

Karen R. Karni, Ph.D.
Narrator

Emily Hagens
Interviewer

ACADEMIC HEALTH CENTER
ORAL HISTORY PROJECT

UNIVERSITY OF MINNESOTA

ACADEMIC HEALTH CENTER ORAL HISTORY PROJECT

In 1970, the University of Minnesota's previously autonomous College of Pharmacy and School of Dentistry were reorganized, together with the Schools of Nursing, Medicine, and Public Health, and the University Hospitals, into a centrally organized and administered Academic Health Center (AHC). The university's College of Veterinary Medicine was also closely aligned with the AHC at this time, becoming formally incorporated into the AHC in 1985.

The development of the AHC made possible the coordination and integration of the education and training of the health care professions and was part of a national trend which saw academic health centers emerge as the dominant institution in American health care in the last third of the 20th century. AHCs became not only the primary sites of health care education, but also critical sites of health sciences research and health care delivery.

The University of Minnesota's Academic Health Center Oral History Project preserves the personal stories of key individuals who were involved with the formation of the university's Academic Health Center, served in leadership roles, or have specific insights into the institution's history. By bringing together a representative group of figures in the history of the University of Minnesota's AHC, this project provides compelling documentation of recent developments in the history of American health care education, practice, and policy.

Biographical Sketch

Dr. Karen Karni was born in Soudan, MN in 1941. She graduated from Tower-Soudan High School in 1959 and completed her bachelor's degree in medical technology at the University of Minnesota in 1963. After graduating from the University, she worked as a practitioner at the Mount Desert Island Hospital in Bar Harbor, ME and then in the hospital labs at Virginia Municipal Hospital in Virginia, MN. Dr. Karni then returned to the east coast as a faculty member in medical technology at the University of Buffalo, where she also completed her Education Master's degree (EdM) in 1969. Dr. Karni returned to the University of Minnesota in 1970 when her husband, Dr. Michael G. Karni, began a graduate program. She became an instructor, student advisor, and faculty member in the University's medical technology program. In 1975, she began her doctoral work in education, which she completed in 1983. Dr. Karni became an assistant professor in 1981, an associate professor in 1989, and a full professor in 1996. She also served as the director of the medical technology program from 1984 until her retirement in 2000.

Interview Abstract

Dr. Karen Karni begins her interview with an overview of her educational history and how she came to be director of the medical technology program at the University of Minnesota. She then, in more detail, discusses the following: her interest in medical technology; her time as an undergraduate student at the University; generalist and specialty work in medical technology; her work in Bar Harbor, Maine and Virginia, Minnesota; and her time at State University of New York at Buffalo. In reviewing her time at the University of Minnesota in the medical technology program, Dr. Karni covers the following topics: working with Verna Rausch; changes in the curriculum; her doctoral research and certification exams for laboratory personnel; the hierarchy within which laboratory personnel work; the culture of the Medical School and the Rajender Consent Decree; Ellis Benson's tenure as chair of the Department of Laboratory Medicine and Pathology; Dave Brown's tenure as chair; Leo Furcht as chair; her work with the Minnesota Society for Medical Technology; relationships among the divisions within the Department of Laboratory Medicine and Pathology; her appointment and tenure as director of the medical technology program; her work through Project Hope and the National Accrediting Agency for Clinical Laboratory Sciences; the changing demography of students within the medical technology program; and the tenures of several vice presidents of the Academic Health Center. She goes on to consider changes in medical technology more broadly, evolving requirements for tenure, simulation in medical technology education, and automation in the field. She concludes with thoughts on how the University's medical technology program fits in the history of laboratory science.

Interview with Doctor Karen R. Karni

Interviewed by Emily Hagens

**Interviewed for the Academic Health Center, University of Minnesota
Oral History Project**

**Interviewed at the home of Doctor Karni
New Brighton, Minnesota**

Interviewed on September 11, 2012

Karen Karni - KK
Emily Hagens - EH

EH: This is Emily Hagens interviewing Doctor Karen Karni at her home in New Brighton, Minnesota. It is September 11, 2012.

I'd like to just get started with a little bit of your background, where you were born, your educational history.

KK: I was born in Soudan, Minnesota, in 1941. It's on the Iron Range of northeastern Minnesota. I graduated from high school, from Tower-Soudan High School in 1959 and completed my bachelor's degree in medical technology at the University of Minnesota in 1963.

I worked as a practitioner first in Bar Harbor, Maine, in Mount Desert Island Hospital for a year. Then, I got married in 1964 and worked in the hospital labs at Virginia Municipal Hospital in Virginia, Minnesota; then, we moved out to Buffalo, New York, and I started working as a faculty member at the University of Buffalo [UB] in medical technology. In 1969, I completed a master's degree at UB.

Then, my husband [Doctor Michael G. Karni] and I came back to Minnesota in 1970, and he started graduate school. I worked in the University of Minnesota med tech program as an instructor, student advisor, faculty member starting in 1970. We had two boys in 1970 [Erik] and 1975 [Jacob]. In 1975, I started graduate work in education at the University of Minnesota and completed the Ph.D. in 1983. So I've been a faculty member at the University of Minnesota since 1970. I retired in 2000. I was the program director from 1984 to 2000.

EH: How did you decide to major in medical technology in the first place?

KK: Actually, I started out as a biology major. Some of my best friends decided on med tech and I thought this might be fun. Also, I've always been science oriented, and this profession is a nice combination of real science, technical skills, and putting information together about lab data. So for those who are not terribly familiar with medical technology, now called clinical lab science, we are the folks who do blood and body fluid analyses, and not only perform them but do the quality control measures that guarantee that the results we get are valid, as well as checking all the results to see if they make sense. So we're a little bit behind the scenes in terms that people don't see us like they see nurses or physicians or pharmacists. But we make up probably 400,000 people in the U.S. who are clinical lab scientists or med techs. It's a fairly large group, but not as well known as some of my other healthcare professional colleagues.

