Robert J. Cipolle, Pharm.D.
Narrator

Dominique A. Tobbell, Ph.D.
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

Robert Cipolle earned his bachelor's degree in pharmacy from the College of Pharmacy at the University of Illinois Medical Center in 1974. While completing his degree, he apprenticed at Rush Presbyterian Saint Luke Medical Center in Chicago. He then earned his Pharm.D. from the University of Minnesota's College of Pharmacy in 1976. He was an instructor in the College from 1976 to 1978. He became a professor in the College in 1978, while also serving as associate director of Pharmaceutical Services at St. Paul-Ramsey, a position he held until 1984. He became vice chairman of the Department of Pharmacy in the College in 1984 and then associate head of the Department in 1987. From 1988 to 1992, he served as associate dean for Academic Affairs in the College of Pharmacy. He then served as dean of the College from 1992 to 1994. He co-founded the Peters Institute of Pharmaceutical Care in 1995 and served as director for over a decade. In 2006, he co-founded Medication Management Systems, Inc., a University of Minnesota start-up. He retired in 2011.

Interview Abstract

Dr. Robert Cipolle begins his interview by briefly discusses his early life and education. He describes his time in the relatively new Pharm.D. at the University of Minnesota, his residency in Twin Cities area hospitals, and how the atmosphere of acceptance of the clinical pharmacy in Minnesota differed from areas. Dr. Cipolle then discusses the following topics regarding the changing culture surrounding pharmacy and pharmaceuticals: his move to University Hospital to support the growth of the clinical pharmacy program there; running the hospital pharmacy at Saint Paul-Ramsey; conflicts within the pharmacy therapeutics committee; equivalence, substitution, and prescriptive power issues in the 1970s, 1980s, and 1990s; the creation of the Peters Institute of Pharmaceutical Care; the practice of medication therapy management (MTM); the development of a billing system for clinical pharmacy; the training of clinical pharmacists as opposed to pharmacists working in dispensaries; and the introduction of the patient package insert. Following this discussion of larger trends, Dr. Cipolle reflects on his time in administration in the College of Pharmacy, including his time as associate dean under Gilbert Banker, changing the curriculum within the College, and his time as interim dean. He then describes the following: the relationship between the College and the Department of Pharmacology in the Medical School; the conversion to an all Pharm.D. program; the creation of the pharmacy program in Duluth; relations between the College and the basic sciences; failed discussions regarding the creation of a two-year pharmacy technician program; poison control and collaborations with the Medical and Nursing Schools; budget issues and long-range planning; funding from pharmaceutical companies; his time chairing the Conflict of Interest Committee; litigation surrounding the sale of Antilymphocyte Globulin (ALG); the creation of Medication Management Systems, Inc. Dr. Cipolle concludes with a reflection on changing demographics within pharmacy, the changing culture of pharmacy, and the naming of Unit F.

Interview with Doctor Robert J. Cipolle

Interviewed by Dominique Tobbell, Oral Historian

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

Interviewed in Diehl Hall, University of Minnesota Campus

Interviewed on June 12, 2012

Robert Cipolle - RC
Dominique Tobbell - DT

DT: This Dominique Tobbell. I'm here with Doctor Robert Cipolle. It is June 12, 2012, and we're in my office in Diehl Hall.

Thanks for meeting with me today.

To get us started, can you tell me a bit about your background, where you were born and raised, and your education background?

RC: I was born in Joliet, Illinois, a city famous for *The Blues Brothers* movie and a prison. My father was a pharmacist. I grew up about forty miles south of Chicago. I went to school there and high school. Then, I started my college at the University of Texas in El Paso, actually on an athletic scholarship. I wasn't as fast as I thought I was, so I quickly went to the College of Pharmacy at the University of Illinois. That was back when it was called the University of Illinois at the Medical Center. It was in Chicago. The main campus of the University of Illinois is in Champaign-Urbana. So we were at the medical center, which was the medical school, nursing, pharmacy, dentistry, like that. I got a degree there in… It's hard for me to do this without my résumé. Maybe you have it?

DT: I think I have it. [chuckles]

RC: I think I graduated in 1974.

DT: Yes, that's right.

RC: I was an intern—actually, I was an apprentice; I'm so old we were apprentices—in the pharmacy at Rush Presbyterian Saint Luke Medical Center in Chicago, a big teaching/research hospital there. I was a pharmacy student working there for the director of pharmacy, a man named Louie [Louis] Gdalman, who also taught pharmacology in the medical school there as a pharmacist. He was a very, very bright man. He had the first poison information center, certainly in Illinois, probably in the country. It was part of his office. I was always pestering him to look things up and questioning him. When he would go home at night, he would lock it up, and I would sneak in and read things. Finally, he figured it out, so after a few months, when he would go home at night, he would call me into his office and give me the key and say, "Here, you might have to learn something tonight while I'm gone."

DT: [chuckles]

RC: When I was finishing my degree, back then, a pharmacy degree in this country was a bachelor's degree. I wasn't sure what I wanted to do. I describe it to people as I knew enough pharmacy to drive a cab. So I was talking to him about a graduate program, like all students do. Should I get a master's? Should I go to a Ph.D. program? There were these new programs called Pharm.D. [Doctor of Pharmacy] programs, very new in the country. There were only, maybe, five or six in the whole country. I remember, to this day, he looked at me and said, "Kid"—which is what he called me—"if you want to be smarter than me, you have to learn about diseases. To know about drugs, you have to learn about diseases. Go somewhere where they will teach you about diseases."

So I looked at, I think, the five pharmacy schools in the country that had Pharm.D. degrees and Minnesota was the one that had the most pathophysiology of diseases. In fact, it was the Medical School; that's what it was. So that's what got me to Minnesota.

DT: Wow. What kind of athlete were you? What fellowship were you…?

RC: I was in track. I ran track. I ran the high hurdles and the low hurdles. Back then, they used to measure them in yards. It was before meters. I did very well at the state, got a third in the state in Illinois, so I got a scholarship to go to the University of Texas-El Paso. If you're a track aficionado, that is a big track school. It's like what Notre Dame is to football and some schools like that. El Paso was that in track. So I went down to a team that had three world record holders on it, two or three NCAA [National Collegiate Athletic Association] champions and then me.

[laughter]

RC: My job was to run second behind a fellow named Paul Gibson, who was the NCAA champion at the time. I did a very good job. I ran second to him everyday.

[chuckles]

DT: What were your experiences like as a Pharm.D. student here then?

RC: I've described it to my children as probably the two coolest years of my entire life—and I've had some pretty cool experiences. The Pharm.D. program back then in the 1970s barely met the definition of a program. It was very new, being organized every week a little differently. In essence though, it was two years, full years, twelve-month years. The first year was Phase B Medical School, at the time. They used to call it Phase B Medical School, which was a whole series of organ-based classes on cardiovascular, GI [gastrointestinal], psychiatry, et cetera, about pathophysiology of diseases. That was taught by the Medical School. So I went to, basically, medical school for the sixteen months. Then, the Pharmacy faculty, the fledgling clinical Pharmacy faculty—there were like six or seven of them—had other courses in pharmacology and therapeutics, the application of drugs to diseases, and lots of seminars and all sorts of things. It was kind of a hodgepodge, but it was just a fantastic experience. We were on our own. There were only twelve of us in the program. Nobody knew where we were, what we were doing. It was delightful. I can't imagine a more productive educational experience ever. Over the years, we've made it so structured that it's probably boring now for the students. Back then, it was just a free for all.

DT: Were you in those Phase B classes with the med students?

RC: Yes, we were in the classes with the med students. We took all the same classes, took all the student discussion in groups, all conferences. There was one of us in each one of their groups. I had wonderful Medical School faculty who would go through all the medical business and diagnose processes with the medical students. They'd turn to us, and turn to me and say, "You're the pharmacist. What should we use to treat this patient?" They just treated us like we were supposed to be there and supposed to know. It was a wonderful experience. It was just a wonderful experience. I, basically, went to school with Medical School [students], who later became interns and residents as I was a young pharmacist. So we sort of grew up together. It was just magnificent. It was great.

My original intention was to get my degree and go back and operate my family's pharmacy. I just never went back.

[laughter]

RC: A small detail.

DT: What changed your mind then about going back to your…?

RC: I never got any down time to decide. We were just busy all the time. The Phase B part of it, the classroom part, quickly evolved into what back then we called the residency—now, they call it clerkships—where it was full time in a patient care area. Virtually all of them back then were in the hospitals: Saint Paul-Ramsey Medical Center which is now called Regions Hospital—I spent most of my time there—Hennepin County Medical Center, the V.A. [Veterans Administration], here at the University Hospital, and United Hospital. All the major hospitals in the Twin Cities had Pharm.D. students there

or residents. That was even looser than the previous year, so we were, in essence, assigned—I use the word lightly—we were directed towards a medical or a surgical team in one of these places and showed up August first or whatever the day was and introduced ourselves and said, "I'm supposed to be here." They all went, "Okay." And that was it. There were no objectives. There was very little precepting that went on. I think my very first rotation, if you will, was in the burn unit at Saint Paul-Ramsey [Hospital and Medical Center], an unbelievable experience. Back then, half our patients who were admitted died. I got to work with surgeons who were very brave people and not afraid of drugs. It was a *magnificent* experience. They, basically, put me charge of all the drugs all the people had, so that's what I did the first day. You learn very quickly when you're in those situations. Today, we coddle students and give them objectives and have them do reflections and feedback and all those great educational things, but back then, it was just people who were burned and were dying. You learn to not be afraid of drugs when you start that way. So I was very fortunate. I can't imagine anybody who would give you that much freedom today. Maybe Frank [Cerra] would have, but nobody else would.

[chuckles]

DT: During that residency, who were you reporting to?

RC: I have no idea. I have *no* idea. There was a Pharmacy faculty there. One of the real pioneers in our field was a fellow named Darwin Zaske. He passed away a few years ago [May 5, 2003]. He was a faculty, but he lived at Saint Paul-Ramsey Medical Center. I don't think he came to campus twice a year. So I guess on a day-to-day basis, Darwin was my chief of staff, if you will. At the College, I have no clue who I answered to. We weren't a department then. We might have been a division; I'm not sure. The dean hired me. The dean was Larry [Lawrence] Weaver, at the time. He hired me. I don't think they had national searches in 1976, but if they did, they found me somehow. His job description… I've told a million people this. I'm easily a foot taller than Larry. He put his arm around me and said, "I want you to do good things, kid." Okay. So that's what I did for thirty-five years.

[chuckles]

RC: I did exactly what Larry told me to do.

They would send students to us, and I would teach them everything I knew. I spent most of the first years at Saint Paul-Ramsey, again, in the burn unit and, then, surgery intensive care unit and then, later on, in the neurology intensive care unit. It, basically, is a Level 1 trauma center. It was the city/county hospital for Saint Paul, at the time. We were the regional poison treatment center. Everybody that came there was acute or traumatically injured.

DT: How did the physicians treat you?

RC: At Ramsey, they treated us like colleagues and pharmacologists. Nobody called us pharmacists, at the time. Actually, they called us the Pharm.D.s, which was a degree. It would be like calling the JDs [juris doctor] instead of lawyers. They called us the Pharm.D.s, I think to distinguish us from the traditional bachelor's degree pharmacists and pharmacists in the hospital, who spent most of their time in the pharmacy preparing medications. We lived like physicians when we were there. We were on call twenty-four-seven. We split up the call. Back then, they had a doctors' dining room, so we ate in the doctors' dining room. All the paging was done overhead, which we don't do anymore. Everyone called us doctor from the first day I walked in the place. Darwin Zaske said that for us to be accepted, we had to provide a real service and had to be there all the time. It couldn't just be occasional Monday through Friday consultantships. My wife will testify the first half a dozen years of my life at Ramsey, I'm sure we were there 100 hours a week. I can think of nothing better. I'd do it again today, if I could. It was just the most magnificent practice experience anybody could have.

DT: When you were first in those residency months, were you rounding with the medical residents?

RC: Yes. We'd rotate, if you will, from medicine to… I spent most of my time in medicine and surgery, which were two different floors at Saint Paul-Ramsey. Yes. Surgeons round at five-thirty, six o'clock in the morning, so there I am, five-thirty in the morning trying to figure out what doses people need, and I haven't had my coffee yet.

DT: [chuckles]

RC: Yes, we'd make working rounds in the mornings with those teams. Then, we'd go about our business for the rest of the day. We were responsible for individualizing doses of drugs. We did a lot of work with antibiotics, at the time, and cardiovascular drugs, and anticoagulants, and drugs for seizures, basically all the drugs that could be measured in the laboratory quantitatively, which are a lot of them. After a few interesting, I'll say, successful cases, testimonial cases, the medical staff, basically would turn the drug dosing over to us. They would write orders like, "Antibiotics as per Pharm.D." The nurses would call us and say, "You're supposed to figure out what this lady needs." Okay. Today, people have organized written collaborative practice agreements between physicians and nurses and pharmacists. Back then, we didn't have any of that. It was just done. It was, I'm sure, out of the practice guidelines of today. It became our practice, at the time.

DT: Before the Pharm.D.s arrived on the scene, were the physicians responsible for the dosing?

RC: Yes. The physicians were responsibility for the dosing. Back then, they were pretty much taught in a very traditional way. They had some pharmacology. Most of the students I knew, didn't like pharmacology, didn't understand it. They were taught these simplistic ideas about drugs of choice and whatever the package insert said from the company said that's the dose. So they gave everybody the same dose. Basically, that's

what we changed. We, basically, created methods to determine how much drug an individual patient would need to optimize the therapy for him or her at that time, given their age and renal function, liver function, all those things. That got us outside of the published guidelines everyday. In retrospect, I'm amazed at how much, I guess, authority and responsibility the medical staff gave us. We were giving people three, four, five times the amount of drugs the rest of the world was given.

DT: Do you have a sense of how your colleagues in other institutions…if the supportiveness of the physicians that you worked with was somehow distinctive to, say, your colleagues elsewhere?

