormick: Yeah, so some of the early meetings that we had were at SCAMC in 1980, and I attended all of them. And we met in a small room, five or six of us, and we talked about 'What is it that we offer that's unique?' And tried to identify 'What's our niche in this world of healthcare informatics, and where, where can we take it? Who do we have to train? How can we network? Where are we going to establish these networks if we don't have them educated? How will we influence this profession?' We talked about who we had to

liaison with, how important the ANA would be to this. And they became very active and very influential in this, even certifying people in nursing informatics. Very early on they saw the, the vision. The National League for Nursing—we said we had to have the National League involved with this, or it would go nowhere if they didn't say that it was important for academics. The Division of Nursing…

Interviewer: Who were the five people in the room?

K. McCormick: Well, Virginia, for sure, was there. Judy Ozbolt was one of the early adopters, I think. Harriet Worley was there in the room. Norma Lang was there. And myself, and, Virginia, you know, keeps us in the diaries of the history of nursing. But the ones that I recall were the first leaders in informatics.

Interviewer: When you look back… what's your sense about then and now?

K. McCormick: Well, I can just tell you that it took a lot of work. It took lots of personal commitment, outside the job type commitment, and lots of further meetings, lots of engagement with people internationally to make this happen, and lots of academics who, who were challenged to continue this, and teach this, and develop it into a science and a profession.

I think that right now, as we look at it, it doesn't surprise me that the nurses are, are in such demand. The vendors need them to implement systems. Academia needs them to teach more. Some of these programs have almost a thousand people applying for master's and doctorate programs. They need faculty. And industry needs them. So there's… and, and then we need them in practice—in public health, and in bio-defense, emergency preparedness, in the hospitals—all these environments, we, we still don't have enough. And as Dr. Saffron says, we, we need at least 6,000 more to be eligible for some of the new things that are going on in healthcare.

So I think, yes, we've done a lot, but, man, there's new things to do, important to do. And we still have a lot more to do.

Interviewer: Other meetings, events that are milestones in the history…?

K. McCormick: Oh, definitely. I think, first, the… from the national basis with SCAMC, and then with the addition of HIMSS, going more to the show and tell type of, of applications, and their commitment to it. It's become two forces moving together. Internationally, the International Medical Informatics group—we started in the 80's meeting together. And then moving around the world, moving around… and each year setting a target for advances in this area with a book that we would write, and, and books that we would write, and, and groups that we'd collaborate with, and learning from each other what was going on internationally. And I think the International Medical Informatics group has helped lead this greatly.

And we became a group that could support each other, too, within our professions, teaching each other about what was going on in our respective countries. And we learned a lot from each other—where there was national healthcare, what they were able to do that we weren't able to do; in areas that were remote like Australia, with Tele-Help, and the use of it. It would come back and would expand our horizons here. So I think the international has greatly influenced me. We used to laugh. We said at first, we used to talk about our children and child rearing, and our husbands, and what we were doing in informatics. Then we'd get into talking about, you know, hot flashes, and what we were doing in those areas. And now we're all talking about grandchildren, and who's getting married, and what our children are doing. And so we've, we've not only followed the profession of nursing informatics, but we followed each other throughout our lives, and we're… I'm very close to some of my international colleagues, too.

Interviewer: Any guiding philosophy in your work that has helped you be a leader?

K. McCormick: Well, I think that nursing is a good base to start a lot of this. I think it gives you a good

clinical practice and an understanding of the life spectrum. So I think that it's a very

good base of, of clinical practice, and how to work collaboratively with other people.

And I think the new programs in advanced practice, and the new programs in nursing

informatics are especially important if they want to focus in… specialize in particular

areas. I think that each area is… has become a specialty now. There have been… the

nurses who are working in consumer health, they are specialists in they, and they've

developed it and nurtured it through their graduate education… [noise]

Interviewer:

K. McCormick: Yes, I think that there are specialties now within nursing informatics. I think the area of

public health, emergency preparedness, bioterrorism is a specialty that… beyond nursing,

and advanced nurse practice. The nurse practitioner with the different types of IT support

to support the practice is becoming a, a new specialty. I think that in the area of

gerontology, the uses of tele-medicine, home health, the area of sensors to monitor a

large group of patients is becoming a specialty. I think that the new things that are going

on in genomics and bioinformatics is becoming yet another specialty. Distance learning

for those who are more academic. And those who are in advanced practice, I think the

use of tools to manage their practice, manage the hospital, manage the staff are becoming

new specialty areas.

Interviewer: Who were some of the people you've enjoyed mentoring?