EH: I've read a little bit that people suggested that it was an area that might have been a little bit more open to women earlier on. Did you feel that way?

KK: That's exactly right. Many of us in medical technology now would be in medicine. We would have chosen medical school. A lot of us were smart but getting into medical school was difficult. We took biochemistry with the medical students. In that class in 1962, there were one hundred and twenty-five sophomore students in the Medical School, and only three were women. So medical technology was an avenue for women who were smart, who were analytical but thought they might not get into medical school. Also, it [medical technology] was a four-year program rather than a seven- or eight-year program. A lot of women did choose this laboratory field. Back in my class of thirty-eight I think, we only had three men.

EH: What was it like being a student at the University? What were your classes like, the faculty?

KK: The classes were very intense. They were very science-oriented, so we took anatomy, physiology, biochemistry, and, then, all the lab courses that went with the curriculum. Most of us could have gotten a second degree in chemistry if we had just completed two more courses. It was very intense and very demanding. The faculty then was, again, mostly women who were very devoted to the profession and made sure that we did it and did it *right*. For example, when I was going to school and even for several decades, the U of M med tech program was known as "Mecca" throughout the rest of the nation because we produced the best.

EH: Do you remember any faculty in particular?

KK: Of course. Ruth Hovde, who is now deceased, was the program director. Verna Rausch was the associate director. I worked for them later on. Then, we had Grace Mary Ederer, who was a microbiologist.

EH: I interviewed her a couple weeks ago.

KK: Did you?

EH: Yes.

KK: Isn't she charming?

EH: She is. She's wonderful.

KK: Ninety-three [years old].

EH: Yes. It was really nice to speak with her.

KK: Yes, she's a real lady and a real professional. I don't know if she told you of some of her accomplishments... She did?

EH: Yes.

KK: Okay, good.

Then, we had people in chemistry like Kay Glen, in hematology Pat [Patricia M.] Hanauer. In microbiology, it was Grace Mary. In blood banking, it was somebody who left shortly after...and I can't remember her name. They were all *really* dedicated people. One of the statements from all of them was "Make us proud." So you didn't *dare* not take this profession seriously. [chuckles] Those are some of the ones I remember. I had the privilege of working with many of them later.

EH: Did you have a specialty or anything in your undergrad...?

KK: No. We were all generalists as undergrads. We were generalists in that we learned clinical chemistry, hematology, microbiology, and blood banking. At that time, we did tissue work, like taking biopsy materials and processing them. Now, those lab personnel are trained as specialists. We were generalists as we graduated. Most of us, when we got our first jobs, were generalists. For example, when I was in Bar Harbor, I did everything. When I came back to Virginia, Minnesota, to work in the lab, I was a generalist again. Later on, we became specialists. If I was "a specialist," it was in blood banking. We started out as generalists and, then, often became specialists.

EH: After you left the University, you said you went to Maine.

KK: Yes, Bar Harbor, Maine.

EH: How did you end up in Maine?

KK: Actually, it's an interesting story. The director of the hospital had been a graduate in Public Health from Minnesota and had put an ad in the paper looking for a med tech from Minnesota because he trusted us.

EH: Oh.

KK: One of my teachers said, "Karen, you like a little sense of adventure. Go out to Maine." So I called him up. I never went through an interview. He just hired me on the spot, so I flew out to Maine and spent a *wonderful* year in Maine. It was through the hospital director there who wanted one of us Minnesota graduates in his lab. Isn't that interesting?

EH: Yes, that is interesting.

KK: It is. It's sort of the trust people had in U of M grads. I'm sure you've found this in other fields.

EH: Yes. What was that like, your first time out on the job?

KK: The first year? Oh, it was *wonderful*. There were only three of us in the lab. We did all the work and we took call every third night and worked every third weekend in the lab. You had to know everything. It could be real busy, or it could be not so busy based on the season and numbers of tourists. It really made me use everything I had learned at Minnesota. And Bar Harbor, Maine, at that time, was a fun place.

KK: It was a small community in the winter and crazy in the summer. Have you been there?

EH: No, I haven't.

KK: It was a perfect place for anybody to start out in their career, because you did have to use everything and, sometimes, it was two in the morning and you were drawing blood for someone who needed a blood transfusion, because they had been in an accident. It was a great experience for being able to prioritize and use all that I had learned.

EH: Think on your feet.

KK: Yes, that's right.

EH: After Maine, Bar Harbor, you were in Virginia.

KK: Virginia, yes. That's in northern Minnesota. There, I was a generalist, as well. That's the year I got married. My husband taught at the community college, and I worked in the lab for two years. I would have been called a staff tech. It was near where we had grown up. He, at age twenty-three, was a faculty member at the community college there...

EH: Wow.

KK: ...a great way to start a career for him and, then, for me, it was a staff position, but I kept learning and growing and doing things that were a little different from the usual lab work, like writing procedure manuals, accreditation work that needed to be done.

EH: Writing manuals?

KK: Yes.

EH: What kind of manuals?

KK: What happens if a health facility, including its laboratory, is accredited, you have to have everything that's done in a manual, whether it's chemistry or hem[atology] or whatever. I rewrote the manuals so that they were in standardized forms following what the accreditation process required.

That started, perhaps, my interest in education, because I could see the importance of having good manuals to follow and that could be followed by others. So, yes, it made me think that maybe there's more to this than lab work and that education might be a place to go.

Then, when we went to Buffalo, New York, Mike [Doctor Karni's husband] taught at Buffalo State, and there I was with a bachelor's degree, twenty-five years old, and a new faculty member at the University of Buffalo, because again I had graduated from Minnesota.

EH: Wow.

KK: In three years, I finished a master's at Buffalo while I was a teacher there. Those Minnesota standards just kept with us, I guess.

EH: Sure. That was when you started working on education was at SUNY [State University of New York], Buffalo.

KK: Yes.

EH: Can you tell me a little bit about your program there, what you focused on?