RC: After a while, we sort of went on the speaking circuit. Everybody wanted to know how we did this in Minnesota. It was like it was a special place. I, literally, used to tell my wife, "I don't know what these people want me to tell them. We just go to work and do this." I think what happened at other places was they didn't have a practice. They weren't willing to accept the responsibility for what happened with patient's medications. They wanted to be consultants and suggest, "I think you should use this much, doctor," and then run away. In order to do that, I think a lot of my colleagues around the nation started out at the political level, so they started off by going to the head of the department of medicine and saying, "We want to tell your physicians how much of a drug they should use." He'd say, "Go away," like, "we're doctors," you know. I would have said the same thing. But we didn't do that. We just provided the service at the time it was needed for the medical staff. We were actually making their life less complicated. It was never a question. It was just amazing. It was just never a question. Now, it helps if you're right more often than you're wrong, but you learn that, too, with drugs. You can make drugs do what you want them to do, if you know how to use them. We were very aggressive in controlling the amount of medications people got so that they got the optimal amount that we knew with the technology we had, at the time. Technologies change. Doses change over time. But, we never asked for permission for anything. I think that's why we were successful.

DT: John Westerman was… Oh, I guess you were at Saint Paul-Ramsey then?

RC: That's right.

DT: I was going to say John Westerman was hospital director here.

RC: Here, yes.

I'll tell you—let me see; I've got to say this for the history—in several institutions in the Twin Cities, the clinical pharmacy programs advanced faster than they did at the University Hospital. Did I say that correctly? That was true at the time. I'll say, maybe by 1980 or something, at Saint Paul-Ramsey Medical Center, we, basically, saw every patient everyday and were responsible for the dosing of most of their medications. The same was true at Hennepin County Medical Center…the clinical faculty who were really people who had a Pharm.D. degree who were hired by the dean and sent there and we

lived there. We didn't live on campus. We didn't have a parking spot. We didn't have an office, probably went to an occasional faculty meeting, but the hospitals were our homes. They were very successful at the Hennepin County Medical Center, somewhat at the V.A. The University wasn't the lead player in the clinical pharmacy movement here—for a while. If I can fast forward for a little bit?

DT: Yes.

RC: A couple other places were recruiting us because we were recruitable. The University of Florida wanted to run some programs. But anyway, long story short, the dean at the time, Larry Weaver, who was really my mentor… Larry Weaver opened up all these doors. Larry Weaver called me in and said, "I need you to leave Ramsey and go to the University Hospital. We need to have there what we have at Ramsey. There seems to be a lot of political monkeying around going on there, and things aren't moving as fast as I want them to." I had no idea… I was way too young to do that. I said, "Sure!"

DT: [chuckles]

RC: I didn't know. I didn't know you went to meetings. We just never went to meetings. I didn't know you were supposed to ask the head of the Internal Medicine Department things. We just never did. Whatever year it says on my résumé, I moved to the University Hospital from Ramsey. It was a completely different culture. I had some great colleagues. We did some real interesting types of work.

Maybe you should ask me a question….

DT: [chuckles]

What was Larry Weaver's and, then, your sense of why things had been slower at the University Hospital?

RC: I don't know, because I wasn't here. But when I came here, it appeared to me that two different things were happening. The clinical faculty who were assigned to the University Hospital by the College of Pharmacy were stifled by waiting for written permission from heads of departments in order to start something. So lots of things never got started and, then, they'd get frustrated, and they'd go find a job somewhere else. I don't know that anybody ever said, "No." It was just that nobody would say, "Yes." That's one arm. The other arm is the energy from the College of Pharmacy at the University was spent in the Hospital Pharmacy Management Program, people who were in the master's and Ph.D. program, to prepare the next generation of managers of big institutional pharmacies with jillion dollar budgets and working with inventories of all sorts of things.

So the College had a lot of resources at the University Hospital but most of them were in the basement in the pharmacy trying to modernize what was a less than modern

pharmacy, which was happening all over the country. They weren't out of step. It was just that patient care wasn't their primary role. They didn't do that and that's what Larry wanted me to do here.

I just had some wonderful colleagues here. Everybody who didn't ask was doing just fine.

[laughter]

RC: We had Dan [Daniel] Canafax, who worked daily with JSN [John S. Najarian], Doctor Najarian, and did some of the initial pioneering work on immunosuppressive therapy and cyclosporine and even early in kidney transplants and liver transplants. He went on; he's now running a startup drug company [Theravance] out in California. Henry Mann was here in the Surgical Intensive Care Unit. He basically was Frank Cerra's colleague, and he's now the dean at the University of Toronto. We just had some great people. Kathy [Kathleen] Teasley, who preceded Frank Cerra in the nutritional area, had a nutritional service set up before Frank even got here and, then, they became, obviously, close colleagues. So I had a core of really good people to work with.

Virology was just getting going back then. We had a few drugs that kind of slowed viral growth, but we didn't actually kill them. I had done a lot of work with antibiotics in the infectious disease group at Ramsey and came here, and there was a guy by the name of Courtney Fletcher. I started working with the Virology group. They did some just magnificent things early on. This is when HIV [Human Immunodeficiency Virus] and AIDS [Acquired Immune Deficiency Syndrome] were still very rare occurrences. I don't know where he is now. I think he's the dean of some college of pharmacy [University of Nebraska Medical Center] now. We had a good team.

I didn't know any better. I was just the son of a druggist. So I didn't go to any meetings. We didn't ask anybody for anything.

Within, I'd say, two or three years, we had set a goal. Our clinical pharmacy people are going to see every patient everyday in this Hospital, and that's what we did. Not all of the physicians took all of our recommendations, but most of them did. By this time, the Pharm.D. program had been around more than a decade, so people had a better idea of what we were there to do, that we weren't going to take over the internal medicine group.

DT: In those early days when you were at University Hospital but before you got there, how did the patients react to…?

RC: Patients loved us. I think it's because pharmacists are really nice people. Now, I say that as the son of a pharmacist and my daughter [Christina Cipolle] is a pharmacist, too, so we are very nice people. Pharmacists are always ranked in the very highest of trust of folks. Somehow, we usually put together a class of students that are pretty nice people. So there's that.

But, also, the practices that we developed, especially in the next phase, we really taught patient-centered viewpoint of it, more than just the lip service that health scientists had given prior to that, because we were individualizing drugs for you—for *you*, the patient. We were doing this for you. We would explain to people what we were doing. I might have to draw some blood, because I have to measure how much drug we have in your body. We have to have exactly the right amount. We don't want to have too much. We don't want to have too little. They would say, "Oh, okay, go ahead."

I remember one day… I'm jumping ahead; I'm sorry.

DT: That's fine.

RC: This is supposed to be chronological.

We had a new dean at the College, a guy named Gil [Gilbert] Banker. He was an industrial pharmaceutist from West Lafayette, Indiana. They made pills and capsules for drug companies. That's what he did all of his career, a very, very nice man, a good leader, but he didn't know anything about patient care, what a Pharm.D. did, and those sorts of things. So we decided we'd bring him to the Hospital and show him what his faculty did. Our very first stop was on the transplant unit and my colleague, Dan Canafax, was there making rounds with his pharmacy students and JSN, Doctor Najarian, was there, and we had Gil Banker. Gil was a big man like John is. He's a big man. We walked into this fellow's room, and he looked in there, and there's about nine white coats. Two of them are just football size fellows, you know. Dan Canafax, my colleague, was probably the shortest of the five or six of us. The patient sat up and said, "Oh, Dan, I'm so glad you're here. You know, he's my pharmacist." That was it. Everything was good after that. [chuckles]

DT: That's amazing.

RC: Dan was in the room with John Najarian and he goes, "That's Dan. He's my pharmacist."

[chuckles]

RC: We'll be okay now. They liked us.

DT: What about your relations with the Hospital pharmacists? As you mentioned earlier, you were doing quite different things.

RC: I have to back up about two years. That's because I got ahead. I'm sorry. We were at Saint Paul-Ramsey, and we were colleagues with the medical staff. We were responsible for most of the drug therapy, but the pharmacy system was still a 1950s system, very slow, cumbersome, had dumbwaiters, these little elevators that took the drugs upstairs. The medical staff were very unhappy with the pharmacy services. Back then, hospitals were run by the medical staff, not by administrators. They were run by

the medical staff. So if the medical staff weren't happy, something had to change, and they weren't happy with the pharmacy distribution system.

So, one day, they, basically, fired the director and put us, the Pharm.D.s, in charge. We weren't a department; we were a gaggle of people. There were like six of us. We went from a gaggle of people with no bosses to running a pharmacy department. We had to buy paper and pencils and calculators out of our own money. We didn't have a budget at all. We didn't have a nickel. We went from that to one Monday morning, we woke up, and we had a $2.6 million budget. We were supposed to buy all the drugs for the Hospital and make it all happen and fix it. Darwin Zaske, I don't think had ever been inside a pharmacy in his life. He was a great clinician, but not a traditional pharmacist. He looked at me and said, "Bob, your dad owns a drugstore. You go run the pharmacy."

[chuckles]

RC: That was my qualification, that my dad owns a drugstore. I'd run the pharmacy at Ramsey for a couple of years.

The first thing I had to do was straighten out the inventory, because you can't run out of drugs. That was one of the problems. They'd run out of drugs.

This is a long story that maybe you don't want to hear.

DT: This is great.

RC: There was no purchasing system. Back in those days, the drug representatives from the companies would come in and do their own inventory. So the Upjohn guy would come in and say, "You need more of this and more of this." He'd send in an order and two days later this truckload of Upjohn drugs would show up, and somebody would put it on the shelves. All the companies did that. Back then, there were fifteen or twenty big companies who had most of the market. This is before the generic drugs were readily available. So there was no system. There was no information. I didn't know any of this was happening, because I was up on the sixth floor in the surgery unit all day. All of a sudden, I have to go to the basement and figure out how do they do this. Nobody knew. This is crazy. We have to run an inventory.

I did what I thought every pharmacist who starts an inventory would do. I came over to Diehl Hall Library and I got a book on inventory, and I went home and read it. I said, "This isn't hard. This is algebra." We looked through two years of records of what we had paid for. I figured if we'd paid for it, we must have used it. We must have needed it at some point in time. I figured out how much we needed of every single item in the pharmacy. Then, you had to have a critical amount. You can't run out of the critical lidocaine, but if you run out of hydrocortisone cream, it's not a tragedy. So you had different critical amounts. We created an inventory system out of a book in the Diehl Library. This ties into the University Hospital. Ideally, you're supposed to turn

inventory four or five times the first year. I turned my inventory eight times. The guys at the University Hospital turned theirs twice. I thought, this ain't so hard.

DT: [chuckles]

RC: You asked me when I came over here, what was the relationship like with the pharmacy. I came over here with a published track record of managing a pharmacy a little bit better than the pharmacy was being managed here. The first few months, it was a little ginger. I had the responsibility to do that here, so it was just go ahead guys, do whatever you want to do.

The Hospital pharmacy at the University Hospital at the time was big, but the clinical pharmacy group was an appendage. They had a very structured director, associate director, assistant director, assistant assistant director, and all of that management stuff, and way out here on the right side are the clinical pharmacy people. I don't even think there were names there. These clinical people that are upstairs; we don't know what they're doing. It wasn't fully integrated, if you will, to a department, but I guess, technically, we answered to them. Well, I know we did, because they fired me.

[laughter]

RC: We were put on their sheet for convenience, I suppose.

DT: When you were running the hospital pharmacy at Saint Paul-Ramsey, was there a hospital formulary?

RC: Oh, yes. Yes, there was the hospital formulary. We had pharmacy therapeutics committee meeting. Darwin Zaske, now the director of Pharmacy, there. We had a couple actual clinical pharmacologists. People used to call us clinical pharmacologists, but there were people with M.D.-Ph.D. degrees in pharmacology there. They were a very interesting, strong, I'd say, pharmacy therapeutics committee there. So we had a formulary. We did all those things. It took a lot of time, and I don't think it was very beneficial.

DT: Were there ever any kind of conflicts that would frequently come up around the formulary?

RC: Yes, there were, but we resolved them all before the meeting. See, I'm Italian, so if we were going to have a conflict with somebody who wanted some antibiotic and the infectious disease guys didn't think it should be there, we'd get all that straightened out before the meeting. We'd come to some agreement that everybody could agree on and, then, present it to the committee and say, "These people wanted it. These people didn't. Here's what we all decided would be okay." They'd say, "Okay." Yes, there were some struggles, but Darwin was very insightful. He made sure that there were people on the committee who were interested in maximally utilizing the medications we had at that time, and less so about the budget, because if you buy it to put it on your shelf, you're

just wasting money, and if people need it, and you don't have it, you're hurting people, so there had to be a nice balance. Our Pharmacy and Therapeutic [P & T] Committee at Ramsey was *always*—I'd be hard pressed to think of an exception—if this is a better mousetrap, we'll use it, and we will then assign somebody, and it was usually one of us, to collect data and say, "We've done this for fifty people or a hundred people…" and we'd report back and say, "It wasn't as good as we thought." One of the problems other P&T committees have is that without a thorough understanding of pharmacology, it always defaults to money. This one is twelve dollars; this one is eight dollars. It doesn't take a rocket scientist to say twelve is more than eight, so let's use the eight dollar one, because we don't know if there's a difference. Well, that's not good enough. I have a brother, we're not the same, but if you don't know the difference between us, you just think we're the same. He's more expensive than me, because he's a surgeon. So you'd choose me because you don't know there's difference. Well, you can't treat drugs that way. There are differences in medications. A lot of other pharmacists in hospitals around the country were eaten alive by pharmacy and therapeutics committees, fights and arguments, because you get the medical staff or surgical staff or psychiatry staff or somebody who wants to use this medication, because it's better or it's cutting edge in his or her field, and they're being pushed by the drug company to do that, and it's six times more expensive than the one you have now, which everybody thinks is just fine. Oh, my gosh… so we would deal with those, but we dealt with them all before the meeting. I used to describe the pharmacy and therapeutics committees as meetings where people get up at seven o'clock in the morning to meet to decide what drugs they should make available to patients they've never met yet. If it is only based on money, then put it on a spreadsheet. Don't wake me up that early.

DT: Were there budget people on those committees?

RC: Yes, there was always somebody from the Hospital administration. The big fights, as I recall at the time, were antibiotics. We were just inventing the cephalosporins. Penicillin was a nickel a ton and cephalosporin was ten dollars a gram, which was unbelievably expensive back then. Now, we would love to use drugs that inexpensive. They pretty much came down to economic issues.

