

Interview with Lawrence Weaver

**Interviewed by Associate Dean Ann M. Pflaum
University of Minnesota**

Interviewed on February 12, 1999

Lawrence (Larry) Weaver - LW
Ann Pflaum - AP

AP: This is February 12, 1999. I'm interviewing Dr. Larry Weaver, College of Pharmacy. For the record, Dr. Weaver, would you describe briefly your background: where you were born, how you got into the field of pharmacy, and how you got to the University of Minnesota?

LW: I was born in Iowa. I grew up on a farm. When I went to high school, I lived away from home, which changed my life a great deal. When I was living in town, going to high school, I worked with a pharmacist and I thought that would be a nice career—probably better than farming. When I completed high school, I took a year and made enough money to go to college and I went to Drake University [Des Moines, Iowa] where I started pharmacy.

I would also like to mention that I went to a one-room schoolhouse, which I think has some tremendous advantages: you learn everything eight times.

World War II started. I'd always wanted to fly so I volunteered to enter service from the standpoint of hoping that I could be a pilot and I did become a pilot. In the early part of World War II, I trained other young people to fly and, finally, was able to get an assignment in the Burma-China Theater, where I flew cargo but mostly people from India to China, with some stop offs in other places.

AP: Was that called "Over the Hump"?

LW: Right.

AP: Was [General Joseph Warren] Stillwell...?

LW: Stillwell was there, yes. The Hump is really that. Between those two countries, it's all mountains. We managed to lose the equivalent of all the people who went over there in a number of planes. We had about fifty planes and we lost about fifty planes during that three years that I was there.

AP: Was it icing mainly or instrument problems or hostile fire?

LW: No, we had protection that we didn't even know about until we came home. It wasn't due to that; it was mostly the weather, bad weather, and you'd run out of fuel. It didn't mean we lost all the pilots at that time, but we lost the planes.

Then, I came back and went into pharmacy school.

AP: Still at Drake?

LW: At Drake, yes.

AP: This would have been 1946, maybe?

LW: I'm not sure. I graduated in 1949 so...

AP: You graduated in 1949 from Drake, right?

LW: Yes.

AP: What was the degree that you had at that time?

LW: It was pharmacy. This was before the beginning of the whole concept that we had later.

AP: Before the Pharm.D., in other words?

LW: Yes.

AP: Was it a bachelor's in pharmacy then?

LW: A bachelor's in pharmacy. I think it was a wonderful school. It was a wonderful time in your life because you'd had so much experience in growing up in a short period of time. I think it made us much more serious. I did not wish to be a pharmacist in the real sense; that is, a community pharmacy didn't appeal to me. I decided to go to graduate school. I went to the University of Utah, where I got my Ph.D. in pharmacology. It was a wonderful experience. I enjoyed that part of the country, which we still do. I still have close ties with both universities that I attended.

When I graduated from Drake, I didn't go to Utah immediately. I went into the pharmaceutical industry. I started out with a company called Pittman Moore, which was a human and animal pharmaceutical company. I was with them for six years. During that period, I had some great opportunities. Dow is a big company, but you had opportunities if you really wished to take advantage of them. I think the one that was most exciting was we were contacted, because of our research and the activities and my background in education, to take a look at the planning of the Emergency Virus Isolation Facility in Washington, D.C. for the government and I was given that as one of my responsibilities. We put together a team that planned that facility. During that period, we were also contacted by NASA [National Aeronautics and Space] to actually do the same thing for the

first trips to Mars, when they brought them back to the U.S.A. from Mars, to go in for study. We did not do it because I couldn't put together another team and I wouldn't take this one off of the project that we had—but it was exciting to think about. We got to go see all of the facilities and that sort of thing.

AP: The pharmacy input in the Isolation Facility... explains that a little bit more. What would they have been looking for? Or was it not in your role as a pharmacist? Would it have been in your role as a manager?

