

Interviews of the Margaret MacVicar Memorial AMITA Oral History Project, MC 356
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Margaret (Margie) Keller – class of 1968

Interviewed by Jean Choi, class of 2006

June 3, 2013

Margaret MacVicar Memorial AMITA Oral History Project

Margaret (Margie) Keller [SB Physics, 1968] was interviewed by Jean Choi [SB Literature, 2006] on June 3, 2013 on the MIT campus. She became a pediatrician focused on infectious disease after earning her M.D. from the Albert Einstein College of Medicine. (She also attended Washington University's School of Medicine in St. Louis.). Dr. Keller did her internship, residency and postdoctoral fellowship at University Hospital at the University of California, San Diego Medical Center and School of Medicine.

At the time of this oral history, Dr. Keller was Professor of Pediatrics in the Divisions of Infectious Diseases and Immunology at the UCLA School of Medicine Harbor-UCLA Medical Center. As she notes, early in her career, Dr. Keller became one of a small number of experts on breast milk immunology, and then on HIV and AIDS in children. She also refers to attending her 45th reunion, which was held at the time of this conversation.

CHOI: Let's talk about your childhood. Where you were born?

KELLER: I was born in Boston, Massachusetts – in Dorchester! I grew up right on the border of Mattapan and Hyde Park.

CHOI: I know where that is. You're a Bostonian! How did you learn about MIT?

KELLER: My dad had gotten a master's degree in chemistry after World War II, as part of the veteran's program [the GI Bill]. So there always was this positive impression of MIT in the family [LAUGHS]. I heard about MIT very early on in my life.

CHOI: Do you remember what your father would say about it?

KELLER: It was just always very positive – what an outstanding school it was.

CHOI: After he got his master's degree, what did he do?

KELLER: Well, he worked in different things. He was, I think, mainly an expert in spectroscopy. But then he did geophysics for a while and optic-related things, and then eventually he got a position as a vice president of marketing at Applied Research Lab, a subsidiary of Bausch and Lomb out there in Los Angeles. The whole family moved from Boston to the Los Angeles area.

CHOI: How old were you?

KELLER: I was 18, and I had just finished my freshman year at MIT. That summer we moved to California.

CHOI: Who was in your family?

KELLER: My mother grew up in Boston and had a bachelor's degree in biology. She was a second-grade school teacher in Boston before World War II, and during the first part of World War II. Then she joined the Coast Guard as an ensign. Actually, my dad was an officer in the Navy during World War II, and they met at an officer's club dance in Miami, Florida. I'm the oldest of four. I have a brother who is a year and a half younger than I am, John. I have a sister, Marie, who is about two and half years younger, three years almost. Then I have a younger sister, Jeanne, who is seven years younger. That was the family.

CHOI: I'm going to take a guess and say for your family, education was very important, seeing as both your parents were very well educated.

KELLER: Oh yes, it was just assumed.

CHOI: Growing up, did you feel like you had to study hard? Were you a good student?

KELLER: I was one of those very self-motivated students. I was class valedictorian, of course. My grandmother had been the class valedictorian in 1908 in the small town of Springport, Michigan. I bought into the studying hard – much more than my siblings, although they all did get college degrees, including master's degrees.

CHOI: Did you go to a public elementary school?

KELLER: Well, I went to Catholic school. Having grown up in Boston, I find it very interesting to see what's happened to the Catholic Church education system. So many schools have closed. It is a revolution in Boston education. But at that time, in the 1950s and 1960s, there was a lot of education done by the Catholic Church, and the Catholic schools were excellent.

I first went to Jeanne d'Arc Academy in Milton, which is now closed. I also went to the Lieutenant Joseph P. Kennedy Junior Memorial School, which was a Catholic school in Hyde Park for three years – now closed. Then I went to St. Clare High School in Roslindale, and that's closed [LAUGHS].

CHOI: They all closed?

KELLER: They all closed. At Saint Clare High School in Roslindale, Massachusetts, there were 160 girls in my class.

CHOI: These schools were always all-girls?