K. McCormick: Well, never having been an academic, I have been an adjunct faculty and on people's

committees, and so I've been a guest academically. When I look back at the first book

and who was even living [laughing] then with the first book in the 80's, the students of

those textbooks, who then went on and developed their master's or doctorate degrees. I

was on the committee with Kerry Myer Petrucci, and Kerry in Seattle, Washington; Lynn

McQueen, who was working at Hopkins, and I was on her thesis committee, and then

Lynn went on for a Ph.D. in public health and evidence, and became a specialist in evidence-based healthcare and quality, and now she works at the VA hospital. I was on Patti Abbott's thesis committee, and I know Patti still thinks it was a rough thesis, but I was helping her, and I'm very proud of the things that she's doing. Kathy Milholland, I was on her thesis committee, and she's been our consultant, and specializes in that. Oh, I know I'm forgetting so many, but it's, it's been a thesis committee person.

[change tape]

Interviewer:

K. McCormick: I think if you look at the demography of the country that the aging problems aren't going away, and there will be more of us, and that we will create very new and creative needs of the use of IT. So I would say, like Sarah Geller said to me, aging is going to become one of the problems, and it's not only going to become one, it's not going away. It's going to intensify.

The other is in the area of bio-defense and public safety, and emergency preparedness. I don't think those issues are going away for a long time, whether they're natural or whether they're artificial. And I think that what we have to do is to start preparing networks of people who are especially well-trained in those areas, that what we prepared was a lot in community health nursing and hospital nursing, but we have to branch out into these areas that they receive the training, but then they're off into their states, and public health departments, and the RHIO's, and in emergency preparedness, and they don't have any network or any groups of people behind them.

I think in the area of genomics and bioinformatics, I think that nurses have been the genetic counselors and have developed a lot of the rapport with the patients, and in that area. And that's changing the way we think about healthcare in the future, and I thin we will definitely need more nurses who bring not only the nursing, but the new IT skills to

bear in our new type of practice. I'm very worried that the science is going faster than we're going in that area, that what I support as a researcher and scientist, and I see coming is very fast, and that we don't have enough people who will understand the applications of that in their practice, whether they're nurse practitioners, preventing or diagnosing or seeing patients, or they're nurses in hospitals, or they're nurses in bio-defense. It's very much integrated.

And so I think those same three areas—aging, public health, and information systems—in the future are going to remain in our future, and we need nurses who have specialized training in those… in those areas.

Interviewer: What would you say to somebody who is looking at nursing informatics as an option?

K. McCormick: I think it's a wonderful career option. I think it's a nice combination between a clinical practice and the technological area that we now live in. And I think I think that if you look economically it's also very good for people. When you look at the HMS data, it requires a lot of challenges to get there, but I think that the application and the domains that you can work in are diverse. And so it gives you diversity, as well as a very good feeling of, of contributing to the advances in healthcare.

Interviewer: What was the work like in the early days?

K. McCormick: Well, I think it was over and above the call to duty of our job. It was volunteerism. It was on committee. It was structuring some of the vision. It was writing papers, publishing. It was getting the message out. It was lecturing and traveling. And it was doing a lot of things that took a part-time job over and above. Writing books, getting the content down on paper, the theoretical frameworks, and…

Interviewer: Was there a common core belief that you all had? What kept you going?

K. McCormick: Oh, I think that… well, personal reinforcement, in terms of after you'd give a presentation… in the 80's, I was talking about this is what we could do with these systems—for research, for quality, for knowing patient areas, for understanding the patients we're taking care of. And it was a reinforcement when other people would go, 'Oh, I could use that. We can do that in our place.' So there was that, 'Oh, I can do that.'

The other thing is people who have come up to me and said, 'You know, you've influenced my life? After what you told me I could do I went on and got my master's, and then I've done that,' including far distance places that they've said that it's really influenced how they went about thinking.

I think another area that I was talking about in my 80's was the vocabulary area, that we have to talk with a common vocabulary, and that it will only be by using common terminologies and, and defining what we're saying that we'll be able to retrieve it for outcomes and for quality. And I think perhaps seeing the movement of people that took off on that, and that it became its own reinforcement, that people doing it, and you could see the field moving in that direction. I think now is the… perhaps the best time to say that we're in health informatics. And we sit back and we say it was 26 years we've been saying, 'We got to do this,' 'We got to do that,' and finally seeing the momentum.

I think, also, getting reinforcement from some of the patients. People who do a survey, and find out that the nurses are the biggest advocate. They trust us. They want to be with us on the web. They want us to go with them where they are in the patient record.

So one of the things I want to add to the future is that patient-centric, and the concept that we have been the patient advocate. And if they're going somewhere else, we have to go with them. And we need the nurses who have been consumer-focused, patient-centric-focused to help us get the nursing profession where the patient is going.

Interviewer: What do you enjoy the most about your career?

K. McCormick: What have I enjoyed the most? I think I like publishing the best. I… if I had no financial commitments, no family commitments, I like writing. And I like strategizing something really hard and trying to solve it and write about it, and say, 'Oh, here's a solution. Here's what we could do.' And that's been very reinforcing, and… [siren]

K. McCormick: I think the second is through publication, I've realized that's how others internationally know about us and what we do. And that was how did they… how did they get this information? It's only through what we publish.

And so I think that now at my age if I could publish more and more. I've got so many things to tell people and not enough time.

End of Interview