

NINR History Project
Telephone Interviews with Dr. Patricia Grady
Conducted on January 26 and February 4, 2009, by
Philip Cantelon

PC: I am speaking on January 26, 2009, to Dr. Patricia Grady. I have your permission to record the call?

PG: Yes.

PC: Thank you. I'd like to start today with some general background information about getting into nursing initially. I noticed you went to school in Hartford.

PG: That's correct.

PC: How did all that come about?

PG: Well, I had decided that because I was going to be a nurse and because nursing has a strong clinical component. I had decided that I would go to a diploma school and then a college. You could do either in those days, and so I wanted to go to college, but I thought that it would be a good idea to get grounded in the clinical area. I had grown up in Florida, my family was originally from New England, and so I ended up at a school in Hartford. And also I grew up in a small town and I thought that it would be good to go to a capital of a state, that there would be a lot to learn and a lot to see there. I ended up

going to Hartford, and then transferred into Georgetown for my undergraduate degree in Washington, DC. The same logic, you know, the capital of a state was interesting, but I thought the capital of the whole country really ought to be interesting.

PC: Where did you grow up in Florida?

PG: South Florida.

PC: Your family had been from Connecticut in the Hartford area?

PG: From Connecticut, although not from the Hartford area.

PC: Tell me what got you interested in nursing.

PG: I was interested in health and I liked biology, I liked the science and I also liked people. I thought it would be interesting being a nurse because it gave you flexibility of career, in that you could be effective in a number of settings within a variety of lifestyles.

PC: The training program at Saint Francis was what? Can you describe it?

PG: It was a three-year diploma school program, which provided some theory and a strong clinical base. I felt that I needed to transfer into college to finish my education. It took a year longer, but it turned out to be a good idea.

PC: Knowing when I went to school how little I actually knew about colleges and what I wanted to do, it's remarkable that someone who's seventeen or eighteen years old plans that ahead.

PG: Well, you know, sometimes it's remarkable to me, too.

PC: Had Georgetown had a good program in nursing as well?

PG: Yes it did. In addition, the basic sciences and liberal arts courses were excellent. And because it was a Jesuit school, you graduated with the equivalent of an undeclared minor in philosophy, so I did a lot of philosophy. It was actually quite interesting.

PC: And this is associated with the Georgetown University Hospital as well? The nursing school?

PG: Georgetown University campus was unique in that it encompassed many different colleges in addition to the health sciences. So I took courses in nearly all the schools except for the School of Business. I took classes even in the College at Georgetown

University which in those days was co-institutional. Georgetown wasn't coed then, so I was one of the first women to take courses in the College.

PC: A young woman who used to work for me years and years ago was one of the first women I think to graduate from Georgetown. It must've been in the early seventies?

PG: Yes, that's right.

PC: When you selected Georgetown, had you looked at any other schools?

PG: Yes. I was accepted at five different schools, all major universities.

PC: How did you get interested in a particular branch of—well you started out teaching then. Was this a normal pathway for people with a B.S. in nursing and then going on to Maryland?

PG: It's hard to say what was typical in those days. By the time I was finishing college, I knew more about higher education and graduate school, and I knew that I would be back to graduate school. I planned when I left that I would work for a year, and I would then come back to graduate school. I had always enjoyed teaching and thought that I would like it, and so I accepted a job at the Washington Hospital Center, thinking I would do that for a year and then go to school, which I did. And then that also carried on when I

went to the University of Maryland and taught there. It was a short period of time when I looked around at the rest of the faculty and I realized that even though only a few nursing faculty had doctorates, nearly all the faculty in other schools had doctorates. And I felt that I would like to do a doctoral study earlier as opposed to later, and I thought I would prefer to do it on my own time schedule. But then came the question of what to major in.

I was teaching with a concentration in the nervous system and I had a preference for it since I had been in my early diploma school. In fact from a clinical and a theoretical point of view I really was drawn to it. In my master's program, my specialty area was neuroscience. Then when I was teaching, I created the neuro specialty and taught that at Maryland to the undergraduates. Then when I went to graduate school, it seemed just sensible that I would end up majoring in neuroscience. There were only two nursing doctoral programs at that time and a "conventional wisdom" that we needed more physiology in nursing. So I got my Ph.D. from the School of Medicine at the University of Maryland at Baltimore. I majored in physiology, specifically the nervous system, and more specifically, stroke. That was because of my clinical background; I had seen patients with strokes and it seemed to me that the best thing you could do with research would be to prevent it. If you were going to do research, it would be good to do it in that area, and that's what I did.

PC: So it's research in prevention rather than caring afterward.

PG: Right. It was research in mechanisms of stroke. How you get a stroke and then what you can potentially do to prevent it. The research I did was in the area of arteriostenosis, cerebral edema, areas related to hypertension and stroke. So that's what I did until I came to NIH.

PC: I guess the inevitable question there is—because your research career was moving along—

PG: Yes.

PC: And then continued that at NINDS, right?

PG: I was recruited to NIH to run the programs in stroke and brain imaging. So when I got here, I did carry on my research for a while with some investigators at a nearby institution. But at some point it became difficult to be running the stroke program and doing my research in that area because of the potential conflicts of interest.

PC: So you went from science to administration.

PG: Right. But I was administering the science in my area which made a big difference.

PC: Who recruited you for NINDS?

PG: Actually that was the then division director, and the director, of course, had to sign off on it. It was Dr. Michael D. Walker, who was a neurosurgeon. He was the director of the Division of Stroke and Trauma, which is where I went. The institute director at the time was Murray Goldstein, who later became my immediate boss.

PC: How did you come to know these people? How did they come to recruit at NIH in this area?

PG: They knew me because I was an active scientist in the area so I was constantly presenting my science. Because they were funding it, they would also be aware of it. And a lot of what I was doing was within a stroke center, and stroke centers were pretty high profile, so they would've known me from my research. Then they were looking to enlarge the program, and actually when they first recruited me, it was in the area of head injury because my thesis work was in an area that was very important in head injury as well as stroke. So they really recruited me to get that program started and then to help out in stroke. But once I got there, the person who was running it who had wanted to retire said, "It'll be okay now. She's here. She can do this. I can leave." The only job I would have liked better than the one I took was the one that they gave me after I arrived, so it worked out quite nicely.

PC: When you came to NIH, you came as a Ph.D. in physiology, not as a nurse. Is that correct?

PG: Yes. The program he recruited me for was a neuroscience program so it was my neuroscience background that attracted them. However, it was well known that I had a nursing background.

PC: Because the attitude toward nurses at NIH was, how would I put it subtly? I guess I shouldn't, right? It was not a very welcoming view from the medical side of the community.

PG: It's hard to separate that out. I think what it really was was that the NIH didn't want another center or institute, and I think they didn't see the need. If you talk to anyone from the newer institutes, they'll tell you the same thing. NIH just always realized that there's a critical number beyond which it gets difficult to manage. So there was that issue of not feeling the need for a new entity, and then the fact that it was nursing was an added factor. This environment is quite basic science-oriented, that nursing research was totally foreign to them. They do know of the nurses in the clinical center, but in those days they were in more of the traditional nursing roles that you see in hospitals. And so I think it was difficult for them to imagine the type of research that would be carried out.

PC: My question really is at the Institute of Neurological Disorders and Stroke, that certain institutes were hiring trained nurses in effect anyway. Was there I guess less of a bias against your background as a nurse and science researcher as opposed to other institutes, say NCI?

PG: I don't know exactly how to answer the question. There wasn't much made of it one way or the other. I had grown up in the field so people knew me, they knew who I was and so they all realized I was a nurse, but it wasn't anything that was made an issue of one way or the other. However, I think part of your question is about the field of neurology and neuroscience, and the nurse scientists in the clinical setting. Until quite recently there were no treatments for neurological disorders. L-dopa was the first treatment for Parkinson's, and it was becoming marginalized at the time as less effective, and so the issue of comfort and supportive kinds of therapies was much more front and center in the neurological realm than perhaps some of the others. And I think that may be what you're asking. I think that nurses were probably more valued in that field because the contributions were significantly proportionately higher than in many other fields where you can simply give a pill and people get better.

PC: Okay, I understand that. In the years you were at NINDS, and I notice they sort of overlap when you were recruited in '88, and that was the beginning of the Bush administration and then the beginnings of the Clinton administration through the Clinton

people, what was the response to that institute in Congress, because I notice you did some testimony in that period as well?

PG: I did. Our budget increases were reasonably good. It was actually an exciting time from that perspective because it was during that period of time that we did develop the first treatments for a variety of things. The first treatment for MS, for example. Most of the genes that were identified were genes for the nervous system. The first drug for ALS, which was modestly successful but it was a step in a positive direction. And also the first early trials that we did had positive results for preventing stroke. In fact, both of the carotid endarterectomy studies were completed during my time there, and also the first treatment for spinal cord injury. We did that study while I was there. And even the tPA study that was effective for acute stroke was done when I was there, either as a program administrator, a deputy director or acting director. So I actually unveiled some of those things as the acting director, and it was a very exciting time.

PC: How did you become acting director? What occurred?

PG: That was an interesting thing. After I was there about three years, I was selected for the deputy director. It was a wonderful promotion and it was very exciting, but quite frankly, I was running meetings that I hadn't even been invited to before, because I wasn't considered important enough, since I had only been there about three years. Anyway that went well, it was very challenging, and it was exciting and fun and I learned a great deal.

And then within nine months of my taking that position, the director announced he was retiring, which people were not expecting.

PC: And that was who?

PG: That was for Murray Goldstein, and he had been a wonderful director for at about ten years. He was acting director for two years before that. He was considered to have done a terrific job, the community loved him. And he was kind of a father figure, so that was a big shock for people when he announced his retirement. So I was the deputy, and the deputy usually becomes acting director, but it was quite unusual because I had only been in the job for barely nine months. As it turns out, because the paperwork for my position was still in process, once he announced he was retiring he was not allowed to appoint me, and so Donna Shalala who was the secretary of HHS had to declare a state of emergency in order to appoint me in that acting position. So that was quite unusual.