KELLER: No. Through eighth grade it was co-ed. Only the high schools were all-girls. I went to an all-girls Catholic high school.

CHOI: Did you have a uniform?

KELLER: Oh, yes [LAUGHS]!

CHOI: What was it?

KELLER: It was a horrible navy blue jumper. It was just hideous. Again, my parents believed that they should send their children to Catholic schools, which, in fact, were quite excellent. My father had converted to Catholicism during college in Michigan, and there is no enthusiasm quite comparable to a convert. My mother had been raised as a Catholic. She was Irish Catholic and Scottish. She kind of rolled with it a little bit more. It was funny. At my high school, a lot of the girls were applying to Catholic colleges, but I didn't apply to a single one. My parents and I just assumed that we were going for the best. That wasn't Catholic education at the college level [LAUGHS]. I just went with it! That's how I got out of that very rigid religious education system.

CHOI: You got out of the legacy of Catholic schooling.

When you were going to elementary school and high school, did you tend to gravitate toward math and science or the humanities, or everything?

KELLER: I did think I might become a scientist, but I also was considering medicine. Yes, I did extraordinarily well in math and physics and chemistry, and I liked science very much. It's very interesting thinking about the decisions one makes in life. I was just thinking about this recently because a friend of a friend was contacting us because one of his children wanted to come to MIT. I said, "I would say probably other than the choice of spouse [LAUGHS] – my husband – it's probably one of the most important decisions I've ever made in my life." It was very interesting because I had gotten into MIT. I didn't get into Radcliffe, but I got into MIT, Wellesley, Vassar and Pembroke, which was the women's part of Brown, because in those days they had separate women's schools.

CHOI: I didn't know Brown had been separate.

KELLER: Well, it was part of Brown University, but it had a separate college for women, just like Radcliffe was a part of Harvard. I could see that my Dad was just hoping I would choose MIT, but he saw I was a typical teenager. The more he said positive things about MIT, it would have a negative impact, so he just stopped talking. He let me sort through it.

I finally eliminated all the women's schools, and then I was down to MIT or Pembroke. At that time, too, I think I was considering political science. I thought it might be interesting; I didn't really know much about it. I also thought MIT might be too much science. So when I went down to Pembroke to look at it, I actually, in their catalogue, counted 33 political science courses. At MIT they had 35, so I thought, that's not an excuse not to go to MIT [LAUGHS]. I think I was just intimidated by MIT, possibly since I was from a small Catholic school. It just seemed like a very, very hard school, which it is. It's an extraordinarily hard school!

I remember a conversation with my dad. I said, "But Dad, it's such a hard school! What if I flunk out?" He said, "If you flunk out, you'll go to another college and you'll be a star there!" That was his response! So I finally said to myself, "Ten years from now, can you say to yourself, Margaret Anne Eikrem" – which was my name at the time – "you gave up the chance to go to MIT?" I thought, "There's no way I could give up the chance to go to MIT." So I came to MIT. I'll tell you, that first semester, ho ho – because you know all these classmates had had AP this and AP that.

CHOI: You didn't have that?

KELLER: Nothing equivalent to them. I don't know if they called them AP back then. They came in with such advanced knowledge, and it was very intimidating. At around November, they would give freshmen an interim grade. I had a D in physics, but I really liked physics. It was just that I was starting off way behind everybody. Somehow, I just kept at it. A lot of the teachers would have tutorials, and I just kept at it. I had smart friends, too, who knew it all. By January I got a C in physics. By the end of the spring semester I had a B. Then I caught on and majored in physics. I ended up with all A's in physics by senior year. It's just the starting out that was so intimidating. But I was going to do it!

CHOI: One thing that I did notice was that your father was very encouraging of you as a woman.

KELLER: Oh yes. As a matter of fact I still remember a conversation when I was in about the seventh grade. I said, "Gee, I wonder what it's like to be a woman doctor." I can remember that that was probably the late 50s. There were some women doctors, but I certainly didn't know any of them. There were not very many of them. I remember my father saying, "Oh that is a wonderful field for a woman." This was his response! He said, "I have a very good friend from college who is a specialist in ophthalmology, an eye doctor. She's done very well." Just positive, positive, positive reinforcement all the way. I never felt I had limitations.