At one of these meetings I said… If this was a cephalosporin, I don't remember. It was "cephalo something." People were discussing whether we should add it. It would have been like our fourth or fifth cephalosporin. How many do you need? It was like twenty-five dollars a gram, which was a lot of money back then. I said, "If this stuff was a dollar a gram, we'd paint the walls with it. This is just a money issue. This is a money issue. It's not a therapeutic issue. If it becomes a therapeutic issue, then we can have a discussion. But as long as it's a money issue, you don't need all this brainpower on it.

DT: [chuckles]

RC: I think we had a pretty functional group there.

DT: I know a fair amount about the politics around prescription drugs in the 1970s and the issues that you're referring to whether a drug acts the same in one person and another. There was a lot of attention on the question of bioequivalence in the 1970s.

RC: Sure.

DT: I wonder if you could talk a bit more about those equivalence issues.

RC: Yes, back in the 1970s, and I guess the early to mid 1980s, the generic markets kind of reared their economically inexpensive heads. The major manufacturers at the time took a couple of different approaches to hold on to their market share. All they were trying to do was hold on to their market share. They had a lot of bioequivalent arguments. The FDA's [Food & Drug Administration] standard was if I want to have a generic product that's similar to your brand name, I have to demonstrate that it's plus or minus twenty percent. It absorbs the same in the body. But I wasn't forced to do the same effectiveness efficacy trial. They basically said, "If your aspirin dissolves and is absorbed the same as other aspirin, that's close enough, and plus or minus twenty percent." With some drugs, that's a big margin. With some drugs, it doesn't make any difference. In fact, there were some generic products that were actually more bioequivalent than the brand name—not necessarily that that's good. We got used to it only being absorbed eighty percent of the time. There were a lot of those arguments. We didn't have the vast social media, but there were a lot of rumors. Oh, my gosh, this one is terrible. You can't use it. Pretty soon, this generic company would have to defend something that wasn't true. There was a lot of energy spent with that.

Another approach of the pharmaceutical companies, which was less obvious, they just bought generic companies. So they owned their competition. Only in America. What a *great* approach. We own the brand name and, by the way, we own the generic. It's just a different name. I thought it was great. Economically, it was just a great approach.

Then, they would also… You can extend your patent if you manipulate your product and make it a sustain release or enteric coat it so it doesn't get absorbed as quickly. There was a lot of that going on, as well.

But it was all simply to maintain market share. Back then, most of the companies—there were still dozens of big drug companies—life all depends on one or two products. They'd have fifty products, but their profits were on one or two, so they had to protect those products. That was their business, like Ford protecting the Mustang. You have to protect that. You have to realize that the drug companies are companies that make drugs. That's all they are. They're not in the healthcare business. They're not in the lifesaving business. They're in the manufacturing and distribution of drugs business.

DT: Did you encounter any issues with using generic drugs in the 1970s when all of this was being battled?

RC: No, we didn't really. We didn't have any problems if you went by issues, that is where we used generic drugs, and they didn't work and all sorts of things. I don't think I personally or the group experienced any that I know of. There were, in the group, some that did a lot of work with neurology. There were several of the seizure drugs where the conventional wisdom of medicine at the time was if you had somebody on this one brand of Phenytoin or Dilantin, don't switch them. If you start them on a generic, that's okay, but don't switch back and forth, because it's unpredictable. That took several years for that to resolve. That might be unique to some drugs, not the product itself but the body handles those drugs differently than they handle most drugs. It's not a normal first-order process. So a very small change in how much is in my blood changes the metabolism greatly. If I change that a little bit, I increase it, say, ten percent, it could double or triple in the blood. That's unique to the way that drug is metabolized, not the way the product is made. There were a few of those. Those have all gone by the wayside.

DT: Didn't the FDA start publishing *The Orange Book* that made clear which of those drugs…?

RC: Yes, the FDA took responsibility for a while and published what's called *The Orange Book*. It had an orange cover. All these generics are considered to be equivalent by FDA standards. That, basically, gave cover to pharmacy and therapeutics committees to say, "All of these six are the same by the FDA, so we can go out and bid them and buy the cheapest." There was a lot of effort spent in the 1980s and 1990s to try to reduce drug expenditures by using generic equivalents. And our drug budgets have just gone up and up and up and up. It may have slowed that acceleration, but… You know, I was never very interested in that, because the most expensive thing you can do with a drug is to use it inappropriately and that's a *much* bigger problem than drug budgets, much, much bigger problem, which brings me to the 1990s.

[laughter]

DT: We'll get there.

I guess also related to this question of generics versus brand names is there was a debate about substitution in the 1970s, too.

RC: Oh, yes. There's a couple kinds of substitution of drugs. The generic substitution is where the blue drug is considered to be the equivalent to the pink pills, so we can switch them because they are cheaper this month, which confused the living bejeepers out of patients. Their pill used to be round and it was white and, now, it's pink and next week, it's blue. You remove the patient from a safety belt. Did I get the wrong thing? It was so that health systems or pharmacies could save a few percent on these pills. Oh, yes, I almost got fired for that one, too. So that's generic substitution.

That's different than a much more controversial concept which was therapeutic substitution. All these three antibiotics work the same for people with urinary tract infections and the physician wrote a prescription for A and the committee says, "We just

might give him B or C, depending on whichever is cheaper," even though it's a completely different product. Like if you ordered a Ford, we're going to give you a Chevrolet, because it also goes fifty-five miles an hour. That was much more controversial. That, at times, flew in the face of some prescriptive authority that many physicians had or thought they had. Again, it was an economic argument. Personally, I did not engage in those. There was no money to be saved by using cheaper drugs…a couple bucks, not big time. Treatment failure was a big thing that cost us in our healthcare system from medications. It's not expensive drugs.

DT: When you were confronted with people on the P&T Committee trying to use cheaper drugs for these reasons and you challenged them, were you as the pharmacist successful in kind of countering these efforts to use cheaper drugs?

RC: Well, I would only challenge them if I thought I was right or if it made a difference. It had to meet both of those criteria. If you wanted to use a cheaper acetaminophen, a cheaper Tylenol, I don't care. Go ahead. You would confuse some people, but we confuse people all the time. Only when there was a therapeutic difference that mattered would I get involved. You could almost never put a dollar amount to a therapeutic difference. But if there's a therapeutic difference, then I'll fight you tooth and nail. That means you understand your pharmacology. You can tell by my white hair that I'm old school. I grew up when pharmacology was really well understood by pharmacists, my colleagues, and what the drug does to enzyme systems in the body at that level, not just that if we give you this, your blood pressure goes down, but actually how it works. When you get to that cellular, molecular level of understanding, then you can look at differences between products and say, "This is more likely to do this." Then, you can start to add a dollar amount to it. But people who don't know that, don't understand that, say, "Uhhh, they both lower blood pressure, so we'll use the cheaper one." I've never engaged myself in those arguments, because the accountants will always win.

DT: Did you ever have to challenge a physician's position on therapeutic substitution? My sense of this time is that… You mentioned that med students don't tend generally to enjoy pharmacology. They were learning less pharmacology in medical schools than the clinical pharmacists…?

RC: Oh, yes. We had way, way more pharmacology. We still do. Obviously. [laughter] That's our bread and butter, if you will. I made, probably, an over generalization earlier on that. A lot of medical students with whom I practiced told me they didn't enjoy the pharmacology classes. I think it was because it's overwhelming. It's hard to get a handle on the mechanism of medications in a classroom on a chalkboard. You have to really see them work in people, see what they do in patients and in the lab, and those sorts of things. It's actually a very practical science, if you will. We have *so* many products. I lost count a few years ago but, as of a couple years ago, we approve a new drug, not just a different color pill but a new drug in this country every ten days. During your semester of pharmacology, you're now twelve drugs behind. In this country, because we don't have a national formulary like a lot of other industrialized nations do, there's an excess of 75,000 products out there. That's just overwhelming. It

can be overwhelming. The whole country of Spain operates with I think 1700 products, the whole country. We have 1400 types of Tylenol. [chuckles] You either enjoy pharmacology and learn about all that or you just learn about the ten drugs that you need in your practice and leave everything else alone. There's just no other human way to do it. I'm of the former school. Most physicians by nature have to be in the latter school. They have to be. Yes. They have too many other things to do than to figure out all this medication business.

DT: That seems to be one of the great innovations in the clinical pharmacy movement, that it was clear that pharmacists were the experts with drugs and that they were built into the healthcare team much more so than earlier.

RC: Yes…uhhh…eventually. I'm in the 1990s, now. Is that okay?

DT: Yes. We'll go back to the 1970s in a minute.

RC: Okay.

I started working in a group in the 1990s, basically, on a new practice. Eventually, people came to call it pharmaceutical care. It means just what those two words mean: using pharmaceuticals to improve the care of patients. It started out as a very academic exercise. There was a philosophy developed by one of my colleagues, Linda [M.] Strand, who we recruited back here. She got her Ph.D. here and we recruited her back her in the early 1990s. She developed this philosophy of pharmaceutical care, which says, "A health system needs a practitioner who accepts the responsibility for the outcomes of drug care." We don't have one. Physicians have some of that. Nurses have some of that. Pharmacists have some of that. With the clinical pharmacy movement, they had a little more of it. But nobody said, "This is my responsibility for good or bad." So we took that philosophy and said, "We're going to see if somebody can stand up, get up Monday morning, put on a white coat, and go practice that, go do it."

So we developed the practice of pharmaceutical care here in Minnesota. That was a four- or five-year project called the Minnesota Pharmaceutical Care Project. We didn't fit anywhere for a couple of reasons. There was the clinical pharmacy movement in the hospitals, and that was where it was, and Minnesota was pretty far advanced from the rest of the country. But all the patients and all the drugs are in the ambulatory area. Ninety-nine percent of Americans are not in the hospital, who take medications. If you're going to have an impact on improving the way we use medications, it's going have to be in the outpatient inventory primary care area. Well, the College of Pharmacy had never left this campus. No one had stepped outside of a hospital. We only had two kinds of faculty, Ph.D. basic scientists and their labs and we had clinical pharmacists in hospitals. I was one of them. We developed a group. We didn't fit in a department.

So we created the Peters Institute of Pharmaceutical Care. First, it was just The Pharmaceutical Care Institute and, then, we got part of an endowment. It was the Peters Institute of Pharmaceutical Care. We were first housed down the street. We rented the

backroom of the Minnesota Pharmacists Association offices down in the old [International Harvester] tractor building, at [Highway] 280 and University Avenue. They used to make some kind of tractors there. I forget the name. It wasn't John Deere. It was one of the other ones. We rented the back room. Actually, if you want to know the truth, the dean of Medicine rented the backspace, because he needed some space while they were building the Cancer Center for a lab. So I traded him.

DT: [chuckles]

RC: It's the University. It's all about space.

We were dealing with community pharmacists and patients in the community and nobody in the College of Pharmacy was. Other than maybe Family Practice and a few of the Nursing faculty, nobody was dealing with anything outside of the institution. So we took this idea and said, "We want to develop a practice." We convinced twenty community pharmacists and pharmacies around the state, some owned privately, some owned by chains. They were big stores, little stores, rural, metropolitan. By the way, none of those variables make any difference.

We went out to get funding and everybody gave us money. [chuckles] *Everybody*. We got money from drug companies. We got money from health systems, from Blue Cross/Blue Shield, Health Partners at the time. *Everybody* gave us money mainly because we weren't asking for anything but money. We didn't want any of their help. We didn't want any of their things. They didn't want to report. I think over the five years, it was probably close to $3 million. Back in 1990, that was big money. The University didn't know how to deal with us. We weren't on campus.

We started to develop this practice. The first thing that we had to do was say, "If you're going to be a professional and part of the team"—we weren't even close to being part of the team yet—"you have to contribute in a meaningful way." All people in healthcare, all professionals, are responsible for some problems, dental problems with dentists, pet problems with veterinarians, surgical problems with surgeons. So what were pharmacists' problems going to be? We developed a concept of drug therapy problems, and they are a family of seven types of problems that are incredibly powerful. The proof is that they've been accepted by virtually everybody. They allow you to apply the problem solving system to patient care focused on medications as opposed to just starting from head to foot or however people used to do it. The clinical pharmacy folks in the hospital were interested in a certain type of drug or a certain class of drug or certain kinds of disease. Now, we are faced with a patient who might be on nine medications for seven different diseases. You had to deal with it all. How do you do it in some organized way? Well, there has to be a family of problems you're looking for. So we developed this concept, which is kind of like Velcro. Come on; it's so simple. Anybody could have invented that. It has to do with seeing if people have problems with the indication. Should you even be on this drug? Is it necessary or do you have some condition that needs a drug? Then the second part has to do with effectiveness. Is this drug effective? Do we know if it's effective for what you have that needs to be treated? Is the dosage

sufficient? Very important, because that's the most common problem we see. Then a third is safety. Is this drug causing some adverse effect or is the dose simply too high? We separate those two because we solve those problems differently. Nobody had separated those before. Ohhh, if you get sick from this drug, we're going to stop it. Then, the last was the adherence or compliance. The first three had to do with us in the white coats. We're responsible for all of that. The patient can only be expected to take the medication that you should be on and it's going to be effective and it's safe; otherwise, why would you want to take it?

That turned a lot of things on its head, because most people in pharmacy were trying to improve compliance, so they were encouraging people to take drugs they shouldn't be on or they were encouraging them to take drugs when the dose was too low. Why would you encourage someone to do the wrong thing? What was happening wasn't logical, so what we brought to this new practice was a logic, very simplistic logic. It's one of those things that we could explain to a physician in ninety seconds and, yes, that makes perfect sense. It takes nine semester credits for a pharmacist to learn, because they were taught completely differently.

So the practice brought that family of problems to the healthcare system in an organized way. Now, it's used by radiologists and in all kinds of places.

We brought two other things to this practice. There were lots of others, but we brought two other things. One is of the goals of therapy. It seems like motherhood and apple pie, but it was always a secret.