LW: It had nothing to do particularly with my education, except I was a pharmacist and that was in the health field. I had considerable responsibility in Dow Chemical. I was up there one time—I'd been called—and got snowed in and the people from the government group there said, "Could your team"—this was a team that we had in Indianapolis preparing a special facility—"look at the possibility of doing that?" I told them, "Yes, we could do it." So, we got it and that's when we went back and planned the whole facility.

AP: The facility was built in Washington. Where did you do the planning, near Washington?

LW: In Indianapolis.

AP: Was that where your company was?

LW: That's where Pittman Moore was, which became a division of Dow; so, it was really Dow Chemical at that time.

AP: How did you then get to the University of Minnesota?

LW: I was in the pharmaceutical industry for quite a few years and I wanted to do something different. A friend of mine, Fred Schiedeman, who was here, called me one day and said, "How would you like to be dean of Pharmacy at Minnesota?" We both laughed and I said, "Sure, I'd like to give that a try." So, I was interviewed and on the second interview, they indicated a great deal of interest in me and made an offer and I took it. It was a different kind of challenge. It was one of many exciting times in my life.

AP: If my records are correct, that was 1966.

LW: Yes, I came here in 1966.

AP: Do you remember what time of year you came?

LW: Yes, it was in winter.

AP: January, February?

LW: Yes, the early part of 1966.

AP: The reason that's helpful is often when you're doing research, you'll see something that the dean of Pharmacy said something and if it was in the year 1966 and I didn't know what year you came, I wouldn't know which dean it was. So, it was around January or February.

LW: I think the interesting part, the challenge that I saw...

AP: Yes, what attracted you to it?

LW: It was a college of pharmacy in a large institution isolated from the other health teams and people. When I came here, I reported to the academic vice-president. We didn't have an organization called the Academic Health Center, which we now have.

AP: The academic vice-president to whom you reported was, at that time...?

LW: I reported to Jerry Shepherd.

AP: Pharmacy was not a part of the Health Sciences, at that point.

LW: There was no Health Sciences, except there was Nursing and Medicine and Dentistry. They were all together, but Pharmacy was removed.

AP: I see; it was separate from the others.

LW: We were over in Appleby Hall, across the street from Medicinal Chemistry and a large number of people on our faculty had a background in chemistry, but we didn't have very many, maybe a whole faculty of a dozen—no more than that.

AP: And, now, the faculty is about forty-eight, if my numbers are correct.

LW: One of the things I'll always remember is my interview with [President O. Meredith] Wilson. He was asking me questions and I thought, how does he know that? So this went on and on and finally I said, "President Wilson, how do you know these things?" He said, "I was at Utah when you were. I called my friends there." I said, "I have a question for you. You've been president. Why did you not bring Pharmacy into the world with the other health professions?" He said, "We need someone like you to do that." So, that's how I got started.

AP: Was it because of the sort of biological roots in chemical [unclear] pharmacy that it was always separate?

LW: Perhaps it's due to the fact that the people who taught were Ph.D.s and in order to be a part of the pharmaceutical industry, they were doing research in these areas, which still goes on and is still a

part of it with the College of Pharmacy here. But it was dominated to the extent that there was a resistance to make a change.

AP: So, the Ph.D.s didn't want to change. They didn't want to have the college go into the Health Sciences?

LW: They were more comfortable where they were rather than going into being involved with Medicine and some of the others.

AP: Did you come in with a short list of objectives, a long list of objectives?

LW: I don't know whether it was short or long. I had some objectives, yes. I felt that the pharmacist was not being utilized very well. Before World War II, we had a situation where the pharmacist and the physician... In the pharmacy that I worked in, we had a pharmacy and upstairs was where the physician had his office and at the back door, we had a veterinarian, so we served the whole community. I felt that was a better way to do it than to isolate yourselves.

Then, after World War II, the situation exists that pharmacy, the drug store as we know it, had a decision to make. During World War II, a lot of new drugs were discovered and put on the market. It changed the way that pharmacy in a community had to really work. They had a choice of either going in the direction of delivery of health care to one of earning money, so it became an economics profession really. It was dominated by the chain drug stores. So, it changed. For a long, long period, we didn't really deliver good health care—at least in my opinion.