CHOI: Was he progressive for his time?

KELLER: He was just dad [LAUGHS]! I mean, I don't think so particularly. It was just that my parents were educated people.

CHOI: He probably saw also how bright you were at school.

KELLER: He didn't want me to have any limitations. It's funny, because I really loved physics, but one summer, the summer after freshman year, when we still lived in Boston, I worked in a biology laboratory. We moved to California September 4th. I got a job in Jerry Lettvin's lab at MIT [cognitive scientist Jerome Lettvin, Professor of Electrical and Bioengineering and Communications Physiology] washing dishes and helping with the animal experiments on the nervous system in cats. I think it was actually Dr. Pritchard [Cecil and Ida Gree Professor of Physics David E. Pritchard] whom I helped. So that was sort of an introduction. It was an introduction to seeing science at work. They were studying nodes in the nervous system of the cat's spine, looking at electrical pulses.

The following summers it was very difficult to find a job in science, but then I did get jobs at the Jet Propulsion Laboratory, which was two miles away from where we lived, in La Canada [California]. It is interesting how the world works. I was trying very hard to get a summer job as an MIT student. It really wasn't until my father – he was vice president of marketing – talked with the top person in personnel at his company, and this person called his friend at JPL, that I got offered a summer job at JPL in the physics section. It was fabulous.

CHOI: What did you do?

KELLER: I worked on different things. I actually worked at that after my first year in medical school, too. They paid wonderfully! At the time, you have to remember, tuition at MIT was about \$2,000 and I think I earned about \$1,500 at the summer job. I worked on a solar wind detector on the moon.

CHOI: Oh my goodness!

KELLER: I remember the demonstrations at MIT when tuition was increased: “\$1,900 – too damn much!” I remember that [LAUGHS]! I think that was my senior year at MIT.

I worked one summer at JPL on this lunar probe and the solar wind – just doing calculations at a desk. I was not even running computer programs that first summer at JPL. Subsequent summers, I did do programming, because I had learned FORTRAN 4. Then, the last summer that I worked at JPL, which was just a wonderful environment, I had this whole project correlating the intensity of the solar wind with the intensity of Jupiter’s red spot, as correlated historically with data about solar storms. We wrote up a little report, and it got published in the JPL Report.

What I learned from all that wonderful experience at JPL was that I was really a people person. As much as I liked physics, I decided I wanted to do something more people-oriented.

Then, at the end of my junior year – this is an example of the little things that influence your life – I had to make a decision about medicine vs. physics. A bad spot was Quantum Mechanics 2; that was a D. I was just so glad to have passed that course [LAUGHS]! My dad told me that he had gotten a D in Quantum Mechanics, too!

To qualify to apply to medical school, you had to do organic chemistry. Organic chemistry was one of the most hellish courses that you can imagine at MIT at that time. It was way beyond. I had friends who were applying to medical school who had already done it. I saw how it totally dominated their lives, and I just didn’t have time for that because I was concentrating on the physics, which I liked, despite quantum mechanics.

Finally, at the end of junior year, I decided to go to medical school. I would just have to bite the bullet and take organic chemistry. So I had to sign up for that one semester of organic chemistry, my first semester senior year. MIT [LAUGHS] put in a new policy. Of course now, they’re much more “pass/fail,” but at that time there wasn’t much that was “pass” or “fail.” You got a grade, let me tell you. They said that seniors could take one course not in their major, which was physics for me, “pass/fail!”

CHOI: That’s amazing!

KELLER: This was a lucky break for Margie Eikrem. So I signed up, and to top it all off, they got this wonderful new instructor whose whole approach to chemistry was more like physics, and he helped the students to understand the basic reactions. He would prepare for us this little summary sheet about the basics of what you really had to know well to do well on the quizzes – and there were lots of quizzes in those days. At the same time as I was taking organic chemistry, I was so busy with the classic mechanics and things like that in physics, all these big-time physics major courses. I really had to do well, because quantum mechanics hadn't been so good. I just really didn't have much time for chemistry, so I would concentrate on what he said was important, whereas others would memorize 50 million things. They were getting confused. I was getting A's on every quiz.