PC: Really a state of emergency.

PG: Right. Literally. There were other people that they theoretically could have appointed. All the division directors had been there for ten years or more in their positions, had all been appointed by Murray, and they would have been logical choices in terms of seniority. But if you're there every day working closely with the person who's doing the job, you do know more about what's going on than most others.

Once a new director had been selected, I felt life was going back to normal, I was looking forward to being the deputy because I'd been doing two jobs for a while. I flew down to a meeting in Dallas, and was called out of the meeting to take a phone call from Harold Varmus and he said "You know, I'd really like to keep you on my team, so I wondered if you'd be willing to compete for this other job." He said something like, "I can't promise you the job because there's a committee and everything, but I really think that you'd be very competitive and you'd do a great job if you were selected and took it." So that kind of threw everything up in the air because I had planned to chair the committee—I was asked to chair the committee—I thought I would chair the committee, pick somebody new, and that would be it.

PC: This is chair the selection committee for—

PG: For NINR.

PC: Here was an institute with a far smaller budget than NINDS. What was your reaction when he asked you?

PG: Well, I wasn't thinking about taking anything new on at the time. I'd been going pretty much full throttle for several years. So I had to think about it, and I thought well, I can do the deputy job in neurology and that would be great because that's my area of science,

but I thought it might be fun, interesting, to take this new challenge. Because of my roots and my early background, I thought it might be a good opportunity to put all of that together—my scientific background, my nursing background, and my administrative experience at NIH. But I had to stop and think about it. I was known in the nursing community, but I wasn't as well known as some other people, so I wasn't sure if I would be a good candidate. I had to think about it and talk to some people to really consider it. But it boiled down to doing something that I really liked doing, that I knew I would like doing, which was being the deputy or taking something on that I really thought I would like and thought maybe I could make a difference and do something new. So I opted for doing the new thing where I thought perhaps my background might be able to make a difference. I don't know how true this is but I am told by people on the Hill that if I hadn't taken the job, they probably would have collapsed the institute within another institute. I don't know if that's true or not.

The first director was a strong director but when she left, there weren't many people left. In fact, many people left as soon as I arrived. Some had agreed to stay "until the new director gets here." So literally it really was a challenging time. First of all, NINR had just become an institute and it's more challenging to be an institute here than a center. The second thing was that Harold Varmus, as NIH director, really wanted everything raised to a new level. So it really was kind of a double escalation. If you look back, you ask "if I had known what I was getting into, would I have done it?" [Laughs] I had no idea. But you know, it has just been really fun, interesting, very challenging, exciting,

Mostly I think it has been rewarding because the science is much more front and center, I think we are more central as an institute. People know more about what we do, and I think right now we're at a good place.

PC: Was there a glass ceiling for women to become directors of institutes? Not nursing, but . . . for example, NINDS or others, because in that period there weren't very many women who were heading institutes. I think Ruth Kirschstein may have been the only one.

PG: Yes, she was for a while, and then when I came, I was the only one for a long time.

PC: So the reality of really becoming a director of NINDS in '95 was probably pretty remote anyhow.

PG: Yes, I think it would have been difficult. In those days there were more women as deputies than as directors. And also Ph.D.'s being directors of institutes was not that common either. So either way, that was an uncommon event.

PC: When you decided to throw your hat in the ring on the NINR directorship, you talked about the challenge and such. What did you know about the institute at the time?

PG: I knew what there was to know about from the outside looking in. I knew Dr. Ada Sue Hinshaw when I was at the University of Maryland in the School of Medicine, I helped the School of Nursing start the doctoral program as a consultant. I had met Ada Sue because she had come in as an outside consultant as had I. So I had seen her while she was at NIH and we talked a few times, so we knew of each other. I discussed the position with her and what some of the issues were. I knew the science, of course, and I knew general things from being in another institute at NIH.

PC: Did you speak with Suzanne Hurd?

PG: Yes I did. I spoke with several of my colleagues when I was considering it—Tony Fauci, Duane Alexander, Claude Lenfant. And so when I talked to them about what their perspectives were, most people were very encouraging. Suzanne Hurd was extremely encouraging. She just said, “I think you should do this.” She really had enjoyed it, and because her background was similar to mine in that she was a basic scientist and her perspective was especially helpful.

PC: In the regard of having run it for a year or what?

PG: It was because she had been running it, and also because I thought that our backgrounds were similar in ways that if she found it a rewarding experience and that she seemed to feel that she was a good fit with it, that it was a good omen that I might be a good fit, too.

PC: Did you talk to people within the nursing community? When I say that, sort of partly at the nursing groups, professional organizations.

PG: I talked to several key people, but I didn't go out and make the rounds. But several people did call. This is supposed to be a quiet process, so it's hard to go out and say you are running for this job. But word gets out and I was contacted by a number of people from different places and organizations.

PC: Because I can't believe the ANA didn't make calls.

PG: Well, I did talk to someone from ANA and the Academy. I of course talked to the staff at NINR and then there were several of the leaders from around the country who called and encouraged me or they didn't call because they didn't want to encourage me.

[Laughs]

PC: Who are the leaders in the mid-nineties? This would be deans or . . . ?

PG: Yes, primarily the deans.

PC: Besides Ada Sue, who had gone back to Michigan I guess by then?

PG: Yes.

PC: Who are the other leading deans?

PG: Well, the top ten schools basically would be the leading deans.

PC: In this situation, let's say they had, I don't know, six or seven candidates, serious candidates?

PG: I don't think it was that many. Typically, a shortlist is provided to the NIH Director with 3-5 names.

PC: And then they interviewed?

PG: Yes.

PC: Who chaired the selection committee?

PG: The selection committee was co-chaired by Dr. Richard Hodes, who is the director of National Institute on Aging and also Dr. Kathy Montgomery, who was the director of the Clinical Center Nursing Department.

PC: What kind of questions did they ask in that interview? Do you remember?

PG: It's hard to remember exactly. They were unusual questions. There was nothing that really stood out. I mean they asked the usual questions of why was I interested in taking that job, what would I do, how would my background be helpful. I don't recall if they asked how I would interface with the community, because that was really one of my major first jobs.

PC: Sometimes that's good and sometimes it's not.

PG: That's right. I actually think it worked to my advantage.

PC: Who finally offered you the job?

PG: Dr. Varmus.

PC: Varmus did. Then you were appointed by Shalala?

PG: Yes.

PC: And sworn in where?

PG: They really don't swear in anymore.

PC: You show up the next day, huh?

PG: That's right. You show up the next day. The only person that needs to be sworn in is the director, and often they swear in the NCI director because it's a presidential appointment. There's always the option of swearing people in. If the NIH director wants to, they can but it's not usually done.

PC: Let me go back two things. You mentioned that even though it had been an institute for a year or so, actually I guess about two years when you came in, that it really wasn't quite an institute. Could you elaborate on that for me?

PG: Well, it's difficult to explain. The goal was to have an institute at NIH. The institute was formed originally as a freestanding center with many of the rights and privileges of an institute. So for the people that were involved, this was a major coup and it was a minor compromise. They always used to say, "we're really a center with all the rights and privileges of an institute." It's like a prep school with the same name as a major school. It's a little like in academics you have professors and then adjunct professors, and so people often say, well I'm a professor at so-and-so, but they don't tell you that they're an adjunct professor which is quite different.

PC: Not a full-time appointment yet.

PG: It's difficult to explain in detail, but if they line you up in order of importance at NIH, all the institutes line up first and then the centers. When genome was a center, their budget was a lot bigger than ours, but we lined up before they did every time. It's the way the culture is here. Once you become an institute, the demands and the visibility are greater. And NINR had just become an institute when the director left. Then there was a six-month or more period of time of interim. So there wasn't a large time frame in which to take on the new responsibilities. It's a little harder to hold your own here when you're a center than an institute. And it's also harder to hold your own as a smaller institute compared to a larger one. But that's the culture.

PC: When you say there were different things that you couldn't quite achieve, could you give me a few examples there?

PG: Well, it's hard to give examples because it's a changing landscape. For example, that era was the beginning of central funds from the office of the director. You all can compete equally, but if you were an institute competing versus a center in those days, it was harder to compete.

PC: It was harder to compete for funds. I know in reading the testimonies when it was a center, the supporters of the institute, Carl Pursell perhaps most vocally, would say how

would you ever get parity. How can you get parity. And finally comes the realization that the one way to get parity is perhaps to come back to the old institute thing, which is one of the reasons he begins to push that again in '91. So that's my reference point here. There's the parity of funding and the percentage of grants to applications were all I think critical elements in that view, but in spite of what they said, that quite never caught up. So would that be one example I might use?

PG: I think that is one example. I think it's like citizenship. When you're in the category before you become a U.S. citizen. It's hard because people often say that this culture is confusing. I don't know if it's confusing, it's just that there are not always good analogs to compare it for clarity. But I think that's right. In order to be considered for full citizenship, you really need to be an institute. Most of the constituency groups that deal with NIH, who feel they're not being heard think that it's because they don't have their own institute. There is a strong sentiment on the part of constituents that there is a strong need to have an institute to address the particular issues of that constituency. So it was really important to get that status. The other big issue is of course, budget and resources, and we're still struggling with that.

PC: So when you came in, what did you see as your vision? Usually the question when people are interviewing is what would be your vision for the institute in five years or ten, but five years usually. What the nurses have looked at in the past anyway.