DT: [chuckles]

RC: What was going to happen with you was: "Take this and we'll see you tomorrow and see if you feel better." That's not a goal; that's a wish. We became very explicit about goals of therapy. The philosophy of this practice is: I'm responsible for the outcomes. I can only know if the outcome is good if I know what we were *trying* to do. So we were very explicit about what blood pressures we want, what cholesterol levels we want, when that rash should go away, when your pain should go away. If I tell you that if you take this and the pain should go away in three hours and it doesn't, you have every right to say, "Bob! It didn't work." But if I'm vague, then you can't come back to me. So we were very explicit about goals and that's how you show if you're taking responsibility. You made me think about this as a team. That's what holds teams together. Goals are what holds teams together. If you all have the same goal, you have a good football team, you have a good hockey team, you have a good health team. We had the same goals. Well, up until the early 1990s, medicine, healthcare, we were secretive about goals. So we sort of brought goals out of the closet. We were very open with patients so the patient knows what the goal is. Their family knows what the goals are. The nurses know what the goals are. The physicians know. We were all on the same page. Everybody can participate. So, now, I get all this help in fixing Mrs. Jones' drug therapy, because now all of us are on the same goal, a really, interesting, simplistic concept that I don't know why nobody had done this before.

Then, the third thing we brought to the table was the concept of following up. We actively follow up with everybody, all the time, as opposed to you should feel better in a couple days. If you don't, call me. That's not follow up. We follow up with a schedule. Pharmaceutical care practice brought that family of drug therapy problems, and we were explicit about goals of therapy, so everybody on the team can be part of it. Then, we'd follow up and tweak it, make it better, make it better, those sorts of things. That's how you become part of the team.

DT: How does the institute then function? Are you training people, other pharmacists, who will then go out and practice?

RC: Right. Our first generations of trainees were all pharmacists, already been to school, some had been practicing one year, some had been practicing thirty years—age didn't make any difference—who wanted to learn this new practice and help their patients more than they were helping them in their existing jobs. So our first groups…we trained a whole bunch of people in Minnesota. I counted one day. I think it was something like 350 pharmacists in Minnesota went through our program. A whole group from Iowa came through and a group from Wisconsin and Nebraska. We've had three or four training programs with pharmacists from Spain, from Brazil, Australia, New Zealand. There's been a lot of international interest. We did that for several years before it actually became part of the curriculum at the College. So we taught our own students.

[chuckles]

RC: Everything we've done has been translated into a couple of languages now.

DT: Has the practice of pharmaceutical care…has that model then been transplanted elsewhere in the country?

RC: Oh, yes. That's the *practice*. It is now a billable service in healthcare everywhere in the country. It's called medication therapy management [MTM]. That's what the government tagged, this service that developed from this practice. It's like my brother the surgeon… He *practices* surgery; that's his practice. He bills for appendectomies. So MTM is the appendectomy. Medication therapy management service in this country is called medication therapy management and in other countries, it's either called pharmaceutic care or medications management. The basis for that is the practice.

We developed a billing system that's used nationally. We developed the standards for the practice. One of my colleagues in the Institute, Brian Isetts, did the negotiating for the MTM billing. A few years ago, pharmacy for the first time *ever* in the history of this country got billing codes. See, in order to have a billing code, you have to have a practice and a service and you have to have documentation, so we had to develop all of those things. All those were developed here at Minnesota. They're all national now.

DT: Was there any pushback from the insurance companies and Medicare and Medicaid?

RC: Most of the pushback we've had has been from organized pharmacy organizations. We haven't had much pushback from insurance companies. *We* haven't. Pharmacy has, but we haven't in our group. I think the reason was we knew early on if this was going to be a real service and if it's going to survive, it has to fit into healthcare the way healthcare is, whether you like it or not. They're not going to make the pie bigger because Bob is a nice guy.

You have to have a documentation system. You have to be able to keep a record of what you actually did, and the billing is going to be based on the record of what you actually did, not what you say you did. Again, if you look to pharmacy, they had no billing system other than their product. They had no service billing system. Of course, medicine does. They have the whole CPT, current procedural terminology codes. I learned that from John Najarian. I've backed up a decade on you. We were here in the University Hospital, and we were doing all these consults on drugs, dosing for everybody, especially the surgery group and the transplant service for all their patients, and there was no mechanism to bill for it, and the Hospital pharmacy couldn't help us and the drug people didn't know.

So one day, Dan Canafax and I—I'm sure we were at the Big Ten [campus bar] having a beer—and he said, "There has to be a way to do this." I said, "Why don't we talk to the richest people in the Hospital. Let's go talk to the surgeons. They know about billing." So we got an appointment with John Najarian. I remember this like it was yesterday, too. He said, "Can I help you, boys?" "Well, we've got a problem. We're trying to figure out a way to bill for our consults." He looked at us like we were kindergartners. He said, "You don't bill for your service?" He'd never met anybody in a white coat who didn't bill. We said, "No. We don't have a system in pharmacy." "Just a second." He pushes one button on his phone connecting his business manager. He brings him in and he says, "Get these guys set up for billing." That was it. The guy sits down, and he asks all the questions that you have to have in healthcare in order to bill. He said, "What's your service? What do you do for patients? What practice is that based on?" Then when you document, the chart has to say these things. There's five different levels of complexity, just like everybody else has. Then, he rolled his eyes back and said, "Let me see. Pharmacology. Let's see. You're probably billed somewhere between nephrology and psychiatry." He looks up these numbers and says, "Here, bill this much." He just put us like in midfield, okay? I got a little note from the Department of Surgery at the University Hospital that says, "Bob Cipolle, practitioner #42. Dan Canafax, practitioner #43." And we had a billing system.

Fast forward to outside the University Hospital in the real world billing of insurance companies is based on the same system. It's having a billing system that based on the level of patient complexity and what you actually did.

I'm still answering your question.

DT: Yes.

RC: Pharmacy was going to insurance all the time saying, "We're doing great things. You should pay us." They said, "No, we don't think so." We went and said, "We have this service and here's how we document it and here's how much we're going to bill. We're going to bill you using this system you use for everyone else." They said, "Oh, yes, we know how to do that. Okay, send them in." Asking them to pay was nothing. They don't care. Have you seen the size of their building downtown? They don't care. What they *won't* do is they won't create a system for you. They already have a system. If you fit in their system, fine. And we fit right in their system. It took organized pharmacy a decade to figure that out, to get actual CPT codes. They finally got those approved by the AMA [American Medical Association] based on what we did here ten years previous. All we did was say, "If we're going to play baseball, you come to the game with a bat and a ball." Pharmacy kept saying, "If we're going to play baseball, you come to the game with a soccer ball." And then they said, "Why won't you let me play?" So we basically fit into the system that existed.

DT: Given that now that the system is in place, it seems that's fairly obvious and why didn't it happen sooner? Do you have a sense for why no one came out with this sooner?

RC: Yes. We were following all the rules of medicine. Pharmacy was following all the rules that pharmacy had made up by itself. Pharmacy developed outside the healthcare system. Minnesota was unique. I think one of the reasons we developed a lot of this here is because Larry Weaver had the foresight to bring us in from chemistry to bring us into the Academic Health Center when he built that building. During my career, I worked everyfaday with otolaryngologists, pediatricians, nurses, dentists, surgeons, everybody. Most of pharmacy grew up in pharmacy with pills and prescriptions and things like that with their own billing system, with their own patients, with customers, time and materials. They had professional fees, but they didn't provide any services. They didn't record anything. So they made up their own rules. Organized pharmacy, the professional organizations, are there to perpetuate themselves, so their billing system had to do with the product. Well, our billing system had to do with services provided for the patient and they couldn't get over that. So, for ten years, pharmacy tried to have a long laundry list of all the things a pharmacist *might* do for a patient and this will be $1.57 and this will be $2.86. This is a *long* list and all the insurance companies said, "What are you? Crazy? We're not doing that." All we had was the way you bill for everybody else, the psychiatrist, nurses, surgeons. Ours is the same, only it's this amount not that amount. Okay. They had to do no programming of computers. We presented them with the answer. Pharmacy would not release their grasp on the product is where we make our money. Pharmacies today still do. Walgreens is the second biggest retailer in the country, a very, very successful business, but not a healthcare center.

DT: With that in mind then, how far has the practice in pharmaceutical care disseminated in terms of the institutions that are in the healthcare system? Does Walgreens do MTM, though?

RC: Ummm… Walgreens is trying to find the business model that would allow them to provide some medication therapy management. But they're a retailer. They're a business. Presently, they have committed *enormous* funds to do two things: get to 10,000 stores—I don't know how many they have now; they have like 7,000 and that's big undertaking; they're really a real estate business—and they invest an enormous amount, as has CVS [Pharmacy], in minute clinics. There's a brand name. Come in if you have a cold, the flu, you have a minor ailments. You don't have to hassle with the big healthcare system. You can have less hassle on our watch. Their entrée into healthcare has basically been to take some their very expensive real estate and treat a few conditions. They're not the leaders in medication therapy management in this country.

DT: But then, what about smaller retail pharmacists in the community? Have they generally embraced…?

RC: They have embraced the concept and those who have been able to make a business model out of it. Just like all practices, you have to start with one patient. It's a completely different business than the prescription business. Prescription business is a commodity. It is a product business. Medication therapy management is a service business. They're completely different. When you go to the car agency, there's the people who sell you the cars and people who repair the cars. They're owned by the same company, but they're completely different people. They're paid differently. So the pharmacist who understood that said, "This part of my shop is for selling pills and tablets. I try to be profitable there. This part is going to provide services. In order to be profitable there or economically sound, I need to set that up." It's like if you're an attorney and you graduate from law school, you have no clients. You start out broke. You start getting clients. Well when you're a pharmacist and you decide you're going to provide medication therapy management, you start out with no patients. Now, you have hundreds of people walking into your pharmacy who need it, but they're eight feet away and they're not paying. So you have to develop a practice one patient at a time. Those who have done that have been quite successful. There's been a lot of failures and most of them with which I'm familiar with haven't let go of the product yet. So they're trying to take care of patients in between busy times, but you can't do it. Pharmacy distribution systems, if you've ever gotten a prescription, are a factory. It's a factory and it never slows down. If there's a ninety-second break, you stop and take a sip of water or coffee and exhale and, then, you get going again. That approach of I'm going to take a half a step doesn't work. There are several firms who provide those services for companies. Fairview [Health System] here is probably one of the most successful in this region, because they now have a division of people within their pharmacy and that's all they do. I've lost count, but I'm sure there are a dozen, maybe twenty now, pharmacists at Fairview and that's all they do. Their pharmacies are in their clinics, but they're not responsible for drug distribution. That's a whole other army of people.

DT: It sounds like it would be impossible to have the same person do both things.

RC: Yes. What happens is you do both poorly. You make errors on the pharmacy side and you can't become centered on the patient. One of the things that you have to do, and patients just love this, because, in many cases, the pharmacists who provide the service are the first people in the healthcare system who ever sat down *honestly* and listened to them. It's not because we're junior psychologists. People take medications for a reason and people don't take medications for a reason. Unless I know what your reason is, unless I know how you approach your own drug therapy, I can't change it. I can't improve it. Maybe I can make it worse, but I can't improve it. The first part of an assessment by somebody who provides medication therapy management is finding out how that patient understands and thinks and feels about their medications. Then, you can become patient centered. We call it the medication experience. Everyone has a holiday experience, a vacation experience. They love cruises or they hate cruises. That influences what you do on your next vacation. Well, people have the same with medications. We have people who are afraid of big capsules. We have people if it's red, it tastes bad even before I taste it. I'm not taking this one because my mother did and she died. I can remind you all I want, but until I deal with that real issue I cannot help you or improve compliance. That's where these pharmacists start. That's what makes it patient centered. We have patients who will follow these pharmacists when they change their practices, because of that.

DT: That's why you need that extra or different kind of training than just the retail pharmacist?

RC: Yes, it's a very different training. Some of the colleges in this country are trying to prepare that next generation and some of them are still preparing people to dispense medications, because there's a market.

DT: It strikes me that this is so important for patients who have chronic disease and managing complex drug rations.

RC: Yes. Eighty-three percent of the medications we use in this country are for chronic conditions where the goal is not to cure. We don't cure many things with drugs. I'm not sure I should say this, but we don't cure many things with drugs, a few infectious diseases and a couple of cancers, but not many things. Most things are chronic for which we use medication. So the goal is stability, making people stable, and the goal to prevent other things from happening and being comfortable. That's very different than a cure.

DT: I'm thinking about how drugs work within the body. Are you also trained to think about how different food influences…?

RC: Yes, but we're very biased about drugs. Drugs are us. Heaven forbid you should ever have to endure one of our lectures. I'm not there five minutes before I will tell you that your problem is either caused by a drug or I'm going to resolve it with a drug. That's what I do. Okay? I think that's okay because my brother is a surgeon. He's either going to cut it out, or he's going to sew it up. That's all he does. You can't expect more.

So, do we deal with food? Yes, we do because nutrition affects how drugs are absorbed and metabolized and vice versa. So there can be some enhancements and there are going to be some interactions in a negative way, but as far as students, if you will, who graduate, they're not nutritionists. I wouldn't say, "Gee, I'm going to go on a diet and lose fifteen pounds. I'm going to go talk to my druggist." Yes, but how it has to do with therapeutics. It's the same with exercise. Nobody is going to pay a pharmacist that will tell you to exercise, but you need exercise in order for good cholesterol and blood pressure and those sorts of things. But that's just part of the general health that everybody in a white coat needs to understand at that level.

DT: I was thinking of one particular example with Parkinson's Disease when L-dopa was first introduced and I guess even still now…there was so much about when to take the drug, how much to take, and how often. It had to marry up with when you were eating, what you were eating.

RC: Sure.

DT: I meant really in that kind of nutrition….

RC: That's a good example. That makes a huge difference to the effectiveness of that medication, because it's so poorly absorbed into the site of action, CNS [Central Nervous System]. So we have combination products we use. Even more recently, the drugs used to prevent osteoporosis… Less than one percent of that drug is absorbed. It has very complicated directions. You're supposed to take it on an empty stomach, and stand up or sit up for an hour, and don't do this, and don't do that. The drug is so complicated, I have no idea why anybody *ever* uses it. I'm sure before I pass, we'll find a whole new class of drugs that will replace them. It's the most inefficient drug we have ever marketed and they sold a jillion.