KK: My focus there was teaching immunology and blood banking, whose more formal name is immunohematology. While I was teaching, I was taking coursework so I finished an EdM [Education Master's degree] in three years. The medical technology teaching model that Buffalo used was the Minnesota model. They were familiar with what we had done here. I was trusted. I had a wonderful time, had good people to work with, and had absolutely fantastic students who have done very well since, too.

EH: You received that degree in 1969?

KK: Nineteen sixty-nine. Then, we came back to Minnesota. Mike started his Ph.D. It was in Scandinavian studies, but his emphasis was Finnish immigration.

I had my first child in 1970, so I was hired at seventy-five percent. I was sort of the catch-all-do-all person who helped with labs, who did some student advising at the University of Minnesota. Early on, I didn't have a course of my own, but I helped with a lot of classes. So that was my job for about five years. Then, I started my Ph.D. work and became more specialized in the education, blood banking, and immunology areas.

EH: Some of the same faculty members from when you got your degree were still around, right?

KK: Yes.

EH: What was it like? I imagine it would have been pretty strange to come back as a faculty member having been a student, or was it just natural?

KK: I think they were very receptive of me. I didn't find it awkward. They were good folks, and they were very sharing of their expertise and their help. Verna Rausch and I did some of my very first research, not for my Ph.D. but research in med tech education. We were co-authors. We did this and we did that together. She just sort of brought me in and said, "Karen, this is how you do it." I learned lots from that experience. So I didn't find it awkward. No.

EH: Okay.

KK: But, then, I was a little older, too. It's a difference if you're twenty-one or if you're thirty.

EH: What were you and Verna Rausch researching?

KK: At that time, we were looking at curricula, different kinds of curricula in the med tech field.

EH: Were you looking to affect the curriculum?

KK: Yes.

EH: Why and to what?

KK: At that time, many med tech programs were what we called the 3 + 1 model. Students would go, for example, for three years to Saint Cloud State and, then, they would find a hospital with a one-year internship, and they'd rotate the students in the

hospital lab areas and...It was an apprenticeship type of model. It was not entirely uniform. Also, some of these students that spent three years couldn't find a hospital to intern in. Verna and I decided—she more than I—that the model should be really academic. At that time, in 1968, Minnesota had switched to what we call a 2 + 2 model, two years in a college and then two years in med tech, in which we provided pre-lab courses to all the students in chemistry, hema[tology], everything, so that when they went to the hospitals, they had basic knowledge and skills. Therefore, one didn't have to spend a whole year rotating through all the areas. You could do at that time, a twenty-week internship but not a fifty-two week internship, and it was much more academically based, and all the students had the same courses and the same labs. So you knew there was a consistency in the educational process. If, for example, you had gone to Saint Cloud State—I'm not hitting them or anything—and then went to Hennepin County [General Hospital], you may have had a good experience in chem[istry] with a good teacher, but a poorer one in microbiology, and it may have been rather random in terms of what was done. So we thought the University of Minnesota's standardized courses, pre-clinical and then clinical... The clinicals were important for showing real world experience but were less important for teaching the basics and the techniques, which preceded clinical rotations. [V.L. Rausch and Dr. Karni published "A Tilt at a Windmill?...A Study of Medical Technology Education," in *American Journal of Medical Technology* in June of 1972, 38(6): 216-218.]

EH: Sure. In this new model that you were researching, they would have spent two years at, using the same example, Saint Cloud State and, then, two years at the University doing research...?

KK: No. They did not transfer to us too often. Most of our students came from the U of M campuses whether in Minneapolis, Duluth, Morris, or Crookston. We didn't get any Saint Cloud students or Mankato State students. We got University students and some from our community colleges.

[*Addendum*: Earlier, you asked about influences on class sizes. For the past decade or more, there has been a shortage of laboratory practitioners, estimated at ten to fourteen percent nationwide. This is based primarily on retirements, and the closure of educational programs. For example, nine hospital based programs in Minnesota closed. Thus, fewer graduates have been and are available.]

EH: Okay.

KK: That was one of the things that was one of our advantages, as well; all of those coordinate campuses were very good instructional institutions to have students attend. I would have trusted anybody from Morris or Duluth, because we knew they had a great background at a University of Minnesota school.

EH: Sure.

How many students were in the classes?

KK: This is rather interesting. It's been a rollercoaster of class numbers. In fact, I find it interesting that the largest classes occurred after World War II—seventy, I think, was the biggest class—and after the Vietnam War. I hate to say it, but I think it was due to the fact that war brings on casualties and the need for diagnostic information. World War II brought on the need for safe blood and blood products. That gave a great impetus. Then, student numbers dipped in the 1950s. After Vietnam, we had class sizes of fifty and, then in the early 1980s, the need wasn't as great and so it dipped. Now, again, these past few years, the numbers have gone up again. It's due to, I think, to the wars in Iraq and Afghanistan. War produces the need for more good testing and identification of conditions and disorders. That may be my bias, but I find it interesting. We've had three modes in class sizes, all following wars, and now, during the current war times.

EH: That is interesting.

KK: It is interesting.

EH: Yes. It would be interesting to look at the Medical School and...

KK: I was going to say...

EH: ...nursing school, as well as pharmacy enrollment, too.

KK: I'm sure... Have you talked to the PTs and OTs, physical therapists and occupational therapists?

EH: No.

KK: I would guess that their class sizes are up as well because they are taking care of an elderly population who needs physical and occupational therapy. Secondly, they've got all these vets from these wars who need care. And now, the therapies are more novel and sophisticated.

Somebody else is doing the PTs and OTs?

EH: I don't know if we've gotten to them yet. We're trying to do all of the AHC [Academic Health Center] units. Right now, she [Professor Dominique Tobbell] is focusing on the big parts of it, so Pharmacy, Dental, Veterinary Medicine...

KK: Nursing.

EH: I think once we have that sort of scope we'll go a little bit deeper.