PG: My vision was that we would be funding science that was even better. That we would fund high-quality science which would improve over time. That we would fund science that was competitive with other institutes, which we are doing, that we would increase the number of researchers out there, which we're also doing. And that we would also become a more integral part of the NIH campus. Although the center was very collaborative with the other institutes, we have now become leaders on campus. For example, and again I don't know how to express these things. It's not meant as a criticism but it's just a difference. In those days, when you released program announcements or RFAs, most of the time if you look at the history, the RFAs that were released by nursing were not joined by many other institutes. It was the nursing RFA or nursing joined other RFAs from other institutes. So in the intervening years we've released RFAs that other ICs routinely joined. So we're much more mainstreamed at NIH and less peripheralized. Are we still aiming at the center of the campus? Yes. Where I'd like to be? Not quite. I want to be right in the center; we're not quite there. One time I remember as an outcome measure, we released an RFA and the first week something like eight institutes jumped on it to join, and I thought, now this is progress.

PC: When was this? How long ago?

PG: It's been a while now. It happened within the first five years I believe that I was here. But that's been the trend now. We are also co-chairing four major trans-NIH initiatives, including two roadmap committees. Those are things that I think are very important as

well, and they're all committees that are related to our institute. They included the roadmap committee on interdisciplinary teams of the future, the trans-NIH pain consortium, which is a very important crosscutting group, the Science of Behavior Change part of the roadmap. I'm co-chairing the public trust, which was one of the major tenants of Dr. Zerhouni's tenure. He felt that the public trust was really important and we should work to build it. A cornerstone of the Public Trust initiative is a small grants program linking scientists and members of the community. So these are things that are all important to our agenda, which are also important to NIH. Or you can say that the other way, too.

PC: The comment has always been that if we have this center, we'd move it, the center or the institute to bring nursing more in the mainstream of medical science, and now it's also bring it more in the mainstream of the center of NIH as well, which is partly the mainstream of medical science.

PG: Yes. That is true. We have investigators now being funded by other institutes as well, which means that we're able to leverage our funds. We also have members of our community on the Advisory Committee to the Director, on the Council of Public Representatives, on other institute councils, and invited to workshops and other NIH initiatives. So that's part of it, too, is I'm trying to infiltrate the campus as it were, and we're doing pretty well in that, I have to say. We're growing by increasing the number

of programs that are important to us that are also important to the rest of NIH and our society.

PC: When you came almost fifteen years ago now, this new institute, and when you saw this and you said you went out and talked to a number of people and then contacted the community afterward as well?

PG: Yes.

PC: What kinds of things were on your agenda to accomplish in those early years?

PG: Well, one of the main things I needed to do immediately, which was sort of pressing need, is I needed to get out and meet people and have them meet me. I needed to make certain I had the support of the community and going forward. I made a number of changes, and change often makes people uneasy, but it went pretty well. I talked to the groups and really made myself accessible. As a whole, they were amazingly responsive and supportive.

PC: Changes in what?

PG: Changes in structure, changes in names. One of the things that they say you never should do is change the names of things when you are new and of course I did. I changed all the

names. For example, and this is just a little homey example, there was a division in extramural called nursing systems. Well, if you have something called nursing systems, nobody else on campus is going to fund it because it's exclusionary. So I renamed the division, and the way the community interpreted it was I made things sound more like NIH so NIH would understand it. But I also tried to use terms that everybody would understand, instead of using a special language. The idea is if you want something to be inclusive to use language that everybody will understand. I really felt that more openness and transparency would be helpful in facilitating our interdisciplinary activities.

I also did something that was considered controversial. I decided that we would fund other investigators besides nurses, and the community was reluctant initially. They were rightfully concerned about our limited resources. My philosophy was that if we wanted others to fund us, we had to be willing to fund them as well. My reasoning was that the other institutes had more money than we did, so chances are this would probably work in our favor, and it has. About ninety-five percent of who we fund are nurses, but about five percent are not, and we get great science, we get an integration of other disciplines, we get mentors for our scientists. If you're a group who's trying to make inroads within a larger arena, the more you can learn from those people around you, the more you maximize your chances of success. You need to be able to talk to them and relate to them in a shared language, in order to learn from them. In the interdisciplinary arena, you can learn from others but they also learn from you because you bring something to the table that they don't have, so everybody benefits. I'm very interdisciplinary because

of my background, and so we started using approaches. When we funded centers, we designed them to be interdisciplinary. So we moved in that direction and after a short time people seemed to agree that it was a viable strategy.

PC: You also said that people were leaving at the same time, so there must've been a real change in personnel as well.

PG: Yes, there was.

PC: How did you handle that?

PG: I recruited new people. We did pretty well because I knew a lot of people across campus. Until recent years it was harder to recruit from outside but we're now doing that and consider our efforts successful. We're recruiting more from the outside now and that gives us a nice mix. But you know, there are just not that many nurse researchers out there.

PC: Do you use IPAs to bring people in or anything like that?

PG: I have done that, too. Yes, I have. IPAs balance the short and long term staffing. That approach was very helpful for road mapping. And also we use other mechanisms, personal services contracts or professional services contracts. The contracting

mechanism has been helpful, too, because then when people retire, you can hire them for specific projects and that has worked out well. But yes. It was really quite fluid when I first got here. Literally just about everybody had already decided to do something else before the transition.

PC: I guess all of the people who had been there for a while or had come over from HRSA were all gone by then, right?

PG: Yes.

PC: And Ada Sue's staff had left as well.

PG: That's right.

PC: What was Suzanne operating with?

PG: She actually still had most of the staff because they agreed to stay through the interim. It was when the new person came they were going to leave. Some of the extramural people had left, many of them were part-time anyway or had IPAs. And then one person who had not been there very long who actually had planned to stay, got this fabulous job opportunity establishing a now famous foundation.

PC: When you recruited, you say you recruited from within NIH people you knew to come over?

PG: To some extent, yes. Or people that I knew by way of somebody else. For the non-science positions, that's easier to do. And actually those are difficult positions if you don't know the system, so that worked out very well.

PC: For example, if your intramural director leaves and intramural division in nursing had always met some resistance anyway, how did that work?

PG: That one was harder. We now have a program that's really growing beautifully. But it has taken some time, for several reasons. First of all, there are few people that you can recruit internally for a position like that. It was hard to find people who were qualified who could be recruited in. The standards for science here are very high and those who are desirable are much in demand. In fact, it was very interesting. Harold said, "Even if I gave you an SES for this, you'll never be able to recruit somebody out there into an SES position." And I said, "Yes I will." Well, I couldn't. There was nobody out there who would qualify for an SES that was recruitable. It was still a young field at the time.

PC: I'm always amazed how fast things moved along because how few nurse researchers there were twenty years before that. Twenty years is not a long time in either the scientific or academic worlds to build up those kinds of credentials.

PG: It has really grown incrementally. It really has. Now we're basically growing our intramural program, so we have so many really exciting things going on. What I decided to do was to use the intramural program to do things here that couldn't be done elsewhere, or couldn't be done easily, and to create opportunities for trainees and young researchers, etcetera, because most of the high-level researchers. The intramural program at NIH is a scrappy place. It's a place where you get down on the floor and work on your electronics. There's not a lot of pomp and circumstance to it. There just isn't. In the extramural world, there's a lot more. In schools of nursing, especially in the early days, if you had a Ph.D., you were treated like royalty. So to come here and be treated like an ordinary person would be a hard transition. So it's a whole different world. Let me give you a comparison. Just for the comparison, and this is not pejorative, it's just comparative, actual observation. When I finished my Ph.D. from the School of Medicine, in physiology, I finished my Ph.D., the job choices were between being a dean in a school of medicine, a school of nursing or a postdoc. Now there's a disparity that has disappeared over time.

PC: Forty-seven is the average age for a doctorate?

PG: Yes, in nursing.

PC: Wow.

PG: So see, that's the other issue we are still dealing with.

PC: That's a figure I have not heard before.

PG: And that's the average age. So in those days, it was even a little higher, so you're dealing with these people who are middle-to-older age that you were trying to uproot to bring on campus. So it was complicated.

PC: And Varmus knew this.

PG: He knew that. So we have been growing it initially as a training program. Now we have a scientific director and a program that's still growing doing well.

PC: Tell me a bit about the NIH roadmap. I notice you're chairing a couple of committees. What's the purpose for that?

PG: The purpose of the roadmap is to facilitate medical research by addressing scientific issues that are at the borders of disciplines or fields, or might otherwise fall through the cracks. Another criterion is that these initiations would require more than one institute to accomplish research. For example, one that I co-chair in interdisciplinary activities and research teams of the future designed to facilitate different disciplines working together.

Reinventing the clinical enterprise was designed to look at clinical research across the board, combining training and research in the same environment. And the third part supports the design of new tools for discovery. This includes molecular libraries for example, which will be available for people around the country, around the world to access. Those are examples of what we did in the first iteration. Currently, two areas being emphasized are the science of behavior change and pain. Both of these areas have taken some time to emerge from the roadmap at NIH.

PC: A lot of nursing science was behavioral based. I think as I recall Rhetaugh Dumas started out that way and was at NIH doing this.

PG: Right.

PC: Is this natural that nurses would take a leadership role in that or NINR would?

PG: It's the kind of research that most nurses are interested in because it has a clinical base to it and is directed toward trying to improve the health of people. How you do that is often by changing behavior.

PC: Both in improving health and prevention as well, I guess.

PG: Yes. That's right.

PC: Ellie said you're available till 2:30, so I may want to arrange a second call.

PG: Sure. That would be fine.

PC: Okay. I'll just tell you what I'd like to cover. First of all, I've always been intrigued with your interest in history, because you've picked that up from the very beginning when you came in. I'll credit Georgetown with some of that.

PG: I think that's probably true. They are very traditional.

PC: Well, a good history department.

PG: Yes. In fact, just ironically, that's the course that I took in the College of Arts and Sciences where I was one of the first women to take a course there.

PC: Oh really. Who did you have it with?