DT: [chuckles]

RC: If you have a little something to eat with that, the one percent that gets absorbed doesn't get absorbed. So, now, you're wasting the whole tablet. A terrible product.

DT: You heard it first… [chuckles]

RC: A terrible product.

DT: I probably will have more questions about the practice of pharmaceutical care as we go on, but if we can return to the 1970s for a moment… This brings up kind of the interaction with the patient. The patient package insert was introduced.

RC: It came and went.

DT: Yes. [chuckles]

RC: We were completely ready for this. Do you want my patient package insert story?

DT: Yes.

RC: I'm still at Saint Paul-Ramsey at this time. By default, I'm responsible for their pharmacies, the whole thing, inpatient, outpatient. So we developed a computer program for the outpatient pharmacy. Then the government said we were going have patient package inserts for a few medications. They had a list of their favorite drugs. This patient package insert has to go out with all these. We developed a system that for these medications and for these certain patients. You could press a button and not only would you get the usual label for the prescription but all the patient inserts would come out and it was editable by us. It was brilliant. Thirty days before they were going to turn it on, they withdrew the mandate. I was so disappointed. It was so cool. We had this whole thing. We had developed materials that were in patient languages so they could understand. We got people who wrote things for the V.A. system, I think, at a sixth grade level, so people would understand it. What you get from the drug company, first of all, the font is so small you can't read it, and it doesn't know anything about the patient. So it doesn't know if you're pregnant or it doesn't know if you're elderly. It doesn't know your renal function. It just tells you all about their drug. Well, we know you, so we can leave out all the unrelated stuff and put in information that is patient-specific. We had all that developed. It was really cool and, then, the government decided it was too much—well, drug companies decided it was too much.

DT: And now…

RC: The majority of health-related decisions from our government in this country that have to do with medications are made by the drug companies. The transportation ones are made by the auto industry. It's no different.

DT: And, now, the insert is just a standardized document that the drug company includes with…

RC: Yes, it's interesting that you say that. It's a standardized one. It says the same thing for everybody. It doesn't know how old you are, your gender. It doesn't know what to warn you about. It just tells you all of that and it's the same one every time you get the medication. It's the same thing every time. We don't even do that with coupons. It's been studied to death. They're required but they're really of very, very little value to anybody.

Now, what's changing, I guess the next generation of that, is—now I'm jumping ahead to last week, okay?—that medication therapy management services are required for all Part D Medicare programs. There's sort of MTM light, and there's comprehensive medication reviews. If you provide a comprehensive medication review for a patient, you, now, as of January 2013, will have to provide the patient with a cover letter of what went on with an a medication action plan. This is what we discussed, and this is what I think you should do to improve your therapy and, then, a comprehensive list of all your

medications and those sorts of things. CMS [Centers for Medicare and Medicaid Services], the Medicare administration, has guidelines for that, what that will be. So they've gone from patient package inserts to just, I'll say, drug company inserts, to a patient-specific format for information. One of the technologies that we took from the University here—we developed the Assurance software program to do that—is now, we've created a business. As of January next year, patients who receive medication therapy management services as part of their Medicare package, if you will, Part D, will all be required to receive information about what they should do with their medications and changes made, etcetera, in a structured format. The format is not bad for something designed by a committee in the government. Everybody is going to get about nine pieces of paper, but it's not bad. The second generation will probably be fine; it's a pretty good attempt.

DT: This new innovation, was that something that was pushed by pharmacists, by patient demand?

RC: Most of it is by patient demand. CMS has several patient advisory groups. They have a couple major problems with the Part D plan. Obviously, the doughnut hole is one. That's an economic problem. The other is at that age, many people are on multiple, multiple medications. I think our average is nine medications for six different conditions. That's difficult to manage. It almost makes taking medication a full time job. The information you get in the present system is either non-existent or overwhelming. There doesn't seem to be a happy medium. This was designed at the response of patient requests. Then, CMS put several people together in a room to design this thing and left it to pharmacy systems to implement.

DT: You mentioned a while back about being fired by the University Hospital.

[chuckles]

RC: A couple times.

DT: A couple of times. [laughter]

RC: Do you want to know that story?

DT: I mean if you're…

RC: It's the direct offshoot, probably, of my focus. I wasn't very good at going to meetings. I wasn't very good at asking for permission. So what happened was we developed a method to bill for our services so that we could afford to hire residents, our own residents and fellows. The money has to come from somewhere. It doesn't make any sense for it to come out of a drug budget. It would have, but we did not have access to those funds, and the College didn't have money to do that. When you look around at how do other medical services hire their next generation, it's clinical services. So that's why we decided that we had to bill for services. We're out billing for our services and I

guess I'm technically part of Pharmacy, but the Director of Pharmacy didn't even know what we were doing. They didn't even know we were doing it. It was all, actually, within surgery. He [Paul Abramowitz, Director of Pharmacy] didn't think that was a really good idea.

So anyway, the way you move people around at the University is you take away their space. You can't just fire anybody. So pretty soon I don't have an office, and I don't have anything else. So I go to the director's office and said, "You don't want me here, do you?" "Well, you know. You're doing all this stuff. We're not sure what you're doing or how to manage it." I said, "All right." So he basically fired me. Uhhh… So I left here.

DT: Then did you move…?

RC: That's when I created the [Peters] Institute.

DT: Oh.

RC: I said, "Okay. Well, then I'm going to do what I should be doing." I'm going to work on ways to improve drug therapy for the ninety-nine percent as opposed to the one percent. I guess I started the story in the middle, because there was no space, so we moved down the street.

DT: [laughter] It's funny. I'm glad that you bring up that part, that it was all about space, because I've heard that from some medical faculty, nursing faculty, public health.

RC: Yes.

DT: That's a resounding theme within Academic Health or any kind of University…

RC: My friend told me if you're taking a job in academia, there's only two questions you have to ask: where's my office and where's my parking spot? Everything else, you can deal with yourself. You don't need any help with anything else. All space on earth since humankind has been decided by kings and queens and wars. Well, deans are kings and queens. [laughter]

DT: I know you weren't physically located in the College. You already said you don't like to go to meetings. But did you often go to faculty meetings? Were you involved in what was happening within the College?

RC: Worse than that. The dean at the time was Gil Banker, who was a good strong dean, a good leader, but didn't know much about practice and knew he didn't. So he tapped me on the shoulder one day and said, "I need you to be my associate dean." So he made me associate dean, much to the chagrin of the majority of the faculty, because I was a Pharm.D. We were still new. We were young. We weren't Ph.D. trained; therefore, we, obviously, didn't have the credentials to be a real faculty like a card-carrying Ph.D. We

were, I don't know, born on the wrong side of the tracks or something. Uhhh… So, yes, I went to a lot of faculty meetings.

[pause] [laughter] I'll tell you about one. Can I?

DT: Yes, absolutely.

RC: This was back when we had a dean and one associate dean and a department head. Now, they've got about six or seven or eight. They've got so many associate deans, it's like a tribe, you know. But it was just Gil and me. His secretary [Jeannie Schwartz]—God bless her—kept trying to get us to meet at least once a month. For him and me, it never worked out. We'd see each other in the parking lot and the elevator. I always knew he had three things going on and as long as I knew what the deans A, B, & C were, I could work for him. That's all we needed. So he and I never met, formally, you know. But we had a great working relationship.

Anyway, he doesn't want to get in curriculum fights. He didn't really teach any undergraduate programs. He was a graduate level professor. He said, "Fix the curriculum. It needs some stuff." At the time, believe it or not, our College did not have an organized course that was required in over-the-counter products, non-prescription drug products. It was all about prescription drugs, very archaic at the time. So we went to the curriculum committee a couple times. Oh, who's going to teach it? It will cost more money. All the whining faculty always do about these things. Those drugs aren't as important as my drugs. So I think, this isn't working. I had to get a better way to do this. So we had a faculty meeting one day, and I snuck into the room ahead of time, and I brought sixty different over-the-counter products, stuck them on everybody's desk. I started out and said, "We have a college. We graduate"—back then—"about sixty-eight students a year. We don't teach them about any of this stuff. Look at it. Tylenol. Aspirin." Bob [Robert] Vince, economically the most successful faculty we've ever had in the College of Pharmacy, had in front of him a pack of condoms. [laughter] He goes, "Okay, I'm for this. Let's do it."

DT: [chuckles]

RC: So we got the course approved. That's how you do it.

DT: I was watching an old history that, I guess, was done with various members and alumni of the College. I think it must have been in the 1980s celebrating the various deans.

RC: Okay.

DT: One of the comments that the alumni who were working as community pharmacists said was that they didn't really learn a lot about what it was to be a retail pharmacist.

RC: Yes.

DT: This speaks to that, the fact that…

RC: There were probably several holes, but there were two gaping holes that if you just came in and didn't know anything about pharmacy, you could see. We didn't teach anything about all those things out in front of the counter and there was very little on the business part. As a community pharmacist—my father was one—you're, in essence, a community businessman. You run an inventory. You hire people. You pay rent. You pay taxes. You're running a retail business. The pharmacy management courses, at the time, in most colleges were still geared towards big institutional hospital pharmacies and not the community pharmacy. So a lot of pharmacists who graduated said, "I'm out here trying to run this, and they didn't teach me any of this." That's true. We didn't teach them.

DT: Were there efforts to rectify that within the curriculum?

RC: Yes. Oh, yes. In fact, there are now some programs that have actual tracks in community pharmacy management or management of primary care practices and businesses. They are different businesses. I could use an analogy about automobile dealership. You don't want the person selling your car to have to fix it. [chuckles]

DT: How long were you associate dean?

RC: I was a dean for two years. I was appointed as an interim dean by [Robert] Andy Anderson, who was the v.p. [vice president]. Back then, I think we were still in the health sciences. Marvelous. Probably the second two most interesting years of my life. I didn't even know who he was. Gil Banker left, suddenly. He resigned as the dean. He had a disagreement with the president about budgets, and got angry, and left, and took a job as a dean at [the University of] Iowa, which is quite a slap in the face to Minnesota. Andy Anderson called me up one day to his office. He used be in Morrill Hall, at the time. I didn't know him from Adam. He said, "Well, they tell me you're the guy. Over at the College of Pharmacy, everybody tells me that you're the guy. It's going to change your whole life. Don't say, 'Yes,' right now. Go home and talk to your wife. Go out to dinner, because it's going to affect her, too. Then, let me know tomorrow." The conversation was about that long.

DT: Were you co-dean? Was Larry Weaver…?

RC: No. Larry had retired. Larry retired. Then, Gil Banker came in. Then, Gil left and I was his associate dean. So when he left, I might have been the only one standing. I don't know, but Andy tapped me to do that. Then, there was a search, as there always is. There was a failed search and, then, they found somebody. He said, "Yes," and then decided at the twelfth hour, not the eleventh hour, the twelfth hour, to not take the job. I think it had to do with space. I'm not sure, but we were all surprised. I had introduced him at the annual pharmacy meeting as our new dean. The next day, I got a call that said

he's not doing it. Then, they asked me to continue for a while. Then, they offered me the deanship a couple times and I didn't take it.

DT: Why didn't you take it?

RC: [laughter] I didn't feel I had the support of the president of the University at the time. We were fine over on this side of Washington Avenue. Andy was the guy. Then, Andy had just left with a dispute with the president. I remember Frank [Cerra] was interim. I don't remember all of that. Frank had about nine hats, and I don't know who was what. The dean of Dentistry, [Richard] Elzay, was interim for a while. Anyway, it was a revolving door for a while. I woke up one day and said, you know… We were just starting to work with all these communities, patients, and pharmacists and that program is not going to go on without me. If you don't have the support of the president, you pretty much can't be a dean. No thanks.

DT: That was [Nils] Hasselmo?

RC: Yes. [laughter] I'd forgotten most of that stuff.

DT: [chuckles] His name has come up a number of times among other people.

RC: We had another vice president in there for a short period of time from Johns Hopkins.

DT: Yes, William Brody.

RC: Yes, Bill Brody.

DT: He was in for a couple of years.

RC: Yes. It was an interesting bit of time.

DT: As you say there was a lot of movement.

RC: Yes.

DT: One of the things I'm curious about is what is or what has been the relationship between the College and the Department of Pharmacology in the Medical School. You mentioned…

RD: Oh, yes. Back in the day when we were first starting, there was a riff. When I was still with Saint Paul-Ramsey, there wasn't a department of clinical pharmacology there. In fact, actually, the Hospital used to call us the Department of Clinical Pharmacology. We said, "No, no." The same thing was true at the V.A. and Hennepin. Here at the University Hospital, there was an organized department of clinical pharmacology with some very bright research physicians. They all had advanced training. I think they all

had M.D.-Ph.D.s and they all had their area of subspecialty. That's why they got the Ph.D. Again, I wasn't first hand about that. I was eight miles away watching it in newsletters. It seemed to be political at the department head level for a while. What happened was…

[break in the interview]

RC: …as the clinical pharmacology people were developing real services and consult services and were very visible and the clinical pharmacology people were mostly laboratory based. They had a consulting service, but it wasn't a big consulting service like nephrology would be or like infectious disease. It was maybe an echelon less active than that. But the Pharm.D. folks here were there everyday all around the place. Yes, there was a rift at the beginning. I don't know how it actually resolved. I don't know if we just outlived them or what happened. We were just service oriented, and they were very research oriented and grant oriented, sort of a more traditional faculty role than the clinician role. I never got involved in those fights. If they were having fights, they were in a meeting that I wasn't at.

[chuckles]

DT: You must have had a real shock when you were associate dean and then dean having to go to all the meetings.

RC: Then I had to go to meetings. Frank tapped me to be the chair of the Conflict of Interest Committee. I did that until I retired. I did that for whatever it was, ten years or twelve years. *They* were some meetings.

DT: [chuckles]

RC: They didn't pay me nearly enough to do that.

DT: In the undergraduate curriculum, the baccalaureate, who was teaching pharmacology to the pharmacy students? Was it the Medical [School] Pharmacology Department or…?