EH: We were talking about the curriculum research. Did that come to anything? Did you guys change the curriculum?

KK: We remained with our 2 + 2 curriculum for many years. A lot of other good academic programs like those at Tennessee, Illinois, or Buffalo switched to our model as well.

EH: Is that what it is currently, or did it change?

KK: Yes, it's changed. Right now, because of a shortage, the employers want more students out faster. Also the influence of technology, you know, with faculty doing more instruction with computers and simulated laboratories. Maybe I'm showing my age, but I have a little problem with some of that. If I could use the analogy of a surgeon... Do you want a surgeon cutting into you who has learned surgery on a computer or do you want someone who has done some real surgery? I believe computers and simulations are wonderful to institute and augment learning, but actually doing real work is essential.

[*Addendum:* Having said that, however, I must add that our faculty has been innovative in various teaching methodologies. For example, six of the med tech faculty and staff independently developed the 500 card, 6 items per card game and review, "Clinical Laboratory Trivia," published in 1986. It is still being used and includes sections in clinical chemistry, hematology, immunohematology, microbiology, laboratory practice, and miscellaneous scientific knowledge.]

[*Addendum:* In addition, Karen Lofsness was one of the very first faculty members at the University to develop computer programs for educational use. These included the identification of blood cells (Hematography I, 1996; Hematography II, 1997) and diagnosing blood cell dyscrasias, (Hematography Plus, 2001) including 36 case studies still used by students, residents, and practitioners throughout the world, encompassing over 70 countries.]

[*Addendum:* More recently, CLS faculty have developed computer modules in coagulation (Cheryl Swinehart, 2009), immunohematology (Joanne George, 2012), and establishing clinical sites for student rotations (Pat Brennecke, 2012).]

KK: So, we've headed into a more simulated type of situation. This is one in which you might want to talk to Donna Spannaus-Martin, because she's been much more intimately involved with it and I've been gone for twelve years. We've also done some cooperative work with the University of Minnesota-Rochester in terms of shared lectures, simulations and the like.

EH: Okay.

In what year did you start your Ph.D.?

KK: Nineteen-seventy-five. I finished in 1983.

EH: What was your research focus in your Ph.D.?

KK: My research focus was... This is interesting. In our field, we have state licensure in only 12 states.

EH: Oh.

KK: What we have is national certification. That is people nationwide take a certification exam, and if they pass it, they are certified in every state. Now, there are several states that do have their own licensing procedure, like California, Montana, and Florida. But, for the most part, it's certification that's voluntary but one better have it, for it is the primary credentialing process for laboratories in the United States.

So my research was a validation process of a new certification exam for med techs. I don't know if you're interested in what I did, but I...

EH: Yes.

KK: ...identified forty lab administrators throughout the country and asked them to identify three people in their lab that they believed were the most competent over all, middle in competence, and least competent but employable, and essentially gave them our certification exam. And it wouldn't surprise, the ones who were identified as most competent scored best. The ones who did CE [Continuing Education] also did the best.

EH: Right.

KK: It was a new certification exam called the NCA [National Credentialing Agency for Laboratory Personnel]. I think I obtained three or four published papers out of it. It was an interesting project. I received a lot of support from people to help with it because three people in their lab had to spend three hours taking a 200-item multiple-choice test. There's a pride in completing the test. They were very generous in doing it. The results supported what we thought they would. Unfortunately, the agency that's called the NCA last year decided to merge with the traditional one called the ASCP [American Society for Clinical Pathologists Board of Registry], so the NCA is no longer in existence.

That's another sore point, and that is in our field, we are not independent professionals in the way that nurses or physical therapists or occupational therapists are. We usually work under the direction of a pathologist. It started in 1937 with the first exam given by the pathologists. Then, everybody certified by them put med tech or medical lab scientist after their name. In parentheses, they would put ASCP. I'm one of those who thinks every profession has its own credentialing process and should not be controlled by another group.

EH: Sure. So the point was to self-exam, right?

KK: Right.

EH: Was it a more effective test?

KK: Yes. The NCALP was a better test, because the crème de la-crème of teachers and practitioners wrote the items, because they believed in the same sort of independence that we did. But, because the ASCP had given their test for so many years, that was identified to the public, it was hard to break into having another exam that was better and, also, required continuing education to keep the credential. For the ASCP in the past, all one had to do was send in twenty-five dollars a year, and they sent you a sticker to put on a certificate. That's no way to judge people's competence.

EH: It's interesting to hear the development of a profession in a different way.

KK: Yes.

EH: That second certification exam was active, independent for quite a while?

KK: Yes, from 1975 until 2010. It was called the National Credentialing Agency for Laboratory Personnel.

EH: Did Minnesota develop the test...?

KK: Well, we contributed a number of test items. Originally I was in charge of the immunohematology section. So I had access to...

EH: Convenient resources.

KK: Right. Excellent resources, especially here.

KK: Exactly.

EH: If the test wasn't used until 1975, what were they doing before that?

KK: They were using the ASCP test. It was called the Board of Registry of ASCP. That was a multiple-choice test, too.

EH: When did the NCA...?

KK: Start?

EH: Yes.

KK: Nineteen seventy-five.

EH: As an organization?

KK: Independent organization, yes.

EH: Accrediting?

KK: Certifying.

EH: Okay.

How did you become the president?

KK: I was voted on the NCA Board of Directors by voters in the American Society of Clinical Laboratory Science and the Board of Directors of the NCA elected me its second president.

EH: Okay. So from 1975 to 1983, you finished your Ph.D.

KK: Right.

EH: I have here on my sheet that in the middle of that, you were appointed as assistant professor in 1981.

KK: Was I? You've done your homework!

EH: Yes.

KK: Where did you get that from?

EH: The Archives.

KK: Really? They have that information?

EH: Everyone has information...not everyone, but many people have information files. They are usually just copies of CVs [curriculum vitas] and...