PG: Professor Penn. He was the chair of the department, and he was a grand old gentleman, and we learned a lot. That's another whole long story.

PC: Men's schools did not change easily.

PG: No, no they didn't.

PC: Having taught in one, I know. I wanted to talk about sort of reviewing over the fifteen years, and looking at what you thought were the four or five most notable changes and advances that have occurred while you were director, and the other issue is looking at the—in the early history that nurses were doing a five-year agenda, the National Nursing Research Agenda. I don't read as much about that today as I would in the eighties.

PG: I think we've really evolved into doing strategic plans. The NNRA was a really good way to get the institute started, to get people invested in it, and to have people participating in the planning. We've transitioned from that which was involved, large scale, concentrated input and expensive, but necessary at the time to get things started. We've morphed from that to a more distributed planning process. And we have advantages now. For example, we can put our whole draft plan on the Internet and get comments back at any stage, so people don't have to come here to comment and to feedback in person, although we do bring them in. So we still engage in a similar effort but we do it just a little differently. I think it's just the more modern era that drives us to do things in new ways.

PC: Well, strategic planning has changed a bit I think as well. But I would like to talk about those changes as well, and anything else you would like, but I think I'd like to go into

what you consider to be the major accomplishments and changes in that tenure. That is changes, not only at NINR but changes in the profession as well.

PG: Certainly. Now we do have a booklet that talks about the top ten science advances. I don't know if they've sent that to you or not.

PC: Okay. Does that change over time? (The top science advances)

PG: We'll do an additional group for the 25th anniversary.

PC: Okay. What you and I might want to talk about is what *you* think are the most important ones in the past ten or twelve years, something like that, and how those initiatives came about. That is what's the background for it, because I'm interested just in discussing things with you and how you talk about things differently than Ada Sue did. What I see is obviously a number of changes on who's providing the background information. That is to say she came out of the ANA background and worked closely with them and was part of them in the nursing cabinet and such, and you come from a different background in the sense of not being in what I call the professional organization group. But it also seems to me that there's then the difference on how the agenda gets shaped.

PG: Yes. One of the differences is interdisciplinary—that's a big difference and that seemed like a big change for the community.

PC: It's an interesting difference because they will talk about the interdisciplinary work of the NINR, or the national center too, but it is working in other institutes, not bringing it, that is folding it back within the nursing institute. So they will talk about their interdisciplinary—in fact, even Doris Merritt does that, suggesting that it has to be done because that's how we've got to make our money go further, if we can line some of these up with, well, aging for example, Franklin Williams was very interested, so that one worked well. And from their point of view, it all folded into their view of nursing, so people who would help them were more understanding toward nurses and understood more what nurses did. But I think as the nature of nursing research has changed, and maybe we want to talk about that a little bit, if indeed you believe it has—

PG: And I do.

PC: Okay. So I'd like to talk about that, and also whether that element within NIH has changed toward nursing research, because I still hear rumblings from time to time from non-NINR people.

PG: And I think that's a fair question, and I think the answer to that is also that we're in process. I mean I think that it has changed a great deal, but is it where I think it needs to be? No, we're not there yet. And I think we're the leading edge of change, but you still have the inertia of what hasn't changed yet. For example, we talked about the average age. Part of that is generated because young students go to baccalaureate programs, and

they're told that they should work a few years and then they can go on for graduate work if they'd like. So they work three to five years, they come back, they do their master's. Then they are advised to practice before getting a doctorate. Convincing faculty that students can start a research career easily and still be good practitioners has been a challenge. Doctoral graduates in other disciplines have 20-30 years of career compared to our 8-10 years.

PC: If the faculty are anything like faculty in history, it's a most difficult sell everywhere.

PG: And then of course you have the overlay of the fact that there are some states that say that you can't teach in a school of nursing if you don't have at least a master's in nursing. You could have your bachelor's degree and get your doctorate in nursing, but there are some states that wouldn't hire you because you don't have a master's. Now my view of that is let the market decide. We have a nursing shortage and we have these highly talented, highly capable, young, vital faculty coming out of doctoral programs. Are you going to decide you're not going to hire them because they don't have a master's in nursing even though they have a doctorate? I don't think that's going to happen.

PC: Generally that shouldn't. That's right.

PG: Yes, it might be difficult and you might have to go through a few more hurdles, but that's probably not going to happen. But that's me believing intellectually that that's not going

to happen. Convincing people is a little harder because they're the ones that have to live the new experience. You've already done it. You have to be careful not to be too forceful in changing other people's lives. But on the other hand, you would like to save them ten years of delay in productivity and fulfillment just because they're getting conventional advice.

PC: That's right. Ten years is a great leap backwards.

PG: Yes it is. So yes. We're in process now and I think things are just going beautifully and they're moving forward. But do I think it's time to sit back and rest on our laurels? No way. Not even close.

PG: Okay. Done. I will call you next week on Thursday then.

PC: Terrific. I look forward to it and enjoyed it very much.

PG: So did I. Thank you so much.

[End Part 1]

[Begin Part 2]

PC: I'm speaking with Patricia Grady on February 4, 2009. Permission to record the call?

PG: Yes.

PC: Thank you. When we stopped last time, we were talking about a variety of things, but sort of looking in the future, and I'd like to start today and go back just a little bit. When you came in, you gave a talk sometime afterward about Suzanne Hurd's contributions for that I guess about nine months she was there, and what you said in that discussion was that she made critical analytical contributions to management, at a period and I think must've been in the Clinton administration of sort of the reinvention of government. Could you explain that to me a little bit?

PG: Well, Suzanne Hurd looked at the overall way that business was being done in the institute, and she streamlined the processes. For example, it may sound like a small thing, but she got all the phone systems updated and she got voicemail and then she did a number of things for management that really made it easier for us to do business. It's hard for me to remember all the specific things, but she really just had a talent for management. Sue had been managing the Lung Division of NHLBI and she really brought some practices into NINR that made life a little bit easier, made it easier to get things done.

PC: So it's really updating things that hadn't been done before?

PG: Or trying new approaches that hadn't been done before.

PC: I would assume that those were the kinds of things if you're in the acting slot you can do as opposed to major policy changes and other issues.

PG: That's true actually. Those are the kinds of things that are much more easily within your purview. Also it's an opportunity to try things out often because you are not going to be there for a long time. Psychologically I think people are more willing to try new things, thinking once you go out the door the changes may go with you.

PC: These are the kind of changes that—the management kind of changes will tend to stick around. Did they bring it more in line with other institutes? I mean bring the institute more in line with the other institutes around?

PG: I believe she did. There were a number of different things that she tried to do—ways that committee assignments were made and timekeeping. These sound like small things but actually they're pretty big things to the people who work in the environment. She was a very efficient, well-organized person. The e-mail system was updated so that business with sending documents could be done more efficiently. She instituted some business practices that were quite effective.

PC: And pretty new at the time. The other thing that you were talking about in that period—this would be after Suzanne, but I think when you were there—you talked about what you called the steady state of funding, which was really not much funding change.

PG: That's right.

PC: And the selective expenditures and difficult decisions that had to be made. What was the impact on the research of the institute, or I suppose the effectiveness of the institute during that period?

PG: I'm sorry. Could you say that again?

PC: What was the impact of this steady state funding on the institute and its ability to do its work?

PG: It really was a bit of a deterrent to developing new programs. When we talked before, we talked about the difference between a center and an institute. One of the things that you would do as an institute is to grow more, fund bigger science, fund more science, begin larger scale new programs. So with the limited budget, it made it difficult to grow, and there was already a concern that we were pretty small at the time. You're not quite to critical mass yet.

PC: Not a critical research mass you mean? Or funding mass?

PG: Well, all of the above basically, because the higher your budget, the better you can absorb financial constraints. And if your budget is really small

PC: Oh, I see.

PG: For example, ten thousand dollars off of a larger budget has less impact than on a smaller budget. So any small reversal would have much more of a deterrent effect.

PC: How did you navigate through this in terms of the kinds of decisions you were making?

PG: Very carefully. You looked at the opportunities that were available, looked at places where the science could go, and that was really what I was trying to do. Trying to assess what had been accomplished, where was the science going. I also needed to determine where we needed to go in terms of the overall big picture and in terms of the changing times. For example, HIV/AIDS was still an emerging disease. It had not quite become a chronic disease yet but was headed in that direction. That change had implications for studies for patient adherence and patient tolerance of treatment and symptom management of the side effects. The issues of end of life were just beginning to emerge. I felt that that was something that we would have an interest in and that we should be doing, but it would be a whole new program to start. There were a number of scientific

opportunities that it seemed that we should be taking advantage of. It's difficult when you're in a constrained budget. If it seems to be the right time to start something, then you need to do it, and yet when you're starting a new program, it's important to think about the long-term implications and sustainability, at least over the immediate short haul. So those were some of the things that we were weighing in on that were not easy decisions.

PC: How much are you influenced in these kinds of decisions by, well, I guess in one part the sort of the, not just health trends, but trendy health kinds of things, which are how you judge whether they're going to be long term or not, and how much do you try to meet the urgings of your congressmen?

PG: The urgings of Congress of course are always important. We're in the executive branch of government. They're the legislative branch, and that is a defined relationship. They can tell us to do things, they can do it with a phone call or they can write it in the legislation. Congress aside, there are always trends that are emerging. Trends may simply be trendy or substantive and it is important to determine the difference between those. Usually trendy things are a little splashier and they tend to appear a little glitzier than some of the more authentic trends, but it's often hard to tell the difference. So really if you're thinking about investing, you want to make certain that you're investing in something that's a trend that's important as opposed to something that's transient.

PC: When you hold the meeting with the nursing groups to determine sort of the agenda for the next five or X number of years, how do they sift through that? Obviously NINR provides the overall leadership, but it seems to me in these discussions that they're pretty freewheeling.