RC: Yes and yes. Prior to me, Dean Weaver was a pharmacologist by training. He had an agreement with the Medical School and we always had two or three Medical School fully tenured pharmacology faculty on our faculty. They had joint appointments in medicinal chemistry. They were housed, which is important, their offices and labs were in the Medical School pharmacology, but they were full-fledged members of the College of Pharmacy faculty and paid by the College of Pharmacy—I think fully, but I'm not sure. So that's the deal he struck so there was never a war about that. Earl Dunham, who might still be here, taught pharmacology both to the pharmacy students and then, also, to the medical students and maybe even nursing. I'm not sure. Doctors [Patrick] Hanna and Dunham, those guys taught a lot of the pharmacology for years. So that was

administratively handled, I think, when the College of Pharmacy moved to this side of Washington Avenue. That was Larry's deal. It was brilliant.

DT: It seems like there's that inherent tension…

RC: Other colleges of pharmacy had that problem. Who's going to teach pharmacology with the medical school across the street and if they're at war or not agreeing, then you hire your own pharmacologist. Well, that doesn't make any sense.

DT: Do you know when the Department of Social Administrative Pharmacy was started?

RC: Not exactly. It was Pharmacy Administration and, then, its leader, its thought leader was a fellow named Albert Wertheimer, who may have been the champion of not asking for permission. Albert was a very freethinking faculty member who brought the social part to social administrative pharmacy. He said, "This has to be about society, about healthcare in general, and public health." He had a lot of colleagues in public health. Just like the Pharm.D. program that Larry Weaver started and got a lot of crazy young pharmacists to do their darnedest to take care of patients in a new way, Albert Wertheimer got a lot of very energetic, young mostly pharmacists, but not all, into a Ph.D. program with enormous amounts of freedom. They did great things. Many of the leaders of social administrative pharmacy in the country came out of Albert's program. The whole concept of pharmaceutical care came out of people from Albert's program. Many of the leaders in the initial managed care pharmacy side of the business and PBMs, pharmacy benefit [management] companies came out of Albert's program. He was really brilliant and a maverick in every way.

DT: Do you know where he is?

RC: The last I heard he was at PCP, the Philadelphia College of Pharmacy. I don't know if he's still there, but when he left here, he went to Philadelphia.

DT: That's good to know.

RC: The nation's oldest college of pharmacy.

DT: Yes, indeed. I used to live in Philadelphia.

RC: Ah! Okay.

DT: I saw from the Archives that there were discussions, or plans at least, to terminate the Bachelor of Science in pharmacy degree and establish it as a Pharm.D. only program. Those were scheduled to take place in the early 1980s, but it never happened.

RC: Yes, I think our faculty voted on that about five times. Maybe we voted for it four or five times. Again, I didn't have first hand in that until we actually did it. There was much consternation with the faculty about this. It wasn't supported by several of the

people in basic sciences. They described to me that they thought there would be a resource strain. All the new faculty would, obviously, have to be clinical, and we won't get any more money because, "We used to get all the money before you guys came." So that was not in their best interest. Even several of the clinical faculty said, "We're *special*. We went through medical school training. We had all this freedom. We had to go to meetings, all the things that helped me. Now, it's going to be a very structured program. It won't be the same quality as us first generation people were." So the dean was fighting both of those camps, if you will. As a profession, this was a discussion for twenty-five years in pharmacy. I can't imagine a profession wasting more time in discussing this. It finally came about. We were kind of in the middle of the pack in the country doing it. It was always framed as a resource issue. Now, we have to have twenty-five new faculty. We have to have all these different sites. In order to pay for this, we have to have more students. If you have more students, you have to have more faculty. If you have more faculty, you have to have more money. If you have to have more money, you have to have more students. There's this argument that this is going to cost a jillion dollars. There was a budget laid out for that. That was the riff between Dean Banker and President Hasselmo. We created a budget where we could afford to make that transition, and I believe the president led Gil to believe he was going to support it, and he didn't. A year later, we did it, but we didn't ask anybody.

DT: [laughter]

RC: [pause] Okay, here's what I did. I was actually in charge of Gil's budget. We actually had a budget worked out on this piece of paper, on a spreadsheet like real budget people do. I worked it out with Cherie Perlmutter, who is a saint. Gil is gone, so in order to do this, we had to get this budget approved. Budgets were actually approved back then, by the provost, a person named [Ettore] Infante. If he said, "No," it was no. If he said, "Yes," it could happen, and you might not have to go to any more meetings. So I just made him an offer that he couldn't refuse. I said, "We're going to generate this much more tuition, and I'm going to give you a third of it, because I know you'll need some." Everybody else wanted to increase the tuition and keep it all. "All I need is seventy percent, and you get thirty." He said, "Nobody has ever walked in and said they'd give me money." I said, "Well, hey, you've got to have something." He said, "Okay." That was it—ninety seconds, and we had an all Pharm.D. program. [chuckles]

DT: I saw in the early 1980s that the Minnesota State Pharmaceutical Association was upset with the College for *not* making it all Pharm.D., that they were upset that there was still this dual degree program.

RC: Yes. It sort of perpetuated a two-class system, two classes of people. We had it for quite a while. In general—be careful when you generalize, obviously—the pharmacy students after a couple of years selected to go one way or the other: to get a B.Sc. or a Pharm.D. Those who selected to get their baccalaureate degree came out as employees of pharmacies in a community, usually chains, but not always. That was the perception. The people who decided to get the Pharm.D. degree ended up more in institutional hospital practices. So the community pharmacist, the business side of a pharmacy, said,

"What's going on here? We've got a College of Pharmacy who isn't helping us with our workforce." We were a little schizophrenic as a College at the time.

DT: When the College finally transitioned into an all Pharm.D., was the state association supportive?

RC: Eventually. It was political. Now you're going to have the same number of pharmacists. Now, what you had to do is attract them to come to your pharmacy to practice. I spent a lot of time with community pharmacists getting them interested in being preceptors for our students. They'd had them as inexpensive help, as apprentices. They got paid a third of a pharmacist's salary, and they would do all the work, you know. Now, we need them to put them out, basically, at the front of the counter and meet and greet and talk to patients. The mistake people make in academic administration, I think, is they say, "Well, you've got a hundred students. You need a hundred sites." You don't need that many sites. You need four or five to show everybody else they can do it and, then, everybody else will do it. So we had to go get about a half a dozen of those. That took a lot of effort and some trust from people.

DT: Did the College make efforts to increase the number of pharmacists willing to work in rural areas, in outstate Minnesota?

RC: Yes. The first phase of that was dealing with the RPAP, the Rural Physician Associate Program with Jack…

DT: Verby.

RC: Thank you. Jack Verby. Now, there was a maverick. There was a guy who didn't go to meetings. [chuckles] Jack was completely right from early on. You can show people slides of rural Minnesota, but if you want people to live there and practice medicine, nursing, pharmacy, anything, you have to train them there. They have to live there. So we hooked up with them and had clinician students there and we had a few residents out there, real residents. They had Pharm.D. degrees and, then post-Pharm.D. out there. But we were trickling people out there. Under Dean [Marilyn] Speedie's leadership, they opened up a parallel program on the Duluth campus specifically to improve our penetration to rural communities.

DT: That's a similar reason why the Medical School started in Duluth?

RC: The Medical School started up there. The politicians said, "If you're not going to put people out there, we're going to start a new school. Hear this." They were a legislative special. I'm not sure, maybe they still are. The College of Pharmacy tried not to go that route. We said, "We're going to do it on our own volition." It's been fairly successful. It's an expensive undertaking to duplicate everything you have here, very expensive.

DT: Is there any exchange in terms of the students that are in Duluth…? They're all just up in Duluth?

RC: You'll need to interview somebody else about that. I didn't do much of that. That was kind of starting as I was leaving. They did a lot of televising courses back and forth. I'm still a chalkboard guy. I didn't televise anything.

DT: [laughter] I know. I was considering doing the ITV [instructional television] posts to get some of the Rochester nursing students into a class I was teaching. It didn't happen for technical reasons, but I didn't really relish the idea of having to do the TV education.

RC: There was sort of a joke in the College… The first fifteen minutes of every lecture would start, "Can you hear me in Duluth? Can you hear me in Duluth?" I used to say, "I've been here so long. I remember when we gave lectures in rooms with chalkboards, and there was never any chalk." We had to bring our own. Then, we got whiteboards and there were never any markers. We had to bring our own. Luckily, my wife is a high school teacher, so she would equip me for my lectures. Now, we've got these computers to go up to Duluth, and there's no sound. Nothing has changed!

DT: [laughter] It's always something.

What were relations like between the basic science faculty and the clinical faculty in the College during your years at the College?

RC: I think early on, they were fairly contentious. Early, early on, we were gnats. They never would have cared. There were five or six of us. We were all in the Hospital. Then, I think it became obvious to the basic science faculty, who were the core of the faculty and always had been, that many of the new resources were going to go towards expanding the Pharm.D. program, and they weren't real clear, especially when there was a B.S. program and the Pharm.D. program, because they didn't teach in any of the Pharm.D. program. So all of the resources were going out to this new venture that Larry Weaver started, which they didn't like and weren't very supportive of.

In fact, my best story of that is that if you walk through the halls now in Weaver-Densford Hall—remind me to tell you how it got named that—and there's all these pictures of all the graduates of the College of Pharmacy, you won't see any of the first four or five years of the Pharm.D. program. They didn't take any of our pictures, because the associate dean at the time, who was a chemist, didn't think it was going to last. It was just one of Larry's programs, and it would go away. There are no records of us. The Alumni Association didn't know what degree I had. For a while, we were below the radar, who cares. Then, we became visible enough that people worried about resources. Although, I don't remember us ever asking the dean for anything, it just appeared the resources were going to go that way. Those arguments, those fights came out in promotion and tenure. We were all turned down for promotion and tenure. I started here

as an instructor. I'm now a professor emeritus. I was turned down at every *single* step every time. [laughter]

DT: You weren't on the academic track. You were…

RC: Well, I was an instructor. Then, I got a note from the associate dean and he said, "I put you in as an assistant professor." I didn't know what it meant. Okay. It meant nothing to me. It had nothing to do with anything I could measure about my life, you know. Then, I was just an assistant professor. Then, they put me on the tenure track. I didn't ask for anything. I didn't do anything. They just stuck me on one. Then, I was turned down for associate professor and the next year, I made it. My predecessor Darwin Zaske, a world famous guy, they turned him down too. You don't get any bigger credentials than Darwin. So it had nothing to do with, I like to say, with our credentials, but maybe it did. Maybe there's a little self-aggrandizement here. Then, I went up for professor while I was interim dean. Well, you can't do that. Everybody has an axe to grind if you're the dean, you know. So that wasn't even close. Then, I finally became a professor. See, my C.V. was exactly the same as it was when they voted against me, but I wasn't the dean.

DT: [chuckles]

RC: This has to do with the arguments and the riffs. One of the things that Dean Speedie did when she came in, and she saw all this is she got permission from Doctor Cerra… The College of Pharmacy used to be our tenure academic home. Now, it's a department. So the chemists only have to fight with chemists. The clinical people only fight with clinical people. So those fights sort of went away. So now we have departments that don't pass judgment on other people in other departments.

DT: As I understand it, that's how it works in the Medical School.

RC: Yes. The Medical School is big. The Department of Medicine is as big as the College of Pharmacy. The College of Pharmacy is getting pretty big now. You have to have a tenure home now because you're a department. I guess that gives us fewer reasons to fight, but, you know, academic fights are, as they say, so vicious because the stakes are so low.

DT: It sounds like, yes, these kinds of tensions persisted at least through the promotion and tenure process, but were there other manifestations of the conflict?

RC: Ummm… Other manifestations. I don't know if they ever bore themselves out in salaries or anything like that. At the University, there's only promotion and tenure and space. I was reflecting on this the other evening. It must have been my poor wife who had to hear this. I think in the *old* days, I mean 1950s, 1960s, 1970s—I wasn't there, so I don't know—it looks like faculty had *fantastic* jobs. They had buildings built for them. They had laboratories equipped for them. They taught a course or two. They lived in *University Grove*.

DT: [chuckles]

RC: They had healthcare. They had *great* lives. We'd call it almost a fiefdom now. Then, in the era that I started out, none of that was on our radar. We didn't have any of that. I didn't even know it existed. We had faculty who would ride their bikes to work from University Grove. I thought where do these people live? I could be way off base here, but I think some of the riff was that it appeared as though the clinical program was going to take new resources away. But I think, also, some of it was exposing the fiefdoms that were there. They were there. When we moved into this building, we had faculty who had a *half-a-floor* laboratory, and they weren't the most productive faculty on campus, but they had *thousands* of square feet of laboratory—and we couldn't get an office. Let's see, I shared an office probably the first twelve years I was here with somebody else. I didn't have my own office until—I think—Gil made me associate dean—and then I didn't even have a parking spot.

[laughter]

RC: Worse than that, I didn't have a parking spot.

DT: That's even with Larry Weaver as dean who was obviously spearheading the Pharm.D. movement. So he couldn't…?

RC: Well, I don't know that he had to. I didn't need an office. I was never there. When I was at the University Hospital, I was in the Hospital the whole time. When I was at Ramsey, we were never here. I didn't need a parking spot. So we never asked for them.

I have to think back to see if this is true now. I believe we asked Larry Weaver for one thing in the thirty years that he was part of our group. When we were first developing this idea of pharmaceutical care, we spent an hour with him to get his counsel. We have this idea and here's what we want to do. So we asked for his advice. We didn't ask him for a nickel. He said something like, "That's a great idea. You have to do this, but let me make a couple calls." Three days later, we were on the plane, and sitting in front of the senior vice president for Glaxo[SmithKline], and he approved a request for $610,000. Larry got us into his office. That's the way he worked. Larry didn't need to give us offices. Maybe we were foolish. Maybe we should have had offices. I don't know.

DT: As you say, if you weren't on campus, you didn't need them.

RC: I don't know. Everybody was fighting about space. It didn't make any sense to me. But it is what people fight about.

DT: That was in the midst of the new building being built.

RC: Yes, they built the new building that was designed by chemists. There was no clinical pharmacy office in the new building. There was a *room*. It was a third of a floor, which when it opened had carpet. Period.

DT: [chuckles]

RC: Now, it's a big lecture hall. It holds a hundred people, so that's how big the room was. But it was just a room. It didn't have a window. It didn't have a chalkboard. It didn't have a desk. It was just a room. That was the entire clinical pharmacy program space allocation on the seventh floor. Everything else on the seventh floor belonged to Nursing. And evidently that was sufficient.