KK: Is that what you've got, my CV?

EH: Yes. It's just basic biographical, education information.

KK: Okay.

EH: We have to know what questions to ask.

KK: I see. Oh, I just thought what you had were the same questions to everybody.

EH: No, no.

KK: Oh, well, I'm kind of flattered.

EH: I have here that it was assistant professor in Laboratory Medicine and Pathology.

KK: Yes. Later, I became an associate professor [1989] and full professor [1996].

EH: What was that like? Before, were you a lecturer?

KK: I was an instructor.

EH: Do you remember that anything really changed? You had your own classes at that point.

KK: I had my own classes. Probably because I was working on my Ph.D. and it looked like it was in sight, and I'd started to publish a little more... Are my books in there?

EH: I have that you wrote two books... [*Opportunities in Clinical Laboratory Science Careers*, 2002 and *Clinical Laboratory Management*, with Viskochil and Amos, 1982.]

EH: ...and over fifty articles and chapters.

KK: Okay.

KK: You know, I retired twelve years ago and two years ago, I co-authored three articles and last year, one.

EH: Oh, my goodness.

KK: I'm a pretty good editor. So what I do is help others write. If they do the research, I can assist in the discussion and what it means. So that's what I've done since retiring; I help colleagues and students write for publication.

EH: I'm interested in this being under the direction of a pathologist, being under the Medical School.

KK: Right.

EH: What was that atmosphere like? What was the culture of the Medical School like for you guys?

KK: That's very interesting. It's a very good question. First of all, to be a woman in the Medical School is not easy.

EH: Yes.

KK: Have you interviewed Norma Ramsay?

EH: Yes.

KK: She did a lot for women during her time there.

EH: Yes.

KK: It was hard being a woman. Frankly, for me being a Ph.D., not an M.D., was hard as well. We, in some ways, were not considered equals with the guys. You know about the [Shyamala] Rajender [law] suit.

EH: Yes, but if you can talk about your experience with...

KK: Well, men in the Medical School often patronized us. It was in a subtle, subtle way that they patronized us. It wasn't...sometimes, it was even like a pat on the head in the 1970s. It got a little better in the 1980s. I think they realized that patronizing was probably not good. *Twice* from the Rajender suit, we, the med tech faculty, got increases of pay.

Those increases were in about 1975 and 1980. It was the class action suit by University women and all we had to do was prove we were paid less than men in the same unit. So we went over to the Walter Library, which publishes all the salaries, and we found our salaries and the men in Lab Medicine and Pathology and what their salaries were. Theirs were at least a third more...

EH: Oh, dear.

KK: ...even though we taught. We did research. We brought in grants. We provided clinical service. So it was a no brainer. *Twice*, they gave us money to increase our salaries.

I would say we were not accepted as real equals. Some of it has to do just with male chauvinism and some of it has to do with M.D.—Ph.D. types.

I would be interested in what Norma has said. She's a real loyal Medical School faculty member. She chaired what was called a Women's Group that was supposed to advise Dean David Brown on women's matters. Well, it was seen as a set up committee, perhaps, and she had a thankless job.

EH: With David Brown, that would have been in the, what, late 1980s, early 1990s?

KK: Somewhere in there, I've forgotten exactly the times he was dean. That would have been the mid 1980s, I'd say, to late 1980s. Have you interviewed him?

EH: Yes.

KK: How did that go?

EH: It went fine. He's a nice guy.

KK: He's a nice guy, but he was an administrator in some very difficult circumstances.

EH: It gets a little awkward in that time period, because of [Doctor John] Najarian.

KK: Yes.

EH: Since he was so involved, he didn't want to talk about a whole lot of it.

KK: He still blames [President Nils] Hasselmo for it.

EH: Yes. Everyone blames everyone else.

KK: Of course.

You know, David did a very good thing about a month ago. Ellis [Starbranch] Benson—you've heard about him—died [Ellis S. Benson died April 15, 2012]. There was this very nice service where he was in his later days at the Walker [Care Center, Minneapolis, Minnesota], and David Brown gave a eulogy that was outstanding.

EH: He talked a little bit about that, actually, and about Ellis.

KK: Oh, did he? Okay, good.

EH: What are your memories of Ellis Benson?

KK: He was occasionally on sabbatical. He wasn't there as much as chairs are expected to be now, which actually worked to our benefit, because other people made decisions, and they weren't his. So if something went badly, nobody got blamed. I also remember Ellis as one of the most courtly gentlemen I've ever met in terms of good manners and treating people with respect. He always treated women with respect, by the way.

EH: I've heard that.

KK: Yes. I actually enjoyed his company, because he was Swedish, and I'm part Swedish, so we could do or say something that was Swedish. I never had an issue with Ellis, even while he didn't seem to have stated objectives for the department. Perhaps his leadership was typical of chairs in the Medical School during his time.

EH: Okay.

Who was director after Ellis?

KK: After Ellis, I believe it was Dave Brown.

EH: If the department didn't have as much focus as it might have under Benson, I wonder, did it change much after he wasn't director? Did you have more focus after that?

KK: Dave Brown did an admirable job, but major departmental change came when Leo [Furcht] came. Have you interviewed Leo?

EH: I don't think so, no.

KK: Leo became the head of Lab Medicine and Pathology in 1990. And...and... [sigh] How do I say this? He was a difficult man to work with. His focus was finances and influence.

EH: Oh, dear.

KK: Yes. When one considers the three objectives of a University are research, teaching, and service, research, because of its direct and indirect monies received, far outshined the other two according to Dr. Furcht, and especially his record.

EH: I have in here something about the Minnesota Society for Medical Technology.

KK: Yes, that's our state, constituent society as part of the national society.

EH: Okay. So what was your role in that?

KK: I was president from 1981 to 1982.

EH: What is their role?