AP: The "we" in this case is the pharmacist or the "we" is the health care system?

LW: You could say both and it still exists to some extent, I think. It was so different then because we didn't have all of these big programs that we have today. We had opportunities to really work with them pretty well.

AP: So, one of your goals was integration of the pharmacy into...?

LW: A team approach to health care.

AP: Can you explain to me a little bit the concept of the Pharm.D., or did that come after your era?

LW: No, that was a part of it. We graduated the first Pharm.D. in the early 1970s. We were one of about five schools that really moved ahead with this particular program and I believe we have been a leader throughout the whole development of it. It has resistance where you might think it shouldn't have—where I think it shouldn't have. Much of the resistance came from, as I viewed it, from the practitioner pharmacy because it's different from what I am and how am I going to be able to compete with that? Secondly, in the education growth, those people who were doing research were not interested in changing any other things that we were doing. So, it was a constant battle, really.

AP: How did it differ from the Bachelor of Science in pharmacy?

LW: We introduced them to the patient. This happened at the University of California. They called it the Ninth Floor Program where they started out and put the pharmacist there to be one knowledgeable in drugs and drug usage and filling the prescriptions, not at all.

AP: Did the 1970s with the drug exposure of the sort of student revolutionaries, the student demonstrators, affect the attitude of students that you saw coming in?

LW: I do not recall it occurring; it could have. If you go back in history, there are a lot of pharmacy students who came in for a pharmacy degree who were children of people who had pharmacies.

AP: They were already professionalized and focused?

LW: They just came here to get a degree so they could practice pharmacy too.

AP: And it was the family business, so you had a lot of second generation...

One thing that I don't completely understand in today's catalog of the Pharmacy School is that there seems to be both a research Pharm.D., a post baccalaureate Pharm.D., and a baccalaureate Pharm., entry level Pharm.D. Can you explain that to me?

LW: I think so. You're talking now about the practitioner, the Pharm.D.?

AP: Yes.

LW: The Pharm.D. has, I think, more than one role. They have the role of making sure that the patient understands drug usage and that sort of thing. When I say drug usage, I'm talking about prescribed drugs, but also the drugs that are over-the-counter, too. Just think about it, a new drug over-the-counter yesterday was controlled because it was a new drug.

AP: I see what you mean, exactly. People are popping things that they don't understand at all.

LW: There has been a problem, and to some extent it still exists, of the patient going to more than one physician. But also physicians tend to prescribe, in some cases anyway, where they don't really know what the patient is taking. I'll give you an example of one that I'm working with now, which I think is going to help a lot. This is HIV-AIDS. This is something not involved with the College of Pharmacy. This is because I'm with a company. We bought twenty-six pharmacies in the U.S.A. All of them are in an area where we have a large number of people with AIDS. Many of these pharmacies work with a clinic and the clinic has a physician. People with AIDS may be taking six or more drugs at any one time. Any time you introduce a new drug, you have to have information on what does that new drug do to the use of the other drugs? We don't know that very often. So, what we're trying to do is have someone monitor those and have the information. In the one that I'm mentioning now, we're now seeing the physician wanting the pharmacist to control the drugs. I would probably be challenged if you were another health professional, particularly a physician, but the

physicians really do want to have some help. They've got a horrible place now, I think. It's difficult; I shouldn't say horrible. If you're in a health system of one kind or another, they are only permitted so much time per patient, which I'm sure you're familiar with. It makes it difficult for them to do the job they want to do.

AP: Another revolution that I understand took place in pharmacy in the post-war period was that a pre-war pharmacist—I'm speaking of World War II—would have had a fairly hefty role in actually mixing the compounds and I gather with the change and with the sort of mass production, there was a lot more pre-packaged medicine. That must have affected some of the way in which the pharmacist needed to be trained.