PG: They are, and we have many different kinds of discussions. Basically we have established a process by which we have a formal and informal agenda setting and planning process. What I tried to do was to get more frequent contact on a regular basis, and also institute an internal process by which we would identify trends and plan to develop initiatives over time. When you look at all the inputs that we have to planning, they are considerable. The main character is the individual scientist. Essentially each person that puts pencil to paper and writes a research proposal is helping to plan our agenda, because they're the scientists who identify what are the most exciting things in the field. Their ideas are judged for their scientific merit by the people who are the best in the field. So that's a big part of the input. Other participants include the national groups, the professional groups, the regional groups, and the advocacy groups. The National Nursing Research Roundtable meets annually at NIH and is composed of professional groups that have research as a major component of their mission.

PC: And how long have you been doing that?

PG: Actually that's something I've been doing since I've been here. It started before I got here, but it was a little bit of a different iteration. It serves as an informal scientific advisory group, kind of a think tank to discuss major issues.

PC: What about the congressional initiatives? Can you point to any congressional initiatives out of the work that you've taken up in the past fifteen years or so?

PG: I would be testing the fates if I told you we didn't have any. We do have issues that are of interest to them and they comment on programs that we have. Most of the time, what the language says is in support of things that we're doing or things that are planned because they also know what we have planned. When we plan, the proposals are brought before the council in open session and they're discussed. The concepts themselves are discussed, and then reported in the minutes of the meeting. The minutes are posted on our NINR website.

PC: When you say the council is what?

PG: Our National Advisory Council.

PC: Okay. That's the roundtable?

PG: No, that's different. The roundtable is composed of all the various nursing groups across the country that have research as a major part of their mission.

PC: Okay. And the National Advisory Council is the heads of the nursing schools?

PG: No. The national advisory council is appointed by the secretary. Every institute has its own council, and the NIH director has an advisory council for the director.

PC: In fact by law you have to have that to make the awards, right?

PG: That's right. The Advisory Council provides secondary review. The composition of the council is two-thirds scientific and one-third is public. The public members are health lawyers, economists, and community leaders. We really have an outstanding council. With regard to our planning process, they review concepts that are presented and make suggestions. Those concepts are reviewed roughly two years ahead of implementation because we plan our budget two years ahead. We can implement sooner than that if conditions favor it, once we get clearance. So anybody who reads the Council minutes is informed about our plans.

PC: And these are open minutes?

PG: Yes. It's an open meeting and the minutes are on the website.

PC: Okay. In this time, what would you say would be the most difficult decision you had to make, that is, whether to kill a program or short it for something else?

PG: You know, there were quite a few actually. What it ends up to be is that there are certain programs, grants, and science that we're not able to fund or that we're not able to fund to the extent that we would like to fund them. For example, the largest proportion of our expenditures are in the area of research project grants which are individual investigator-initiated projects. Having said that, we have two other very large areas proportionately, and one of these is training. We have a percentage of our budget invested in training compared to the other institutes. The average percent of investment of NIH into training is about three to four percent, and ours is seven to eight. So it's nearly twice the percentage that NIH invests in training. And we feel that that's necessary because the field is still small and we need to address the pipeline issue. In fact, part of the nursing shortage that people have only recently begun to focus on, is the faculty shortage. Forty-two thousand qualified applicants were turned away from schools of nursing because there weren't enough faculty to teach them. So part of the nursing shortage could've been handled if we had been able to address the faculty shortage. So we could've had even a larger program back in the early days if we could've invested more into training. So one example is training.

The other area which is always one of great interest, is our centers program. When I arrived, NIH was not favorably disposed toward centers. NIH had done a study of all the centers programs and the conclusion was that they were not as productive as other programs. NIH director Harold Varmus had had experience with centers when he was in the extramural community. Given his experience and the conclusions of the study of centers, he felt quite strongly that they were not a good investment. One of the decisions that Suzanne had made was to go ahead and put an RFA out, and so it was really up to me to make the decision as to whether to provide support for them.

PC: RFA is request for . . . ?

PG: Application. And that is different from a program announcement in that RFA has money attached. It's a one-time application receipt, whereas a program announcement doesn't have money attached and covers a three-year period of time. Also, you can submit the applications in any of the usual cycles. So I invited the center directors to present at council. We listened to what they were accomplishing and were impressed. They had been quite productive with limited resources. Ultimately, I did increase the centers program.

PC: There are two kinds of centers. The research centers and then the exploratory centers?

PG: We do have the core centers and the exploratory or developmental centers. The exploratory centers are smaller. That program started after I came to the institute. The P30, which was the core centers program. That was a program that had started just as I was beginning at NIH. Those were originally developed largely more as infrastructure centers.

PC: Tell me what you mean by infrastructure-type.

PG: Well, the primary goal of the centers is to provide support to beginning research and researchers, as opposed to primarily funding research. When we re-issued the RFA, we added a requirement that there be small research projects around the core so that there would be some research emerging. The intent was that the center would provide pilot funds for research to get started in the hopes that we would be stimulating new researchers who would be competitive.

PC: Let me ask you. T30 means what? Where does that come from?

PG: It's program, "P" as in program as in program grant or center, and the 30 is just—

PC: Oh, "P," not "T." "P" as in program. I'm sorry.

PG: “T” is training. The numbers are more arbitrary. I mean the 20 is smaller than a 30 which is smaller than a 50 or a 60.

PC: But the exploratory were P20s?

PG: Yes. It looked like we were going to get some additional funds, so I thought that it would be an ideal way to share those more broadly, stimulate research and attract more people to the research arena. If you think about all of this as a series of concentric circles, that the schools that were highly funded were in the center, and then there were these rings around them of schools that were becoming more research intensive but not quite in the center. So it seemed to me that if we could encompass another one or two of those rings around the core, that that would be a significant step forward. We were able to fund a number of P20s, several of which have grown to become P30s.

PC: Could you give me an example of one that has or two?

PG: Yale was a P20 and became a P30.

PC: So they’ve gone into becoming core centers by that.

PG: Right.

PC: In reading some of the congressional testimony and congressional comment, there was a good deal of enthusiasm for these centers, especially in the congressmen's districts. This was something Pursell thought very highly of all through. Is this also a response to some congressional interest?

PG: No it wasn't, actually. And I'm not certain that we have had in recent years, specific congressional attention to centers.

PC: The questions were largely what would you do with more money if you got it kind of thing. What would you do with those kinds of things.

PG: Right. And what we would do with more money would fund more scientists. We might have more centers. We'd increase training, we would fund additional scientific programs, specific to our strategic plan areas.

PC: One of the other things you mentioned that you were involved in doing is reorganizing the science into portfolios reflecting the nature of the science. Explain that to me, would you? I got a little lost in that.

PG: The science that we fund which are the grants, we try to cluster those thematically so that all the science related to health promotion, for example, will be housed in one particular part of our institute with one person managing it. So that anybody in that area is handled

by the same person who is an expert in your science area. Then when a scientist calls with questions about their proposal, reviews results, or makes revisions they speak to someone who is an expert in that area of science.

PC: And this is for the extramural programs that you're funding?

PG: Yes.

PC: Are the other institutes set up that way as well?

PG: Yes, they are. We had some flexibility because of our size and age. First of all, when you're creating a center, there isn't anything there to organize. Literally, no pencils, paper, people or space to organize. You have to go out and get the grants, etcetera. The early leaders in the center were in the position of hiring people before they had much of the science worked out. When I came in, we were starting to build areas of science. Everyone was forging new ground. Enough critical mass of work had been done that you could begin to cluster the science areas more easily. In recruiting, I set out to acquire people who had expertise in the areas of the science that would be supporting. It works well when you get someone who has expertise in, for example, immunology who's handling the HIV/AIDS portfolio, or someone who has expertise in gerontology and they can handle all the things related to chronic illness in the aging. Basically the extra mural scientists have a scientific expert to talk to as well as someone who understands the

system and some of the technical aspects of grant writing. So that's what we did and we reorganized the institute using names that were descriptive of the science that was being funded and also translated across disciplines.

PC: And you've kept that through today?

PG: Yes. That's the concept, and we fine-tune by adding new areas and people, as we have new science areas. But we basically have that concept of doing that, and that seems to be working out pretty well. We've been fortunate to be able to recruit some really topnotch people.

PC: We talked about several issues that seem to me to run through the whole period since you have been director of the institute, and one is HIV, variety of different context, I guess some preventative and some in care.

PG: And symptom management.

PC: Also Alzheimer's?

PG: Essentially we have a program related to chronic illness and Alzheimer's Disease is included. And also [inaudible] neurosciences called sensory systems, so that's basically

anything related to neuroscience. But the dementia piece I think is taken out into the chronic illness part. But yes, that's an example of one.

PC: At one time it was sort of a focal point. Has that become less so now or has it broadened out to include other aspects of aging?

PG: It's been broadened out really. It's included in other aspects of aging. The issue also is that there is a whole institute, the National Institute on Aging which focuses seventy-five percent of their efforts on Alzheimer's Disease. We collaborate with them as well as funding NINR programs on caregiver research. It's important to establish an institute as well as corporate identity.

PC: The other one is the, you used the term bio-behavior mechanism of pain.

PG: Yes. Much of what we fund is in the area of bio-behavior, and one of the areas that is representative of that is the area of pain.

PC: Can you explain that to the layman?

PG: We funded the first research that showed that there are gender differences in response to pain. Women in fact respond differently than men, to a certain class of pain medications

(Kappa-opioids), which have fewer side effects than mu-opioids, the most commonly used painkillers.

PC: Give me an example of one and the other, since I don't—most people don't normally refer to them as that.

PG: The most common trade name is Stadoll. We don't use trade names because we don't want to promote specific drug companies.

PC: Okay. So it's a morphine replacement . . . substitute.