KK: Their role is to provide continuing education for lab personnel and to advocate for us. The Minnesota Society has been trying to get licensure in the state for the last six years, but it's hard in a Legislature like we're having now [in 2012] and with an economy that we're having now. We'd love to have licensure, first of all for protection of the public but, also, for the protection of the profession.

EH: Thinking about the Division of Medical Technology within Lab Med and Pathology, do you have any thoughts just about that, with relationships within that department?

KK: That's a very good question. I have to say before I answer that... When I worked at SUNY-Buffalo, medical technology was part of what we called the College of Allied Health. So in that College of Allied Health, there was occupational and physical therapy, med tech, dietetics, all of those groups that were not medicine, not veterinary medicine, not dentistry. It was a very powerful unit at the University of Buffalo as a School of Allied Health. It had just started when I got there, and I learned a lot about the advantages of that. You're not a subservient group to a medical group or a dental group or whatever.

So I came to Minnesota knowing what allied health could accomplish, and frankly was disappointed that we did not get our own school. I think, four years ago the AHC started a Center for Allied Health Programs, so Med Tech is no longer within Lab Med.

I had a bias in that I knew that a separate school of allied health would be helpful, but it never happened at Minnesota. One of the other reasons was that Ruth Hovde thought we were better positioned for joint research activities within the Medical School than in a college of allied health.

EH: Hmmm.

KK: While she was program director until 1984, she wouldn't advocate for a separate school of allied health. In a way, there was some sense in that. Our faculty did do collaborative research with members of Lab Med as well as other faculty. There was some truth in that. But being in Lab Medicine under the current chair who has been in that position for twenty-two years was a detriment to our growth and sustainability.

EH: Thinking about that sort of interdisciplinary research work that you guys were doing, were there any particular relationships with other divisions like Chemistry or Hematology that you talked about earlier or Genetics?

KK: Yes. They were ongoing ones. Again, I'll add a document that shows our sources of pride, including research activities.

EH: Do you have any particular ones that you remember as being important, other than...?

KK: Well, Helen Hallgren did seminal work with immunology of aging. She worked with Doctor Edmond [J.] Yunis. He was, later, wooed away to Harvard. She did some of the earliest work about changes in lymphocytes as we grow older, which are involved in immunology. Then, she worked with Jim [James J.] O'Leary in the same field until he got very sick and died. So that's one example of being involved in interdisciplinary activities.

Carol Wells, who was with us, did a lot of work with Surgery and with Stan [Stanley L.] Erlandsen in what we call translocation of bacteria from the gut. What that means is normally food or stuff passes through your bowel, it never goes outside the membranes of the bowel, but, in certain cases, it can be penetrated it like in car accidents or post surgery. If the normal flora bacteria get through the bowel and into spaces where it shouldn't be, it can cause death from septicemia. She did a lot of work—still does. That was another example.

EH: Thinking, again, about women and the role of women in this interdisciplinary work, did that cause any issues for people or once you got in your specialty, it really wasn't...?

KK: It wasn't an issue.

EH: Okay. In 1985, I have you appointed and tenured as director of Medical Technology.

KK: Right.

EH: What was that like?

KK: Well, there was a national search. They brought in other candidates. Then, for whatever reason, they chose me, maybe because they knew me, trusted me, knew that I was a loyal member, did research, and did whatever was necessary. So I was chosen, yes. I really enjoyed being a director, because, first of all, I worked with excellent faculty members and we had good students. So it was just a pleasure to watch these young people who came in and didn't know a pipette from a hole in the ground and when they graduated, I would have trusted them with my own lab works. It was very exciting to watch that and, then, to watch the people who did good research and teaching. And I had good faculty, really good. In many ways, it was kind of a breeze.

EH: That's good.

KK: Yes.

EH: Were there any big changes that you wanted to affect when you began your tenure there?

KK: Yes, we went through curriculum revision again, shortened the student clinical rotations, switched things around that were more relevant to the times. In the old days, we learned and performed Folin Wu filtrates for doing sugars. You took blood and added reagents to it and precipitated protein and made a filtrate and added substances and it turned a color. Well, when I took over, we were still doing those Folin Wu filtrates in our student laboratories. They should have gone out in 1965 or maybe before.

EH: [chuckles] Okay.

KK: We did some good things in curriculum revision. Then, we added interesting and emerging labs for the students to go for clinical experiences, like a genetics laboratory where they analyze chromosomes for genetic diseases. We added other things like virology or special hematology where they do bone marrow examinations. That was exciting to bring forth more timely and appropriate types of clinical experiences for the students.

EH: Then, I have here, too, that you did some international work in Panama and Kuwait?

KK: Yes.

EH: Can you talk about those?

KK: Well, you're too young to know about a project called Project Hope. In the 1950s and 1960s, an old Navy ship went around the world to different seaports and physicians and nurses and lab techs and everybody on board worked on the people in those ports where residents had unusual diseases. They did surgery. They did inoculations. They did nutritional stuff. And I always wanted to do that. But when I applied as a young graduate, they wouldn't take me, because they wanted somebody with two years experience. I understand why now.

So what happened then is Project Hope switched its focus to education, because they had been asked to come into landlocked countries to do their work and they couldn't. So Project Hope decided to switch to education. They did a lot of educational programs. For example, they started the only dental school in Portugal.

EH: Wow.

KK: In the old days in Portugal, the medical doctors did all the dental work, too.

EH: Hmmm.

KK: Then, Project Hope was very interested in the Caribbean area. So I applied and got in for, I think, three short periods where I went in and consulted in Panama. They had a lab tech program there, but it was not in good shape.

EH: With Project Hope, you mean?

KK: I went with Project Hope, did an analysis of what was needed, and, then, went in two other times to see what happened.

Unfortunately for Panama—they also had an analysis like I was doing for radiologic technology and nursing—they wanted to update them, so they would be of U.S. standards. Well, the country is poor; they didn't have the resources. Project Hope helped by bringing in some basic, in my field, microscopes and stuff like that. Then the Berlin Wall came down and Hope's whole focus switched from the Caribbean to Poland and other Eastern European countries. I did a good job of consulting and making recommendations in Panama, but my guess is that things may have not progressed too far because priorities changed.