LW: We have gone from the time where we set up laboratories for them to fill these prescriptions. Sometimes, it's a mixture of a lot of things so that the drugs that you get over the counter, the drugs that you get today, didn't exist to a large extent, so you were actually doing the production of the drug in whatever form it needed to be. I can remember filling capsules like you might be taking, making products that were going to be used [unclear], all of the things that the pharmaceutical industry does. But after World War II, they made magnificent changes in the way they did things. They could do it with assurance that it's going to be done the right way, one way versus everyone doing it their way.

AP: You would get a better standardization.

LW: They, then, took over this role. If you think about it, the pharmacist didn't really use, for a long period, the major information they had about drugs because all they did is count and pour. The incentive then becomes working with the pharmacy. What we've tried to introduce into that with the Pharm.D. is that what your role really is is to know the drugs that all the patients are taking, what interactions or problems might occur because of this and we're making progress. I think coming to date right now, we have never done more than we we're doing now. It's just magnificent, the direction we're going.

I want to take you back to the time when I came here and walk you through something.

AP: I would love that.

LW: When I came here, I mentioned we were not involved with the other health professionals to any extent. There was some involvement with pharmacology but not to a large... As we moved toward the formation of the Health Sciences Center, which is what it was called first...

AP: That was 1972?

LW: Yes, somewhere in there. Three things, we agreed upon. We had a wonderful group of people to work with. All the other deans were also looking for other ways to build education. What we wanted to do was to have the students who were here in Pharmacy learn about all the others and likewise. We wanted them to begin to work together to a large extent. One of the things that you

probably recall or know of is that the state government gave money for the Rural Physicians Associate's Program. Back when I was here, I tried to get money for Pharmacy students to do the same thing as the medical students were doing in the rural areas, which would be benefiting both the two health professionals and serving these people. The legislature never ever have given us any money to do that. Another thing we did is we set up education, let's say on Tuesdays and Thursdays, two half days a week. You couldn't offer a course in any of the health professions unless it was for more than two of the professional schools.

AP: So, a time was set aside for combination courses?

LW: Right. It failed. It lasted maybe a year and all at once, we were right back doing it the way we did it before.

AP: Everyone was too entrenched, perhaps?

LW: We didn't have the mechanism to help them do it effectively, to use that kind of information here. But the thing that we did do that has lived till today is CHIP. We formed CHIP. I mentioned to you earlier that a group of deans at that time worked together extremely well.

AP: Do you want to say for the record who those deans were?

LW: I have a picture that shows them.

AP: All right.

LW: I'll make a list of them for you.

AP: Fine.

LW: Some of them changed during that period. We really worked hard to get the money to set up CHIP.

AP: CHIP stands for?

LW: I'm not sure I can say it correctly.

AP: What does it do?

LW: CHIP does a lot of things. We brought the students together from of the professions. The students were members of CHIP. They were given funds to do a lot of things. I'll just give you the example of one of the extremes. One year, one of the best students I ever had, who was from Singapore, came here and did a lot of wonderful things. They actually set up conferences where they'd bring people in to speak from all over the world. We had people from China coming here to

speak to these students. They had programs where they would work together. It worked effectively. It still works effectively.

AP: Wonderful.

LW: It's a tremendous thing. How better to get the students to know each other?

AP: Right.

LW: I came back and was dean again. I came back in 1984. I don't remember if it was two years or what it was. You can find that. Two things happened that were extremely to the benefit of this college. One of the things I've done a lot of is fund raising for the university and particularly the college. When I came here, I met people who had been friends of the college prior to my arrival. The ones that have been the very best of all were the [Bill and Mildred] Peters. It's probably...

[End of Tape 1, Side 1]

[Tape 1, Side 2]

AP: ...were benefactors to the College of Pharmacy.

LW: Bill and Mildred Peters. We were introduced to them by the faculty when we came here. They had a pharmacy of their own. Bill told me one day, "You know, from the first check I got when I started practice, I put some money away. I've done that all my life." They had no children and they liked children and so they essentially adopted them. They made money available through the college to support these students, not full support but support them enough to help them go through college. I would guess that during their lifetime, they probably had some twenty-five students. I think because of our attitude here and the importance of their support, we encouraged the students to keep in touch with these two people and they did—not all of them but many of them did. They became their kids in a way. At least, I consider it that way.