[laughter]

DT: Also—this may have been right around the time that you came to Minnesota—there were discussions about whether or not the College should start a two-year pharmacy technician program. Do you remember any of that?

RC: I wasn't directly involved in that, but it had to do with the workforce issues. In busy pharmacies, a lot of the work is done by technicians. A lot of the training is on the job training. So as a pharmacy technician, I'm working for you, and I learn what you teach me. I don't know anything else. Other places in the country, a couple of pharmacy schools, mostly technical schools were saying, "This is a real job opportunity to train people in this." But it never got off the ground here. Again, it would have been a whole different curriculum. I don't know that it ever got traction.

DT: It seemed like even in those early discussions that I saw that it was really seen as the responsibility of two-year colleges, community colleges.

RC: Yes. One of the arguments against these kinds of things here was always, at the time, we're the only Ph.D. degree granting institution in the state, and it's for a reason. A two-year technical program should be somewhere else. There's lots of places for that. It shouldn't be here, because you have to have a whole group. You have to have faculty to do that. It would take a lot of laboratory space, hands on space, those kinds of things.

DT: It seems the concerns about substance abuse and chemical dependency were kind of big in the 1970s. Did that have any impact on what you were doing as a clinical pharmacist?

RC: It didn't have any impact on our practice other than the faculty in the College of Pharmacy operated the Poison Control Center at the Hennepin County Medical Center and the State Poison Information Center at Saint Paul-Ramsey Medical Center. So my colleagues, full-fledged card-carrying tenured faculty members, were running both of those. Poison Control information was at Hennepin, and Saint Paul-Ramsey was the treatment center. They had a team of people with a Pharm.D. and a board certified

clinical toxicologist. If you overdosed on something, you went there and were seen by that team.

Prior to that, again under Larry Weaver's guidance, we got money from the state. We had what was the third floor of the new building. At that time it was called the Health Sciences Unit F. I might not get this name right, but it was, basically, the state drug information and alcohol and drug abuse center. It was a combination of drug information center, and it served physicians and patients, and an alcohol/drug toxicology information program funded by the State of Minnesota. That was probably, I'm going to guess, functional for four or five years. The state money dried up. It closed the next day. It was recognized that it was an important part of a pharmacy curriculum. We've always had toxicology courses. We've always had courses in that and then cases. Pharmacists are reasonably well versed in the toxicology.

DT: To the extent that this was then a focus of the College, did that involve collaboration with physicians and nurses?

RC: Oh, yes. Yes, both, in the center initially—I think it was staffed by both—and, then, in both of those centers, Hennepin and Ramsey. The teams that took care of people were, now that I look at it, might have been one of the first multidisciplinary teams there were. There was virtually pharmacists, a clinical toxicologist who was an MD-Ph.D., one of the intensive care nurses, and there might have been a psych doc on it, too. There were four or five that saw every overdose that presented to the emergency room. In the winter months, that's a lot. It was always a course, a recognized piece of our curriculum in our clinical program. There were five or six people to do that. The rest of us cheered them on.

[chuckles]

DT: Turning to issues of budget… There were serious budget cuts beginning in the early 1980s, but to a lesser or a greater extent continuing throughout the 1980s. What was your experience or perspective on that?

RC: Well, on the clinical side, they always froze searches and things like that, but I don't know that we ever had any openings, so I don't know whether it ever affected us. On the clinical practice side of it, many of us, myself included, had joint appointments with the hospitals. So that was not only appointment-wise but it was salary-wise, too. When I started out, I was fifty percent Saint Paul-Ramsey and fifty percent the College of Pharmacy. Darwin was fifty/fifty. There were probably six or seven of us. What happened over those years was we, basically, got buffered from that. We had several years of zero, and we had a couple years of one or two percent. The Hospital, on their half, on their portion, would always give us whatever a civilized person should have gotten, you know. At the time, the Hospital pharmacists were unionized and highly paid. So what happened, I think, when I left Ramsey is I was probably sixty-five percent Ramsey and thirty-five percent College. Our salaries, which weren't magnificent, did suffer when the University was going through budget cuts. Now, I'm sure that's not true

with my basic sciences colleagues. But those of us who had split appointments got most of our resources from the hospital. There were only four or five or six of us at the Hospital. We were cheap. They'd keep us happy, they'd give us a few shekels and that was fine. Again, all of our resources came out of the Hospital, not the College, so when the College couldn't afford to do something, we weren't doing anything to cost them money anyway. I don't remember those being real traumatic times.

DT: Do you have a sense of how those budget cuts impacted the educational mission of the College?

RC: Uhhh… No, I don't. [laughter] I don't think I do. We never approved courses based on a budget. That was never part of the discussion. Again, in my protected atmosphere of being over at Ramsey County, we were developing practice sites for students, and it didn't take any state money to do that. There were times when we probably had half the College's Pharm.D. students at Saint Paul-Ramsey in their clinical rotations. We could have sixteen of them there at one time. I don't know, we just worked harder. If it was affecting things in classrooms here, I don't know. They were always cutting budgets. You can't photocopy things. We'd do it at the Hospital and bring them over. We were truly a Hospital-based service that had academic, I guess, appointments and part of our salaries came from there, but not all. That changed dramatically when Ramsey became Regions, when it became, basically, a private hospital for Health Partners. I was gone by then. Then, there was no photocopying.

[laughter]

DT: I guess tied in with the University budget beginning in the mid 1970s, the University starts really getting into strategic long-range planning and it looked to the College and other health science units to be engaged in planning. Then, in the mid 1980s, it was the University's Commitment to Focus.

RC: Yes.

DT: Do you have any insights in those efforts?

RC: I have some recollections. I'm not sure they're insights. I know that whenever there were state representatives or senators visiting, they always brought them to Ramsey, and said, "Here's what we're doing in your community, right in your backyard." Basically, at the time, we were the flagship of the clinical program. When they were trying to get approval for the money for the building, when the strategic focus needed money or whatever—I don't know if it was the Academic Health Center, but certainly when the College of Pharmacy was involved—Larry would call and say, "I need you guys next Tuesday we're bringing over senator la-de-dah." Okay. We'd walk around and show them all the stuff we did. They were amazed. They'd never seen a pharmacist who wasn't in a corner drug store or their pharmacy. They'd never seen what we were doing. Basically, we were PR [public relations] for them. I didn't mind doing it.

Again, my recollection of Commitment to Focus… We were focused. [laughter] We were focused. In Pharmacy, we were doing what was new. I'm sure it was an interesting plan. One of my recollections is it said something about we wanted to be third in the nation. I remember saying, "Third?" I've never met anybody who wanted to be third." You're supposed to want to be *first*. When there are two other people who are better, you're third. I never met anybody who got up in the morning and wanted to be third. It was just a strange concept. Why wouldn't you want to be the best? That's Joliet. I wasn't born in Minnesota.

[laughter]

DT: It seems like the Commitment to Focus was really just a way that the University was asking colleges to kind of meet the reductions in budget and, yet, still retain its quality education.

RC: Yes. Administrators only have so much leverage over protecting departments and faculty, so every fifteen years, some administrator comes in and changes you from semesters to quarters and quarters to semesters. Then, they tell you that it's to save money, but it isn't. It's because we can't get you to change your courses, because you're old stodgy guys, so we're going to take those two semesters, and we're going to make you break it up into three pieces. Now, you have to sit down and talk to each other and figure out what's in and out. That's the reason to do it. Then, fifteen years later, change it back to semesters and the same discussion has to occur. That's just what it is.

DT: What were the College's relationships like with pharmaceutical companies? How much [unclear] do you have within the College?

RC: We brought in big time pharmaceutical companies. For a while, our money wasn't green. Oh! that's pharmaceutical. Ohhh, man! It was like we were stealing or something. No, it wasn't green, until it became a lot. Then, all of a sudden, they figured out how green it was. This is a true story. We got $1.3 million or $1.5 million for the first phase of our pharmaceutical care project with basically no strings attached. This is an idea; we want to turn it into a practice. What is now sponsored administration—it was something else back then—they didn't know how to deal with us, because the companies weren't sponsoring a product. They weren't sponsoring anything in our labs. I had no written reports we had to give them. So, they accepted the money, and, about six months later, called me in, our one budget person—we used to have one—and they said, "We don't know how to deal with this money," and they gave it back to us. In essence, we ran a $1.5 million program out of a checking account at the College, because there wasn't the report that was due.

But, then, that changed. NIH [National Institutes of Health] money got harder and harder. A lot of our Pharm.D. faculty started doing contract work for industry, figuring out bioavailability, doing tests like that, looking at the pharmacokinetics or how bodies metabolize and eliminate drugs, because the companies had to have that information before they could take it to the FDA. So there was a lot of contract work. They were all

designed by the faculty. It's good work and it supports your labs, supports your graduate students, all kinds of things. Our money, we had at the institute, was a little freer than that. We just had an idea.

DT: This bioavailability work that the faculty had been doing for companies, did that go back to the 1970s or is that more recent?

RC: Ummm… Let's see. We did it in the 1970s and absolutely through the 1980s. Then, our pharmaceutical care grant started in 1992, so we were funded that whole decade with non-NIH money. We had some training grants, but those came later. They were from pharmaceutical companies. They were from healthcare foundations. They were from Blue Cross/Blue Shield, health plans that were interested in what we were doing, but not traditional Federal Government money. Overhead was always an issue.

DT: Earlier in the College, it looked like the drug companies were giving research grants and that was to do various kinds of research, that the research faculty were doing. Then, were they offering student scholarships, too? Did they provide money for scholarships?

RC: Not scholarships for students, per se, but there were several on a national level that you could compete for that were funded by companies for fellowships. You had a Pharm.D. degree, and then you were going to spend two years with me in my lab working with pharmacokinetics or antibiotics or something. Those were administered by national organizations: maybe the American College of Clinical Pharmacy, maybe the American Society of Hospital Pharmacists. Say, there would be, maybe, two or three dozen of those nationally. The source of the money was the industry, but, then, the applications were competitive to the association.

DT: The drug companies have been doing those fellowships since World War II, or just a little after World War II when they set them up.

RC: Yes.

DT: They seem to work in other areas, too.

RC: There's a few, people that had a good enough relationship with somebody, and there are a few that directly go from the company to the faculty's research fund, but most of them in pharmacy, go through professional organizations.

DT: I saw that Weaver had sent letters to companies encouraging them to send their employees to be students at the College.

RC: Yes. In fact, I think they still run it. The Department of Pharmaceutics, one of our departments, teaches a very well attended program. It's international now. I think it's in the summer. It's a two-week very intensive course in pharmacokinetics. They have five or six leading people in the country in our program that are in different areas. So they can cover the whole breadth of that discipline; whereas, most colleges don't have that.

They get a combination of both faculty from other colleges of pharmacy but, also, young people in the industry who need this skill in order to do the next project their company wants them to do. Those are all sort of extracurricular things. Our Institute trains a lot of pharmacists from other countries. Most of those are from professional practices, not from companies.

DT: You alluded a little bit to this in referencing "how green" the money was from drug companies. Were there faculty in the College before the Peters Institute started but with these other areas where drug companies were contributing, were there concerns expressed about the influence of drug companies on the College?

RC: Early on, I don't think that surfaced. At least, it wasn't spoken out loud. I think the concern was that this isn't real science. It's something that Merck wants done, and you're a hired hand for them. Certainly, some of those grants were that. But most of them, at least in our group, were ideas that the faculty generated. If I understood how well this drug penetrates in kidney tissue, I could figure out how to dose it better, so I want to study that. I need money. Well, who better than the people who own the drug? So you convinced them that they should fund you to do this. Most of it was what they would call investigator initiated, but it wasn't seen that way all the time by our basic science colleagues, who, in their purity, got federal grants. They'd get their pink sheets and try again next year and then eventually get the grant. The conflict, the fact that I would skew my results because Upjohn funded it was never really part of the early discussion, probably because—this is pure speculation—different than medicine, I'm not prescribing drugs for the company. I have no interest in making a drug better or worse, because there is no way for me to benefit, unless I'm also a consultant for them. Back when we were starting, you know, it's just professors. Nobody is ever going to ask me to be a consultant. *Now*, I can have a conflict. Now, I'm smart enough to have a conflict.

DT: [chuckles]

RC: But not then. The conflict comes much later. [chuckles]

DT: I'm curious… You mentioned earlier that you were on the Conflict of Interest Committee. Was that a University-wide conflict committee?

RC: Oh, worse than that. It was just the Academic Health Center, because the University didn't have one. The University couldn't figure out what they were really going to do with conflict and why would we have to have conflict here? We were just history professors... But Frank said, "We've got to have a conflict committee." So he tapped me. Actually, we had one or two faculty from each college, except Nursing. Nursing declined. We're sure you'll look out for our interest, but we don't need anybody. Then, they tapped me to be the chair. I really don't know why I accepted. Well, I do. I was loyal to Frank like I'm sure you've heard from a lot of people. I would go through fire for Frank or for Larry Weaver, because they opened doors for us. I was the first and until, last year, the only chair of Academic Health Center's Conflict of Interest Committee. [chuckles] I heard, I don't know, probably 1300, 1400 cases. It was

the most interesting job I have ever had at the University, because you get to argue and meet with all of the big shots. The only people who have conflicts of interest are people who have at least two interests.

DT: [chuckles]

RC: So they're very interesting people. They're on the cutting edge, and they're doing really cool stuff. Every faculty I ever met believes that he or she can keep those things separate. My neighbors don't believe they can, but the faculty does. It was a great experience.

DT: You were chairing that committee when some of the bigger cases were brought out by Chuck [Charles] Grassley's Committee?

RC: Yes. Oh, yes, Senator Grassley [of Iowa]. I don't know why we didn't call up and say, "Why don't you get busy doing something more important?" But universities don't do that. Universities, when senators say things, they have to really reply. Yes. They have every right to have inquiries. We had a paper trail. These are the standards. Here is how we made our decisions. We were as good as a group of human beings can be. I always used to joke. I said, "I'm the chair of the Academic Health Sciences Clinic. I have to protect patients, and I have to keep Frank Cerra's picture out of the newspaper. That's my job." So we tried to do both of those.