PG: Yes, exactly. These drugs are less potent basically, have fewer side effects, and were thought to be ineffective. When the investigators looked carefully at their results, the only people in whom the drugs were effective were women. They did a follow-up study on therapeutic drugs for women in acute pain, but not for men. That very intriguing finding set the stage for a two-day workshop at NIH which examined gender differences. There are physiological differences, anatomical differences, and behavioral differences in the area of pain.

PC: And this was done at one of the exploratory centers or intramural or . . .?

PG: No. This was an individual grant.

PC: A grant as a project done where?

PG: UCSF.

PC: It must have a very active program.

PG: It does now, yes. You brought up an interesting point just now that you said at one of the centers. One of the differences about centers is that you don't often hear about specific research findings coming from centers because they provide more infrastructure. The research that they support tends to be smaller preliminary projects. The community really likes centers. It is important to have the balance between centers which provide infrastructure and research grants which provide findings that advance the field. Both mechanisms advance the field, but in very different ways. Centers provide a hub of activity and support for statisticians or common equipment for preliminary studies but you do not generate major research findings from centers.

PC: Interesting. Even the exploratory centers?

PG: Which are smaller than the core centers, yes.

PC: Right. But they are basically organized—when you use the term exploratory, you say, oh well, that means they must be doing research, exploring research, but they're really exploring whether they can grow.

PG: Or they're exploring whether they can do research. Exploratory centers are a beginning effort and are reasonably small. They can also be used as a way to stimulate research in a specific area. But you don't expect to get a lot of new science out of those centers typically. You get beginnings of science.

PC: When there's pressure on for people to be cost-effective, how cost effective can these become? Or how do you explain it?

PG: That's a good question, and that's one of the reasons I look at it very carefully because the benefit that you get out of it is more of a long-term benefit. Cost effectiveness is difficult when you evaluate things on a four-to-five-year basis. Indicators of success include the number of papers published, the number of applications submitted and the number of grants awarded.

PC: Anything on the quality, or do they all tend to be pretty high by then? I suspect the papers are all—

PG: Papers published in good peer review journals are an indicator of quality. We use that as a surrogate.

PC: And the applications you tend to know pretty soon when others—somebody pumping in a number of applications that never would get funded?

PG: To be fair that's a bit of an exclusionary criteria. It's helpful if the answer is positive but if the answer is negative, it may be a particular answer to the question of success. We're funding approximately only one out of about five applications. The fact that applications are scored and are reasonably competitive, whether or not they are funded is also an indicator of productivity. If a large number is submitted and all were triaged out or not scored or all rated poorly, then that would be a negative result. But in general, we do understand that it's not a typical situation for someone to submit an application and get it funded the first time.

PC: One of the areas in which NINR has, well, I suspect shown some leadership or has been in its relationship to minority nursing and opportunities. I think there's a council on minority nurses. Can you talk to me a little about that?

PG: You mean how do we get minority nurses?

PC: No. It struck me that there was somewhat of a formal program with the National Coalition of Ethnic Minority Nurse Associations?

PG: The National Coalition of Ethnic Minority Nursing Association is an independent group which we helped to form. Once formed as a group, they applied for and received funding from the National Institute of General Medical Sciences, which is the institute that funds training and special programs. A major contribution of the Coalition is that we have a group that provides information about what is important in terms of minority and health disparity science. They speak as one voice instead of five different voices. That is much more helpful in giving me guidance than getting guidance from five voices, several of which might be discordant.

PC: [Laughs] Well it's easier to have somebody else help reach a consensus of what's good before you have to step into the minefield.

PG: Right. It would be hard for me to weigh what each group said and its relative importance. I only can trust that they know what's important. But if they decide among themselves, I trust their judgment on that to be more informed than mine.

PC: Well, they're certainly closer to the issues. Same theory as the researchers I guess.

PG: Yes. They really would have a much better handle on what some of the issues were that were not obvious to someone newer to that area.

PC: One of the other areas in which NINR has gotten into is the health promotion and prevention?

PG: Yes.

PC: What initiatives have you done there?

PG: Some of the most interesting studies in the area of health promotion and prevention are those directed at modifying behavior. Trying to get people to engage in healthier behaviors to prevent illness or to prevent the severity or worsening of an illness is the goal. I may have given you some of these examples before, but there are several really good examples. One example is the successful program of the research that we funded with diabetic teens, in which coping skills training is added to therapy. It is well known from the diabetes complications and control trial (DCCT), that there are certain specific methods that you can use to control your diabetes with diet and insulin. Those guidelines, if followed, are quite successful in helping individuals control their diabetes. But with teenagers—this therapeutic approach hasn't been as successful. Even when teens know what they're supposed to do, they don't always do it. Teens are quite influenced by their peers, and asking them to behave in ways that are not always

therapeutic— The program that we funded tested the addition of coping skills training to the recommendations of the original trial. Coping skills training consists of play-acting and life-relevant skits, and information about how to deal with common situations, such as when your friends are going to McDonald's for lunch. Your choices are to go with them and eat all the wrong things, not to go with them and then be isolated from your friends, or go with them and eat what's on the menu that is allowable on your diet. Such situations are not easy to anticipate ahead of time and teens get caught up in unhealthy behaviors. Another example might be encountering a pick-up basketball game on your way home from school. Well, that's not on your exercise list, so if you exercise, you're likely to metabolize more sugar and get your whole system out of balance. That's dangerous to your health and maybe to your life, depending on how far out of balance your system gets.

This study had very positive results enabling teens to control their diabetes extremely well with small changes in the measurements. One outcome measured is the hemoglobin A1C; small improvements in that measurement indicate good long-term control and those results also help to prevent long-term complications related to the blood vessels in the body. If you can help teens to control their diabetes early, you can help to prevent such complications as heart disease, stroke, blindness, and kidney disease.

PC: Was this also out of a research grant?

PG: Yes it was.

PC: Also UCSF?

PG: No, Yale.

PC: Okay. So that's part of Yale's graduation to the higher level, huh?

PG: No, it wasn't part of their center. But the principal investigator of that grant I think later became the investigator for the center. And she's currently the dean.

PC: A good step up.

PG: It was a very nice piece of research.

PC: NIH is not known for its prevention and health promotion. Well, certainly not for its prevention aspects. It's more to bench science on therapeutic things. How did this fit in with your program to become more integrated into NIH at the same time in science?

PG: My view was if we can make a compelling case for what we're doing as being important and relevant, that it'll fit in just fine. I think that we actually have turned out to be the trendsetters in many ways. If you look at our whole health care system, we, as a society,

are now looking toward prevention now. It's very interesting. One of the other things that we're noticing is that much of what we're currently doing and have been doing for a while, are areas that other people are now starting to consider important. Behavior change, prevention, and end of life. The Ad Hoc Group for Medical Funding visited recently to talk to us about priorities and discuss what we're doing.

PC: I'm sorry. Who did?

PG: The Ad Hoc Group for Medical Funding. I described many of the things we're doing, and one of the visitors said, "You know, this reads just like the president's agenda. This is great. You're really going to fit in with this new administration just fine." We laughed and we said, "Our message hasn't changed, but everybody else is starting to come around to it."

PC: [Laughs] It's an old message in new bottles, huh?

PG: Yes, to me it has always made perfectly good sense. The whole area of genetics, which we have pioneered in nursing, is another good example. What that addresses largely is health promotion. Most of the genes that are being identified are genes for to-called complex disorders. The exception will be when you have a gene and therefore you get the disease. If you have a gene for a complex disorder, that means that you have a predisposition to develop that disorder. It does not mean you will definitely get it. But

there are a number of other risk factors in the mix, so it may be if you have a gene for a certain type of respiratory disorder, then it's going to make a difference where you live, what the air quality is like, what occupation you have, if you're going to be in a factory, etc. If you have a gene or genes for obesity, depending on what they are, exercise may or may not help you, depending on what genes you carry, certain diets may or may not help you. So it's important to know those things. With the area of genetics, nurses will be doing is risk factor assessments and basing strategies on those. They will have another new tool in their armamentarium and that'll be the genetic profile. We're already moving forward.

PC: They've got to catch up, huh?

PG: Yes. We're ready.

PC: You've worked over the years with a number of surgeons general. What's the relationship between the surgeon general and NINR?

PG: That very much depends on the surgeon general, what their agenda is, and also their relationship to NIH. We have a very cordial relationship with all the Surgeons General—Richard Carmona, Jocelyn Elders, Toni Novello.....

PC: One of the things I wanted to ask you about, I have genetics here because you do a Summer Genetics Institute for promising young nurses on the way up?

PG: Yes.

PC: Could you explain why that came about and how?

PG: Yes. It was very clear that genetics would become increasingly important, that we were getting close to the completion of the genome project, when Genome Genetics was not a major part of the nursing curriculum, and it would be important for nurses, educators, researchers, and clinicians, to understand the field and understand the language. Not all would be directly involved but they needed to understand the language. In order to capitalize on the opportunities, one has to be at the table. And in order to be at the table, one needs to understand the language. If everyone is speaking a different language, then your chances of getting into the conversation are rather diminished. I looked at what it would take to jump start the infusion of genetics and it seemed that that was something that we could do at NIH. In fact, we could do it easier here than anywhere across the country because we had the largest number of leading scientists in the area and they're all concentrated on the NIH campus. So we devised this program that was eight-weeks long, six days a week—a laboratory and clinical case study, hands-on program. Since that time, we have graduated nearly 200 students over the ten years.

PC: It would be fascinating.

PG: It's really fascinating. We have really received almost nothing but very positive feedback. The students work so hard and they just really enjoy it. The graduates of the SGI have been very successful when they return to their universities or clinical settings. Those who've applied for funding have a much higher than average success rate for obtaining funding from us or elsewhere. And many of those people who were in the Summer Genetics Institute, if they weren't already in graduate school, have gone on to graduate school. Several of them have come back in our Graduate Partnership Program while they're in their doctoral program.