I was having dinner one evening and Bill said, "Larry, what would you like most for the college if I was able...? What is the most important thing?" I told him, "We needed a chair. It would give us prestige but also there would finances such that would support a new faculty member." Nothing more was said. He died earlier than Mildred. At the time, he left close to \$1 million. It was short of it; I don't remember the exact amount.

AP: This was when he died?

LW: Yes...to the College of Pharmacy with no indication as to what it was to be used for. My approach was to go to the Foundation to say the intent of the donor was that this would be used for a chair and so that's the Peters' chair. They gave more money and then more recently when Mildred died, we had \$13.5 million.

AP: Did they add to the chair then when she died, as well?

LW: When I came back as interim dean—I look at it as something that was just right—she died. We had this money. I had no idea that it was going to be \$13.5 million. I was expecting \$5 million. How are we going to use that money? We went through a process of discussions. Everybody wanted a big piece of it. [laughter] We worked on a plan. I'll have to admit that the faculty would not support the plan; so, I just decided that we're going to do it anyway and we did. It's worked out extremely well.

AP: What did you do with it?

LW: I'm not sure I can remember all of the things that we did. We set it up so that we had other chairs that were developed. We put some money into chairs. We put money into the Peters Institute here.

AP: What is the function of the Peters Institute?

LW: Actually, the Peters Institute is made up of people who care a lot about pharmaceutical care, that is, what we think pharmaceutical care should be. Both are students of mine: Linda [Strand] and Bob [Cipolle]. They started out together here when I was dean with some of these same concepts that they've been able to do.

AP: It's almost like a little think tank...

LW: For the future.

AP: ...for the future of pharmacy.

LW: Eventually, we got them back. Bob didn't leave, but Linda left and went to Utah and Florida and, then, returned during the time that I was away. I had a lot to do with it because I thought she should come back and do the things that they wanted to do. I've just been so fortunate. Good people... I've got kids all over the world.

AP: Could you talk a little bit about the international connections, both students and research? One of the things one finds at the university after the Second World War is that we have connections in Korea. We have connections in Asia.

LW: We have connections in I don't know how many countries. I've been very much involved in my career in education internationally. We just have contacts... The thing I hear most is somebody goes to a meeting in a foreign country and people are saying, "How is Larry doing?" Because I've built a kind of relationship that was good. I spent many years working in Saudi Arabia. The university permitted me to do this. In Saudi Arabia, I was part of a university group—Big Ten universities—to evaluate the educational programs in Saudi Arabia. We did that. It took us about a year and a half, I suppose. When they finished, they came to me and asked, would I continue on and help them plan

their new college of pharmacy and help them in their planning of their education? This was one of the projects and I did do that.

AP: Do you remember what year that was, approximately? I can get your vitae and it will be on that.

LW: Yes, I'll give you that.

AP: That would be terrific and, then, I can just plug in the dates.

LW: It will tell there. I was also asked to go to Malaysia. Part of this comes because of my continuing interests worldwide, but also because of the fact that I've been able to go there to these various places. In Malaysia, we had students. The British have a system of evaluating students that are graduating and I did that and a friend of mine also did that. After that, we started working with them and we brought students from that school here to get Pharm.D.'s and go back and set up the programs in Malaysia and several other countries in the world like this. These are the kinds of things that this college has done quite a lot of that you don't...

AP: This is the kind of thing we want to make sure we include in the history so I'm glad we're having a conversation about this.

I gather another change that had taken place all through the Health Sciences is the increase of the number of women enrolled.

LW: Yes. I would say one of the reasons it occurs in Pharmacy is that it's easier to get a position whereby you do not have to be there everyday or you can have different time... There are also some suggestions that women do a better job than men do when it comes to consulting with the patient and that sort of thing—not everyone, but some.

AP: If you looked at the employment patterns of the school, did most go back to rural Minnesota, for example?

LW: That problem increased with time; they did not wish to return.

AP: So, you had the same problem with rural physicians and rural pharmacists.