Then, Kuwait was a *real* interesting experience. That was through NAACLS [National Accrediting Agency for Clinical Laboratory Sciences], our accreditation group. That's the accrediting agency that looks at programs, not the groups who certify the graduates, but the people who look at educational programs.

EH: Okay.

KK: It's called NAACLS. They asked me to go over to Kuwait and evaluate their lab science program according to U.S. standards. It was fourteen days of such a good experience I've never had. You were treated as an expert. They paid us in gold.

EH: Oh, my goodness.

KK: Yes.

EH: Like coins?

KK: Bracelets.

It was hard work. We made recommendations, and they took mine to heart. Unfortunately, the very next year is when the Iraqis invaded Kuwait and some things have changed since then. So I don't know exactly where the program is now.

They were two great experiences at international travels.

EH: Sure.

KK: The end product now, I just don't know. Some things you can control and some things you can't.

EH: Right. Did the U's program have a lot of international students over the years?

KK: Oh, gosh, yes. In fact, I remember looking fifteen years ago through the files of our students. I was curious because we were getting more and more international students. We had twenty different files with the last name of Nguyen. This is a time when the Southeast Asians came into the program. They were smart. They worked so hard and were very successful. Now, these Southeast Asian students are going into pharmacy and medicine more than laboratory science.

EH: Hmm.

KK: But it was a start for them. Now, we're getting a lot of African students, Somalis primarily. I think if you look at some of the graduation pictures for the last fifteen to eighteen years, forty percent of our laboratory students are international in origin.

EH: Wow.

KK: Yes, and they're terrific.

EH: That's great.

KK: It is. They're wonderful. They work hard. That was another pleasure to be a part of.

EH: Yes. Did you do any faculty exchanges, too, with other universities?

KK: No. Our faculty is small. One person teaches blood banking, another teaches chemistry, and we have part-time assistants helping in the labs. If I lost a blood banker for an exchange... [laughter]

EH: Sure.

KK: They [UMN faculty] would have loved it at the University of Massachusetts, Dartmouth, for example, which wanted exchanges.

EH: Has or when did the gender split shift? Is it still mostly women?

KK: No. I would say now it's sixty percent women, forty percent men in our classes. Currently, nationwide, it's seventy-five percent women, twenty-five percent male.

EH: Okay.

KK: So we have more men, especially men from African countries.

EH: When did that start to shift from like, say, your generation where you had, what, three male students?

KK: Yes. Uhhh... That's a great question. When did it shift? I would say twenty to twenty five years ago.

EH: Okay.

EH: Did you have any interactions with, say, Neal Gault or Lyle French or any of those?

KK: I remember when Lyle French was named the first vice president of the AHC, the Academic Health Center. No, I didn't have interactions at all, except I know when he was running for that position, he had all the student advisors and one student president from all the AHC units over to his house to meet him and get to know him.

EH: Nice.

KK: Yes. I can't say anything more about him. He was more distant, and I think he thought the job was a little more ceremonial, a little more fundraising, and...

EH: PR [public relations]?

KK: PR types of things, yes. He was a well-known neurosurgeon, well respected.

Neal Gault, I had more interactions with. One of the interesting things is his wife [Doctor Sarah Gault] was a med tech before she became a physician. So he had an interest in Med Tech. He's another one, like Ellis Benson, whom I would consider to be a real gentleman, a good man doing a good job.

EH: He was dean of the Medical School, so did that help foster interactions or help interactions between your group and the Medical School and the docs?

KK: No, no. Our programs were under Lab Med and Pathology and all the upper level discussions and decisions were with the Ellis Bensons, David Browns, or Leo Furchts of the University.

EH: Okay.

KK: I don't think I ever had a formal meeting with Neal Gault, but he knew me by name, and he was always very gracious.

EH: How about Neal Vanselow? Do you have any memories of him? He was senior v.p. [vice president] of health sciences, at one point.

KK: I should know him. When was he there?

EH: I don't remember when he was.

KK: Obviously, it's not in my memory.

EH: Okay.

EH: Thinking sort of broadly about your career and time at the University as a whole...big changes in medical technology?

KK: Yes. I would say the big changes were the switch from what we called manual methods of doing things to automated methods. Now one has an expensive instrument that you can put a blood sample in, and it can do twelve tests. I would say the manual to the automated. [*Addendum*: But still the laboratorian needs to follow strict quality control measures. In addition, the laboratory itself grew and various sub-specialties evolved, such as cytochemistry, virology, molecular diagnostics, electron microscopy, forensics, and others. Also, many analyses are now microanalyses—done with very small samples such as in forensics, crime-related analyses.]

EH: When did that start happening?

KK: I would say in about 1975. Yes.

EH: That was one big change.

KK: Big changes, yes. I would say also in medical technology at the U of M, the switch from the importance of good teaching to having to do good research in order for promotion and tenure... [pause]

EH: Can you say any more about that?

KK: The standards for promotion and tenure because we were in the Medical School were the same as for the physicians. In the past, I think there was a little bit of a, oh, she's a nice person, let's make her an assistant professor. Then promotion and tenure became more standardized in the mid-seventies, and I think some of it may have been due to the Rajender Case.

EH: Hmm. Did you feel that effect in your career, too, that you needed to publish?

KK: Yes. Definitely. It was good, because I grew. I grew in research talents and in writing and, also, if you're a director, you have to serve by example. You just can't say to somebody, "If you want to get promoted and tenured, you better publish four papers a year." As a director you had better show you can do the same thing.

EH: Yes.

KK: I think it was good for me. Then, as I got better at it, I started to enjoy it.

I have a colleague from Ohio State who is still teaching, still doing research, and has students do small research projects, case studies. She wants to submit them to our journal [*Clinical Laboratory Science*], because they're interesting projects and case studies and putting them together helps the students grow. But she always sends them to me first so that I can initially bear the bad news to these kids, about the need to strengthen their writing.