PC: So this one has been by almost any measure a real success in terms of promoting the science. I'm intrigued by the changes that you're able to effect in nursing school curriculums.

PG: Yes. To try to do that deliberately, it would be very difficult, and it's not really our role. We have to assure that the field is prepared to take on the research challenges strategically. What we can do is offer opportunities that schools and universities can avail themselves of or not. With regard to training, we have several innovative training initiatives, one of which is the SGI. Another one really is the fast track—BSN to PhD. We give training support for students who go from bachelor's to doctorate directly. That program helps students become committed to research and move them through the

program more quickly. Then they have the opportunity to become productive researchers earlier. You probably know that the average age of a doctoral graduate is forty-seven.

PC: Yes. I think you mentioned that last time.

PG: So it's in everybody's best interest to get started sooner so that they will have an increased number of career years.

PC: I think that number reflects I guess the lateness in the approach of people going into research.

PG: Yes, it's a philosophy thing.

PC: Are more and more nursing schools encouraging them to get through faster? Or do they encourage them to go out and practice for a while?

PG: They do encourage them to practice. Most of these graduates are young women, they go out to practice, then they get married and they have families and they come back part time to school. Often it takes them at least another five years to get their master's degrees. Traditionally they're told they should go out and practice some more now that they have their master's, and then the pattern repeats. If graduates returned within ten

years, that was considered pretty good. I was considered a very young graduate, and I got my Ph.D. ten years after I got my bachelor's.

PC: Actually that's pretty much on schedule with other academics.

PG: I guess it may be actually. I considered it was five years too long, in retrospect. I was in my early thirties, so that literally gave me fifteen years more than the average. So everything I did in research before I came to NIH would not have been able to have been done in those other circumstances. And even then, I felt like I was behind, and I always felt like I was catching up, because in the field that I entered, which is physiology, I was older. I was already five years behind. I remember being a first-year student in the program and working and studying in some lab, and this young fellow who was there looking at me and asking, "So how old are you?" He told me I was very old to be doing such a young thing.

PC: He must've been young.

PG: Yes, he was. He was a freshman medical student.

PC: Nobody would ask that question.

[Laughter]

PC: Another thing that you started is called the telehealth intervention. Tell me a little about that.

PG: We're actually still pioneering in that area. We have encouraged the use of technology in research, say—to research the use of technology to be able to improve patient care. Some of it is very low-tech technology and some of it's higher tech. Recently we got a fair amount of press because there was an interest in talking with anybody funding grants using latest technology, PDAs or their analogs in research. We are funding the only three grants funded on campus. One particular example is the use of streaming soap opera videos onto the phones and the PDAs. Teenagers watch these things on their PDAs. They contain health messages that we're streaming in, nested in soap operas. These are specifically HIV/AIDS prevention messages. It turns out that so far the response has really been quite positive in influencing behavior change. If we can test more of the technology to get the message out, that that would be very useful. So these studies may provide the foundation to do that.

PC: How do the kids find out about this?

PG: From popular teen websites.

PC: This was funded by a project grant as well?

PG: Yes, it was.

PC: In a particular community, or nationally?

PG: This is out of UMDNJ in New Jersey. New Jersey Medical Dental, what used to be Rutgers.

PC: Okay. I think it's a fascinating idea. I find myself, as I get older, just more remote from what the kids know. Even the young kids here, I just am in awe of what they know about the information that's out there. It sort of scares me actually. But I think it's a fascinating idea to use. You'll be on YouTube next.

PG: I'm happy to do that. Whatever it takes to get the word out.

PC: Well, interesting in terms of the whole public health aspect of it.

PG: Right. We have funded other studies which are testing programs along the same lines, but they're using more traditional approaches. I think the reason this got so much more press is because the methodology is innovative.

PC: As you say, you keep on the cutting edge. I never know where the cutting edge is going, but you certainly try a lot of different things.

PG: We are always guessing, aren't we?

PC: If you think that twenty-one year old made you feel old, think what they'll do now.

PG: That's right.

PC: Just to sum up some things, what do you think in your period of heading the institute, what impact or influence have you had on health policy in the country?

PG: What a great question. You know, it's always a tricky one to answer. It's a hard question to answer because our relationship with Congress is specifically defined, so we have to be careful that we're not too involved in policy. However, having said that, I think is that it's important to have an awareness that if you want to change policy, that you need to have the data to be able to convince people that an alternative is better than what is currently in practice. In order to do that, it's important to fund studies that will inform the legislators. We look for important areas that we can address and emerging health problems. Examples include HIV/AIDS, symptom management, especially in chronic illness, health promotion, health disparities, and the end of life. It's important to always remember that what we do is important to the health of the American people, so that the science we support should address the major health problems. And having said

that, if you can fund really good studies, then you want to make sure that the results get translated into practice.

PC: What's the impact of NINR on the nursing community? How much has it changed in the fifteen years or so that you've been there?

PG: I would like to tell you that it has changed the face of the field, but I don't know for certain. Having our conversations is difficult—talking about yourself and what you've done is something I don't usually do. People don't ask me those questions in the way that you are, so it's hard to do it without feeling a little narcissistic.

PC: I'm not going to apologize.

PG: I know. It's just hard to do this without feeling a little narcissistic. But I do think that first of all we provide the stimulus, we provided the resources, we provided some guidance for researching the most important health issues facing our populace. We also have provided the wherewithal for people to search for approaches that will increase quality of life, and also prevent some of these illnesses. If we can't prevent them, at least we can decrease the disability and increase the quality of life, and that's important. Depending on how you look at these things, and I have to be a little careful because I'm an outsider/insider as it were. I have been socialized in a field other than nursing beyond my undergraduate work—the survival of a field and the prospering of a field are very

much liked in other disciplines to the level and preponderance of scientific inquiry and scholarly work. Nursing is not a new field, but nursing research is still relatively new. We're celebrating our twenty-fifth anniversary now. So it is really critical in my view that we keep in our awareness how we can move the field forward, renewing the face of the field and renewing the future of the field. How we do that, investing in that future, is to provide the best scientists and researchers and leaders of the future. That is one of the things that we do very well I think.

PC: Is there something that would have all the data on this? In other words, the growth in nurse researchers or nurse scientists from let's say 1985 to 2005?

PG: The best sources for that information are the AACN and the NRC.

PC: It's just in terms of looking at the changes and the growing sophistication of the kinds of research projects that they're doing. I would guess that if I went back to that first panel from 1987 and asked them to look at the group coming through now, they would be somewhat amazed at the difference in the research projects. I won't say quality, but certainly the kinds, and the scientific level I would guess would have changed considerably in the twenty years.

PG: Yes, it has. And that's a little difficult to answer that question in terms of the quantifiable kinds of indicators. But it is very clear that there is little argument about that.

PC: And the training programs that you sponsor are different in what ways from those that HRSA still funds?

PG: We fund more of the doctoral research programs. They fund more the manpower, you know, the master's and practitioner programs. We fund pre- and postdoc research training only.

PC: And those have grown as well.

PG: Yes.

PC: Do you discuss the dilemma of producing more or giving pre-docs and especially postdocs more research opportunities and as a result take them out of the faculty pool?

PG: We have data that show that people who do a postdoc get funded nearly five years earlier than those who do not.

PC: But do they go into teaching? I mean we were talking about the shortage of teaching and with the retirements.

PG: In order to be faculty on most university campuses, a researcher, so the teachers that are on the faculty are also the researchers. They do both.

PC: But they would get under program grants rather than postdoctorate grants, right? Or would a postdoc also be teaching?

PG: No. Postdoc isn't teaching.

PC: That's what I meant.

PG: A postdoc is usually two years. I've been asked how can I justify expecting people to do postdoc or supporting people to do a postdoc when we have such a faculty shortage. That is the short-term view. Most deans realize they can pay five years of salary while that person is struggling to get a grant. Or they can wait two years, let them do a postdoc, and then when they come on the faculty, they're going to get funded five years earlier. person. So this new person is going to be funded probably while another person is still struggling. If you're a dean, it does make better sense to get people who are geared for success on your faculty than the ones that are going to have to struggle.

PC: Is the competition for your postdocs pretty strong?

PG: It is pretty strong. We would like for it to be even stronger.

PC: I don't mean for their applications, but for nursing schools to hire them.

PG: Oh yes. The nursing schools really recruit them. NINR also has an intramural program on the NIH campus for postdocs and those people can write their ticket when they leave.

PC: Have men gotten into the field much at all?

PG: They have. We define them as under-represented groups, so we're trying to increase the number. I do believe that diversity of all types is important in a group and in a field, because each person brings their own perspective and experience. I think that's very important.

PC: Maybe the only institute doing that.

PG: I think we are actually the only institute who considers men under-represented. [Laughs]
In fact, I'm sure we are.

PC: Over the time, what do you consider your best accomplishments? I know we sort of started with that question the last time and then we departed.

PG: I think the overall increase in the amount and quality of science that's being done, the innovative training programs that we have, the strategic areas of science that we're pursuing.

PC: And those are the ones we talked about?

PG: Right. Those are the ones we talked about, and also including health disparities and end of life. So it's symptom management, health disparities, end of life, and health promotion and prevention. So I think those are the best.

PC: Okay. Do you think NINR will be considerably different ten years from now?

PG: I expect it will. How exactly it will be different is hard to predict, but I think that we are going to be much better integrated into the campus now than we were. I'm chairing several major committees. Our science has a higher visibility than it used to. Since this is a largely basic science, nonclinical, nonbehavioral campus, (the critical mass here is basic science), that is actually not a small accomplishment.

PC: So you're no longer the Rodney Dangerfields?