What percentage of the school's graduates would have gone into either hospital pharmacy or corporate pharmacy?

LW: The pharmaceutical industry?

AP: Yes.

LW: The pharmaceutical industry is small, but quite a few have gone into it. As time goes on, you'll find more and more people going into other roles than what we see today. I have no problem seeing

many pharmacists who will practice and not be visible at all. If you just dream a little bit... Think about what Internet is doing to our country at the moment. If I really wanted to do a good job with my patients... I think the patients are going to have Internet; it's progressing faster than the radio did. We can build a system whereby I can see you and talk to you. You may be fifty miles away or a hundred or half way around the world. I think seeing each other you have to do if you're going to do a good job.

AP: That's a good point.

LW: As you looked at your life as a faculty member at the university and as an administrator, are there aspects of your life that...? For example, did you attend sports events?

LW: Yes, I sure did.

AP: Could you comment on what life was like as a faculty member where you lived and how you socialized into the university and the state?

LW: I came into the university with experience in another world, so it wasn't hard for me to find a relationship with the people in the university. We have always had a lot of friends in the university. But for me, the reward was the students. The students are such an important part of our society, our world, being able to find those that are really going to be outstanding. We have had them from all over the world really and I consider them my kids.

AP: When we talk to students, one of the things that, for example, makes a great deal of difference is when someone invites them for dinner.

LW: We did that a lot, all of the Pharm.D. In the early days in the Pharm.D., we also always had an annual dinner before the new year started. I guess if you were to ask me what was most important about being an academic, it's students. They're wonderful people. I'll give you an example. I had a student come in today from Lebanon. She came in because one of my areas of considerable interest is rare diseases. One of her family needs a drug, which is available in this country and it's very expensive. She said it would cost them \$40,000 in order to get enough drugs to do what it's supposed to. I haven't succeeded yet; but I will go to Orphan Medical, which is a company here which I'm a founder of and I serve on the board, and we will be able to contact the physician and we'll get that drug to them probably within a week.

AP: That's remarkable.

LW: We just had another one. I don't think you'll want to write this down, but you might be interested in it.

[break in the interview]

LW: They started rating the colleges during that period. For years and years and years, we were number three. I think now we're number 5. How much value you can put on something like that, I really don't know.

AP: Has the enrollment changed over the last fifty years, gotten bigger, gotten smaller?

LW: It's always been around 100. When we got money to build this facility—we were getting money from the government—what we had to do was to accept more students if we were going to get any government money; so, we increased them beyond what we felt was needed in the state in order to get the money. That's when we built this facility.

AP: Does that create problems for the students in terms of getting placed?

LW: Yes, I'm sure it does some, but it's hard to measure. If you think about education, particularly in a field like ours, and look at the number of years we spend getting them through school and the changes that are occurring during that period of time, it means that you have to change the way you educate. I can remember when we'd set up a program and it was going to be like that for five years. That can't be done now.

AP: Things change so quickly.

LW: I'm a strong one in believing that education here at this institution in the Health Sciences Center should have more involvement with the patient from the very beginning and we do. Incoming students now are introduced to the patient.

AP: That makes sense because then they get a perspective on why...

LW: I've often said, "Most of the students, for many years, came here to pass tests," which I think was really true. They didn't come here to learn. They'd been working in a pharmacy maybe through high school like I did. Their parents had the pharmacy. All they needed was a shingle that said, "You're qualified." That was one of the things we had to change.

AP: This has been very helpful. Is there anything that I didn't ask you...?

LW: Oh, I'm sure there is.

AP: ...that you think I should have, that you would like to add for the record?

LW: Not offhand.

AP: I thank you very much.

LW: I've had a wonderful career.

AP: You certainly have done a lot for the university and you have a tremendous reputation among your peers. I think your story and the Peters story and the change in the field is the hallmark of a great research and land-grant university. Pharmacy, I think, is a nice fit between the service mission of the land-grant, but also very much the research mission of the university.

[End of Tape 1, Side 2]

[End of the Interview]

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