EH: Ohhh.

KK: ... "It's a nice start, but it needs some work." [chuckles]

EH: Good try, but...

KK: Good try, but... Yes. So I'm the mentor, and I ask the right questions, and I make them show their papers to me three times. They've won national prizes. That's been a pleasure. In that way, the research emphasis, I think, has been good in our and in other institutions as well.

EH: I was going to ask what you thought the impact on students was since you said the transition was from the importance of good teaching to good research. But you think it's been good for the students that they can have more research experience themselves?

KK: Yes. Are you knowledgeable about something called the UROP project, Undergraduate Research Opportunities Program?

EH: No.

KK: I don't know if it still is in existence, but we had students do research with faculty that won national prizes, too, and many have gone on to graduate school. Again, about fifteen to twenty percent of all our baccalaureate graduates go on to advanced degrees.

EH: Okay.

KK: But one thing now that worries me now is so many things are simulated and computerized that do they really get the feel of the actual work and do they get to understand how to prioritize or how to communicate with physicians or other health care practitioners. I may have some concerns, but they will sort themselves. I'm sure the same thing is true in the other health professions.

EH: Yes. Why do you think they started in medical technology doing more simulation exercises for students?

KK: Faster instruction models that can be repeated on the students' time as well as less face-to-face instructional time by faculty. Some of our materials have been sold. Karen [G.] Lofsness developed and sold Hematography I and II CD-ROMs, and later Hematography Plus, and donated all the profits to scholarships for students.

EH: Oh.

KK: Yes, we've done some good things.

EH: It's an interesting balance that they're trying to strike, I think.

KK: Yes.

EH: Then, any changes in the field in general, other than these changes in...?

KK: Automation. I would say that's in every laboratory. It's automation followed by more sophisticated testing, especially micro-analyses and new specialty laboratories.

Now, we're starting nationwide to get more interactive with physicians. For example, in some places lab techs are doing rounds. Now, that's not universal, and it's not here, but it's the right thing because we know the significance of the data we get. I'm not hitting the pathologists. It's just that the majority of pathologists, especially anatomic pathologists, who examine stained biopsy materials for abnormalities do different things.

EH: Yes. Interesting.

KK: It is interesting.

EH: I'm interested in the fifteen to twenty percent of the baccalaureate grads going to graduate degrees.

KK: Yes.

EH: What are they studying?

KK: Medicine, public health specialty areas in laboratory science, such as immunology, molecular diagnostics... [pause] Medicine and public health are probably the two biggest. Now, a new one is a physician assistant. That program is at Augsburg [College in Minneapolis].

EH: What do you see is the impact of Medical Technology, that division, on the University?

KK: I think it's a necessary part of the University. It shouldn't be only at places like the state colleges, because they don't have the rich source of resources we have, nor the medical expertise or coursework. It's important that it be included in the University. Our graduates have done well. Our alums are fantastic. A few years ago, we had the greatest amount of giving percentage-wise of any unit in the University. I have put together the Sources of Pride compendium, which I alluded to earlier, that demonstrates our myriad contributions to the University and the larger community as well.

EH: Wow, that's great.

KK: Yes. Our students also contribute to the total University experience. Our students are in the marching band, cheerleading squads, and other activities. One of our young men was a weight lifter who tried out for the Olympics.

EH: *Wow!* That's cool.

KK: Yes. [laughter] So they're not isolated. There used to be a group called CHIP at the AHC. Do they still have the Council in Health Interdisciplinary Participation in which students from myriad disciplines worked together on various projects?

EH: I don't know.

KK: Representatives of all the units got together and sponsored projects and activities for people who needed them. I haven't heard about CHIP in years, so maybe this issue needs to be examined.

EH: I'm not sure.

KK: Yes, please ask about it.

EH: Yes, I will.

One of my side projects is the history of the Cancer Center. You talked about Norma a little bit. Did you have any real interactions with her or that group?

KK: No.

EH: Or with the bone marrow transplant group?

KK: No.

Except in the 1970s we were doing interdisciplinary teaching so students would feel more familiar dealing with one another, and one of my projects was to prepare a panel, a case study on leukemia. Unfortunately, the little boy dies. I had his mother and the physician and the tech, because the tech does the blood work, you know. John Kersey actually was on that panel and was invaluable as an exceptionally fine and caring physician.

EH: Yes. He's who I work with on that project.

I'm out of specific questions to ask you, but do you have any final thoughts on your time at the University or the AHC or the Medical School?

[*Addendum:* One of the areas that needs to be addressed is the context in which the laboratory science program fits in with the more recent history of laboratory medicine. Kathy Hansen, Director of Laboratory Operations for the University of Minnesota Medical Center has put together a chronology of forces and events in the 1970s, 1980s, and 1990s. These occurred in three areas: scientific advances, the UMHC laboratories, and external forces affecting the laboratory. This succinct synopsis provides the necessary setting in which laboratory science has existed in three decades and has affected our program, its curriculum, faculty, staff, students, and graduates.]

KK: I think it was a privilege to be a part of my time at the University either as a student or as a faculty member or as program director. I've *never* regretted taking this sort of line of what I did. Yes, I've been pleased. I could have used a little less of some of the administrative oversight, but so be it. Again, having good faculty, having good students...whoa! That was fun! Really fun.

EH: Sounds like a good time.

Do you have any ideas of who else we should talk to?

KK: You should probably talk to Donna Spannaus-Mortin. Of all the people when I left, she's the one who has tried to keep our history going. Nobody else has seemed to have been interested. She can also provide you with pictures as well as notes from Verna Rausch's 1984 history talk.

EH: The slides.

KK: Yes, and Donna can get you the information about the pictures. You might be interested in those as well.

EH: Okay. Great. We'll definitely follow up with her.

KK: Thank you.

[End of the Interview]

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