[Laughter]

PG: I think I would expect that in the future that that statement will be even more true, that we will be even a more important part of the overall activities that are going on on campus, and that will be reflected on campuses across the country. When you think about us moving forward in the twenty-first century, the issues that we're dealing with are more related to areas of chronic illness and symptom management. We don't have cures for many chronic illnesses. But the science we do is what people want. What they would like is less discomfort. So there are a lot of studies that we are supporting for symptom management, for quality of life. That's really important for this growing population. They're starting to demand help and we're doing those studies.

PC: It strikes me there also be a change as NIH, a generation that you started with at NIH, it'll also have changed.

PG: Yes. You know, that's a very important point. The role of nursing across the country is changing dramatically. In fact, someone was in my office earlier today from Building 1 and we were meeting on a business issue, and at the end of the meeting she said, "I want to talk to you about something personal. My daughter wants to go into nursing. Originally she didn't think that it was that exciting, but then she went to the hospital and she saw what was happening. She said nurses are running everything. They're doing everything. They're leading the place, the doctors are never around." That's actually the case, that things have changed markedly. But there are some people here who trained a

long time ago, came to NIH, and they've never left. So their view of what nurses are doing is what they were doing thirty years ago in those older settings. We're changing things around the country, but we have to change things here, too, and we're doing that slowly but surely. But there are a few traditional thinkers here still. We're working on that.

PC: So is age. So is time, huh? [Laughs]

PG: That's it. I figure time is on my side here. [Laughs] But that doesn't mean you give up in the meantime. We have an intramural program now that is very small but it's growing, and it has wonderful opportunities for young people, and that's how we started it and that's how we're continuing it. Part of your currency in the clinical center at NIH and intramural programs is how many protocols you have. We didn't have any protocols because we had a small program. Eventually we plan to be able to say, "we might be small, but we're in the top twenty in clinical protocols here."

PC: So I can use something about the chapter heading on the stealth agenda of nursing?

PG: No, you know what it is? You keep on working until you have something important to say but you just don't raise a lot of fanfare. When you're small, you want to make sure you get enough of your irons in the fire before you start announcing things.

PC: Okay. Will I have something to write about?

PG: Oh yes. We talk about the intramural program as a separate thing, and there's actually a lot to say about that. It's an exciting program, and it is created on an interesting principle. I started out thinking we would have a traditional NIH intramural program like everybody else did but I realized that that is not necessarily what the community needs. So our program is conceived with the idea of looking at the whole community and what can we do that's unique that will drive the field forward. And what we can do is to train people in a certain kind of science. We can train them to work in teams better here I think. And we can also train them to be collaborative and to do science in a much more open and collaborative way than the more traditional ways of doing science.

PC: More traditional in terms of the NIH sense?

PG: Yes. But we're also catching up. So in some ways, nursing is in the research phase that the rest of the disciplines were a while ago where they were doing science more singularly. So now we're creating more team science. Those in the intramural programs here can learn to speak the language of many disciplines and that will help prepare them to succeed on college campuses. Typically what often happens to most faculty is they stay primarily in their own schools. When they get to an advanced level of responsibility and they have to go out and about the campus and may not know the language because they haven't been exposed to it. The trainees here get exposed to all kinds of science and

all kinds of perspectives. The intramural program's kind of a rough and ready place, but it's also a pretty collaborative, cooperative place, and science is the currency here. So if you have a good idea, people want to talk to you, they want to help you, they want to work with you.

PC: It's interesting when Ada Sue talked to me about the beginnings of that intramural program. She and I guess it was Jan Heinrich had a joke about finding the—they'd always heard there was a snake pit at NIH, but it wasn't until they started the intramural program that all the snakes came out.

PG: Oh, how funny. I can only imagine what it must have been like in those days.

PC: Apparently there was a great deal of hue and cry from the bench scientists who said this of course couldn't happen.

PG: Well, the other thing is too, the new director was reportedly not very complimentary of the intramural program when he came.

PC: New director—

PG: Varmus. He was a basic scientist and a Nobel laureate and was probably unfamiliar with any nursing research. He seemed interested in learning about it, though. The program

was a larger percent of the overall budget then, and we were in a steady state of funding , so that must have been on his mind as well.

PC: For intramural research.

PG: Yes. It was a higher percent budget.

PC: Yes.

PG: Ada Sue was going by the traditional formula of what an NIH institute is. That was a reasonable approach.

PC: And some of the congressmen were insisting that they get to be more like an institute.

PG: That's right. It's important that all of the decisions that are made be considered within context. I know it's very fashionable to not agree with what your predecessor did, but I have to tell you, she had the challenge of leading an entity which was entirely de novo. This is one of the only institutes that was created de novo.

PC: Yes. The others were split off.

PG: They were split off. De novo means you have no pencils, no pieces of paper, no space, no nothing, and they came as strangers. It wasn't just that NIH didn't want the nursing institute. NIH seldom wants new institutes or centers because it creates an administrative burden, and costs several million dollars to establish a new institute. NIH has never been in favor of it.

PC: It's your story.

PG: And even Harold said that in his book, too. So it wasn't just about nursing. I think the issue was that nursing was so different from what they were used to that they couldn't imagine it fitting in. It was not enough NIH had to create a new institute, but why that one?

PC: That was partly it. I suspect some of that was true for dental research when it came in, too.

PG: Perhaps, but it's pretty old now. Perhaps someone else could tell you.

PG: But I think nursing has an advantage. The relevancy issue is, I think, what keeps us most interesting. I view it as a process, of translating yourself to these other groups. I've spent

a lifetime of translating myself to virtually every group I've been part of. Being the first woman in my graduate program in the School of Medicine to start at the bottom and to graduate with a Ph.D., and being the first woman in almost any gathering that I found myself in for the next fifteen years or so, was a good learning experience and good preparation.

PC: That to me seems late.

PG: The medical school had almost fifty percent enrollment but the graduate school had very few, especially the basic sciences. And of course physiology was considered the backbone of the School of Medicine. So that was an intense environment. But it was a good learning experience. Later, when I was the acting director in the National Institute of Neurological Disorders and Stroke, those experiences were helpful. I had been the Deputy Director for about nine months and suddenly found myself running an institute of about a thousand staff, with the leadership mostly of senior men. I wouldn't have been their choice.

PC: And that's in the eighties.

PG: That was in the nineties, 1993.

PC: What choice did they have?

PG: Well, they could've been uncooperative. They were very professional, and I knew that they would want the institute to be successful. I realized how I was able to run the institute because during most of my career, I had been challenged to do unusual things and create linkages in situations where I wasn't a natural fit.

PC: Could you apply that also to NINR where you did not have the gender differences?

PG: Yes I could in another way actually. Many in the community consider me a stranger. I was not who they were expecting here, nor who they were looking for. And there was someone in the community who was very beloved who everybody had sort of figured was the natural candidate. But also because in my post doctoral program, I was raised in a different scientific culture. In many ways, I must have seemed a foreigner to them, too. I tend to be analytical and left-brained, compared to many people who enter the clinical sciences.

PC: Left wing?

PG: Left brain. Analytical, not affective, because that's how I'm trained. I'm a basic scientist who's trained to be analytical. It is an overlay on my nursing background. So I had to learn to deal with this culture again because it's quite different. Actually, I think the combination has worked out pretty well.

So yes, I think that those early graduate school experiences were helpful. They helped you to get used to critical thinking and criticism, so that you didn't take rejection personally. I understood that the focus on my gender was more related to the fact that I was an unfamiliar. Often when I'm in a group where I am unfamiliar, I recognize that there are certain common elements of behavior, so it actually has been very helpful, even though I'm sure there might be other ways to learn that lesson. So overall that background has been very helpful, and it's been helpful here at NIH, too.

Another thing that's been helpful is being able to learn from my experience in other fields, because it has given me the courage of my conviction to know that I can look long term and use that experience in doing so. When I first started in neuroscience, people said the area of stroke was not good to focus in and that there wouldn't be funding. It seemed that a half a million people a year got strokes. There ought to be some funding for that. And of course then there's this whole institute at NIH called National Institute of Neurological Disorders and Stroke. There's a whole institute named stroke. When I was a student and wanted to do neuroscience, I was advised against it and told that there would never be any departments of neuroscience. There were 300 people at the first Society for Neuroscience meeting and now there are 40,000. So along the way—

PC: Things have changed.

PG: Yes. First, I think you have to have the courage of your convictions, look at the indicators and go for what you think is good. And second of all, things over time can really change. Over a period of less than twenty years, I saw stroke grow from a small field to being one of the most exciting places to be. When I first came to NIH, I had difficulty talking investigators into doing science in my area, in stroke. Now it's burgeoning. I think nursing research is growing in a similar fashion.

PC: That's what all these kids that are coming up now will have. They won't notice the difference.

PG: That's right. They absolutely won't, and it's really exciting when you think about it. Are we where we want to be yet? No. Is it going to take some more time? Yes. But have we made some good inroads? Absolutely.

PC: Well, I want to thank you very much. I've enjoyed both our conversations immensely.

PG: I'm glad to hear that. It always worries me having these conversations because I don't—frankly I don't talk about myself very much. I like to talk about what I do, I like to talk about the institute. I hope there's material in there that will be useful.

PC: I know there will be. I've got to finish up—I'm going to do the revisions on one, finish up the revision on two, and then start this one.

PG: Yes. I think they put off also asking me a little bit because—oh, I know. That was right before I was going away, and also it's been just a little—I've been traveling a bit.

PC: That's okay. I work around these things. That's always expected.

PG: I figured you probably know how to handle all these circumstances.

PC: I'm not sure I know how to handle all of them, but enough to get by I think. I probably will be back in touch, but thank you. Now I've got big chunks to digest, so I'm going to start eating shortly.

PG: Okey-doke.

PC: Thanks very much.

PG: Sure enough. Bye.

PC: Bye.

End of Interview