[chuckles]

DT: This is a different topic. You mentioned your close relations and working with John Najarian in the Hospital. I'm curious, given that clinical pharmacists were so important in the development of transplant surgeries, what your experience was when the controversy came about ALG [Antilymphocyte Globulin].

RC: My colleague, Dan Canafax, actually worked day to day with Doctor Najarian. In theory, Dan sort of worked for me, but I'm not a very good boss.

DT: [laughter]

RC: Without any data knowing what went on at all, in retrospect, I always wonder why didn't John just give this drug over to Dan because Dan knows how to do all this stuff. It looked like ALG got to a point where it's either going to be research or it's going to be a product. You have to decide at some point. That's what Dan does now. He develops drugs for start-up drug companies. They had already created, evidently, a system to make it, and transport it, and sell it, and, then, everybody knows what happened after that. It seemed to me that that would have been a way that it all could have been handled appropriately, or according to the rules, earlier on. The Surgery Department had at their beck and call the smartest pharmacists in transplantation medicine in the country right here taking care of their dosing ALG. [chuckles] I don't know if it didn't occur to them. I don't know. That was as close as I got to it. It was a shame.

DT: I've interviewed Doctor Najarian in the fall and stupidly didn't appreciate, until you talked about your colleague, that pharmacists would have had an important role in the use of ALG. I didn't think to ask him what about pharmacists? I asked him, "Why didn't you go for FDA approval?"

RC: And I don't know. I can tell you that my experience is this is a very difficult place to have an idea and have it come to fruition. There's an enormous amount of infrastructure here that's not useful for that. It doesn't seem to be. It looks like it is on paper, but it isn't.

We developed some technology in our Institute that the University tried for six months to close down. Finally, I said, "We're leaving. We're taking it out." We created a business. It's up and operational. It's been a business for six years. We hired twelve people. We *are* the small business that the presidents [of the United States] talk about.

DT: What's the business called?

RC: The business is called Medication Management Systems, Inc. [Incorporated].

So along the way, when you're developing a new practice, you can't just develop a new practice and say, "Isn't that neat?" You have to have all the supportive structures that one needs. So you have to have a way to train new people. You have to have a billing system in the United States, because that's how our healthcare system works. You have to have a documentation system. You can't take care of people on paper. It's too multidimensional. So we started to develop a computer program to do this. We brought in a guy [Mike Frakes, Pharm.D.] who was a former student. He had a little company with computer programs to do all the pharmacokinetic dosing. He had a few clients. They were struggling, but very, very smart guys and they were close. They were two blocks down the road. They were in a building just about where the football stadium is now. We needed to develop a record keeping system for what is now medication therapy management services. We were the first ones in the country to do that. We developed it, and it didn't look anything like a pharmacy system, because the drug isn't the focus. It's the patient. So we created what's called an electronic therapeutic record, and we used it in several of our pharmacy sites. It was server based, so the pharmacies don't have any data. There are just subterminals. We had a server in our [Peters] Institute.

One day the University IT [Institute of Technology] people said, "You have a *server* in your institute that we don't control? You can't have that." They shut us down. I said, "Wait a minute. We've got real patient data." "You have *real* patient…? Oh, my god!" Of course, it was secure but they didn't secure it, so it didn't meet *their* security levels. They were right. I guess I didn't ask. I didn't go to that meeting, you know.

So it became obvious that you couldn't have a service for patients where the data was kept at the University. It just was incompatible with the culture. So we took it out. With the help of the Venture Center, we created a business. We're six and a half years old, I

think. I counted last night; we have twelve people. We have pharmacists and medical systems all over the country and Canada using the system now. We also had that point at which you either continue with the research or you take it as a product. We took it as a product. In order to do that, it had to leave this University. It couldn't be a product here. I can only reflect…I wonder if Doctor Najarian had that same thought. It had to leave. In order to keep it here, I can see where the conflict would occur. If they hadn't of hassled us, it would still be here. Our program would still be here.

DT: Was there intellectual property involved?

RC: Oh, yes. We had a patent applied for this. Intellectual property? Yes. Yes.

[laughter]

DT: That's what I would assume.

RC: There are a whole bunch of people who don't understand intellectual property at the University of Minnesota. Yes, we have intellectual property.

DT: Isn't there a Technology Transfer office?

RC: Yes.

DT: Were they…?

RC: Very helpful. They did the legwork for our patent application. We already had a C.E.O. [chief executive officer] identified and a board. They usually help people do that, but we already had that. We kind of came to them with eighty percent of it done. They helped us with getting set up with the laws in Minnesota and all that sort of thing. Of course, the company—I'm a founder of the company—licenses the technology from the University. The University owns the technology, the intellectual property. After so many royalties are paid, the company gets full ownership. It generates royalties for the University.

DT: It's interesting that it was this kind of technical administrative issue around having a server, having patient information…

RC: Yes, completely technical and a negative experience. We got it launched and nobody said, "Ah! that's a *great* idea. We could make a business." Nobody said that. [laughter] Nobody.

DT: It's funny, because, as you say, this kind of a model of the entrepreneurial university. You have faculty who are innovative, creating new technology, generating revenue, startup companies. But this was something that you were pushed into rather than something that you set out to do.

RC: If you ask my colleagues, they'll tell you they were forced out, but it was just a… [pause] It could have been a, "Hey, great idea! We should go and do this." But it wasn't that. It was, "You have to shut this down or take it out." "Okay, we'll take it out."

DT: With that taking it out of the University structure, has that had any downside for the company?

RC: Well, yes. The first thing you have to do is rent space. Yes, it's technology. It's software, so it leaves in a shoebox, but then you have to set up a company. You have to have telephones and hire people and rent space and all sorts of things. So you have to investors to start, those sorts of things. Where, while it was at the University, that's basically part of the overhead. It's technology, so it's really not that expensive. We're always working on it. The upside is that there are a lot of people out there in various aspects of healthcare who will deal with us because we're a company, who we couldn't deal with before because they had to go through the University to deal with us. That's just their perception. I don't know if it's right or not, but it's their perception. Companies can say, "We're a small company. We can say, 'Yes, by noon.' or 'No, by ten.'"

[laughter]

DT: There's a lot less bureaucracy in the middle then.

RC: Yes. Yes.

That was not unrelated to my experience on the Conflict of Interest Committee. I think faculty have a really poor understanding of what it takes to take intellectual property out to a business. Faculty always think they're going to run a business because they're so smart. Faculty are the worst people to run a business. I go to the business now once a week. I generate ideas with the computer guys, but I don't have any dreams that I know how to run a business. My other colleagues who left here to be in the business do things in marketing, sales, they don't own the company. That's probably why we have an iceberg's chance of being successful. [laughter]

DT: Does it have implications for the people who work for you? They were initially working for the University, and now they're working for a company. Does that…?

RC: Nobody wore both hats at the same time. Everyone who was with the Peters Institute of Pharmaceutical Care has now left the University. That's not true. Brian Isetts is back. He's been on sabbatical for a year, so all but one have left. Some retired and some left here as retirement and now work for the company. I left here as retired.

I dabble. I try to stay out of the way. It's real exciting. We hire a couple of new grads every year. We now have more patient data with drug therapy than anybody in the world. We just published our third book [*Pharmaceutical Care Practice: the Patient Centered Approach to Medication Management* by Robert J. Cipolle, Linda M. Strand, and Peter

C. Morely, McGraw Hill, 2012]. All of the data for the books come directly out of this technology. I'm real proud of what we did. It's fun. It's kind of gone from here, like it never existed.

[laughter]

DT: It's actually amazing talking to faculty such as yourself whether retired or still on faculty and appreciating the innovations that have been faculty generated in the health sciences.

RC: Yes.

We have an *unbelievable* program that we invented a hundred yards from here. We pay royalties to the University, but other than that, it could have been from Cleveland, you know, or anywhere. [chuckles] But it's a Minnesota company, and it will always be a Minnesota company.

DT: I only have a couple more questions and this is completely changing the subject. I wonder if you can talk at all about the changing demographics within Pharmacy and whether the College made specific efforts to recruit women and minorities into the pharmacy program.

RC: Yes and yes. We made specific efforts to recruit underrepresented minorities to the College. The women have taken care of themselves. I think in probably every college of pharmacy in the country there are now more women than men, and that's been true at Minnesota pretty much since we became an all Pharm.D. program. In the early years of the add-on baccalaureate degree, there were only twelve in my class, eleven men and one woman. Once all of the applicants in the College of Pharmacy were to one program, I think probably—I might be wrong by a year of two—it's pretty much been fifty-five to sixty-five percent women since then. Minnesota is not a very diverse place compared to other places in our country, but it's a very attractive program. Because we're a highly ranked program. We have several things going for us, so we're able to bring people in from other big metropolitan areas, not an insignificant number—how about that for a double—of students come out of the Chicagoland area even though they pass by four or five colleges, because Minneapolis is a nice place. We are one of the few schools that are all under one roof. That is a *huge* draw. The fact that they use the same Coke or Pepsi machine with Medical students, Nursing students, Public Health, Dentistry, Mortuary Science, everybody is really a big deal. Most colleges of pharmacy and medical schools are across the street in separate buildings or separate campuses, and they never see each other and don't really know where the nursing school is. That's a *huge* draw for students here at the University of Minnesota.

We've had several efforts at the undergraduate and graduate levels with Native Americans. One of our students, Joey Buffalo, finished her Ph.D. here. I believe she's one of fewer than a hundred Native American women who got a Ph.D. in pharmacy. She now operates a not-for-profit. I don't know what her current job is, but she operates a

not-for-profit foundation called Pegjuta, P-e-g-j-u-t-a [Twin Cities], whose sole mission is to increase the availability of pharmaceutical care and pharmaceuticals to Native Americans, not all Americans. Some are Canadian. The tribes have different borderlines than we do. People like her recruit other people. I know there are a couple of other American Indian students in the program now, not what it could be, but there's been a real honest effort in the College of Pharmacy.

The majority of our graduates still go work in the community. The majority of our graduates work within two or three or four blocks of the people they service. So that's a big deal. The women are taking over the profession. It's a good thing if you want to be in a caring profession. When the guys ran it, we were chemists and small business owners. We have a chance of becoming a caring profession.

DT: You think that kind of increasing of gender diversity maps onto the changing culture of what it is to be a pharmacist?

RC: Oh, yes. The core people in the Peters Institute of Pharmaceutical Care were myself and Linda Strand, who is a Ph.D. in the Social and Administrative Pharmacy program and she was, basically, the architect of the philosophy and, then, a colleague she started working with, Peter Morley [Ph.D.]. He is a medical anthropologist from Scotland.

DT: Hmmm.

RC: He really brought the patient centeredness to our practice. He's the one that taught us what patient centeredness really was. Before we had done this work in healthcare, patient centeredness was saying, "Good morning" to your patient before you told them what to do. Peter really put the patient at the center. He's also is the one who makes the argument that as pharmacy gender changes, the caring portion of pharmacy will become more pronounced and more appreciated. He's right in most of the other things he says, so I have to believe him, and my daughter is a pharmacist and she's very caring, so he must be right.

[laughter]

DT: An n of 1.

RC: Most of my studies were n of 1.

DT: Do the Pharm.D. students still take the Medical School classes?

RC: No. No. We outgrew the Medical School seats once we got the 24 or 36 students. Now, I think the program here has about 100, 110 students and up at Duluth, 50, 60. The College of Pharmacy faculty teach a whole series of courses called the Pathophysiology and Therapeutics of Diseases. It's still the organ system: cardiovascular, G.I., et cetera. Again, that's the evolution of it. It needed to start in the Medical School, because that's where the wisdom was. Now, we have a generation of people who can do that.

We now have textbooks. When I was in the Pharm.D. program, there was a pharmacology book and a medical textbook, but no one said diabetes and insulin in the same sentence. They were completely separate. Now, we have a whole host of textbooks in pharmacotherapy. So those are the main references for students now.

DT: That's a good point. Once the field has built up enough expertise of its own, then it can go and teach the courses.

RC: Yes. The book we just published is about the practice, because people want to know how do I teach this, how do I learn how to do this. It's a textbook that if you're interested in doing it, read it. It's quite good, if I do say so myself. That's a whole other issue.

DT: Well, we've covered a lot of ground. Is there anything else that you can tell me about the history of the College?

RC: Ummm… [pause] There was one meeting I went to. This is Weaver-Densford Hall. It was Health Science Unit F for many, many years. One of the vice presidents I worked for—I can't tell you who it was; I don't know if it was Andy or Brody or Frank, I think he preceded Frank, one of those—said, "We need to figure out what the building is going to be named." I knew right away it was going to be Weaver. It was his idea. He generated it. He got turned down at the Legislature. He went back. They redid it. So I put together the smallest committee you can have. It might have been three of us. It was myself and the dean of Nursing at the time, Sandy [Sandra] Edwardson, who was magnificent to work with. I said, "We've got to decide how to do this." She said, "[Katherine J.] Densford was our original dean of Nursing." That's perfect. And I think it needs to be Weaver, because he raised all the money to do this thing, you know. We're all here because of him. So we had to negotiate first and second. I just made an offer she couldn't refuse. We didn't know whether it's going to a building, a tower, or a hall. Why don't you decide that? It will be Weaver-Densford something. We have a tower here and we have a hall there, a building. Oh, that was a good idea. Nursing met for a while and I don't know how they decided but they decided hall would be great I said, "That sounds very academic." So it became Weaver-Densford Hall. Have a nice day!

DT: [chuckles] And it's got a great ring to it.

RC: All in favor say, "Aye." That was it. [pause] It was probably the finest contribution I was ever able to make in the whole University was get the building named after Larry. He was a saint. Everybody in the first two generations of Pharm.D.s owes their whole career to him. He was this cool little guy. He just opened doors for you—and he never made you go to meetings.

DT: [laughter] He sounds wonderful.

RC: That's all I know.

DT: Do you have suggestions for whom else I should talk to about…?

RC: If you can get Wertheimer, you'd hear all kinds of tales. Albert Wertheimer.

[End of the Interview]

Transcribed by Beverly Hermes
Hermes Transcribing & Research Service
12617 Fairgreen Avenue, St. Paul, Minnesota, 55124
952-953-0730 bhermes1@aol.com