CHOI: Oh my gosh!

KELLER: Then I thought, "Oh my god." I knew that I didn't have the depth of knowledge that others in the class had [LAUGHS], and I didn't really want to take the final exam. I went to this new professor and I said, "You know I am taking the course pass/fail, and I have A's on all these quizzes. Is there any chance that I could get a 'pass' for this course without taking the final exam?"

CHOI: That's a great negotiation!

KELLER: He said, "Well, yes of course. But are you sure you want to do it? You have a straight A!" But I knew that the final would be the death of me! So I took that pass. I met my organic chemistry requirement for medical school, and I got in to medical school. Actually, I had already been accepted in medical school at the time of that negotiation!.

CHOI: So you were taking many physics courses, and you loved physics.

KELLER: I liked physics, but I decided I didn't want to be working at a computer.

CHOI: Because you wanted to work with people? So how did you choose medicine? Reaching back to your childhood dream?

KELLER: Well, I had always been interested in medicine and the science of medicine. I ended up doing medical research in addition to taking care of patients. I just really loved understanding how the body worked in illnesses. It was just a much stronger pull. Of course, medicine was a different world back then. A lot has changed since then.

CHOI: Just going back to the beginning of your MIT career, where did you live?

KELLER: I lived at McCormick Hall.

CHOI: It was built by then?

KELLER: It was built the year before. It had opened in 1963, and I came in 1964. It was only one tower. That, I can only say, was a fabulous experience. It was sort of like a big sorority, and pretty much almost all the women on campus were there. You ate all your meals together. I know it changed so much by the time my daughter, Karen [Karen Keller, SB Brain and Cognitive Science '04], came in 2000, but I mean, you basically had dinner with a group right there at the dorm.

CHOI: You had roommates right?

KELLER: Well, no.

CHOI: No?

KELLER: Because the year that I came, the second year of the dorm, they pretty much filled up the dorm, and a few girls were in doubles. Some of them were in doubles, but most of us got singles.

CHOI: Really?

KELLER: I had a single room, which I never had at home; I had shared a room with two sisters, so this was fabulous! To have my own room! The next year, after my class, they had to make all the doubles into triples, but those of us who had our single rooms could keep them. We (my friends and I) managed to move around so that the fifth floor was ours, the half of it. We had single rooms.

CHOI: With singles you still felt very socially active?

KELLER: Oh, because there were so many meals that you ate together—it was more like a sorority feel, but it was bigger. It was bigger than a typical sorority. You just knew all the women on campus. You knew them.

CHOI: Because also there weren't that many, right?

KELLER: I think when I came there were 43-44 women in my class at MIT, which was a very small number. Actually 36 undergraduate women graduated in 1968.

Some were in combined master's programs, so they did not graduate with the class.

CHOI: Was your physics department very male?

KELLER: Oh yes. Totally. But three of my closest female friends were also physics majors.

CHOI: Was it difficult for you socially to study? How did the professors treat you, differently? Or not?

KELLER: No, I didn't really feel there was any prejudice. I didn't feel like I was treated differently. See, it's very interesting. If there were prejudice, I didn't feel it. There was Anthony French [Professor of Physics 1962-2018; dedicated to undergraduate physics education; American Physical Society fellow], a new physics professor who took over freshman physics. He was such dynamo. He would even do tutorial sessions in the dorms and stuff like that. It was a whole plan to teach physics to the freshmen – not that it wasn't hard, but I really did not feel the limits from being a woman.

CHOI: That's fantastic.

KELLER: At that time, we all had to do a thesis, you know. Study then was much more independent. I saw through my daughter how interactive study had become. It's a whole different thing now.

CHOI: What was a day like for you? You would wake up, you would have breakfast downstairs, you would go to classes until the afternoon?

KELLER: Well, you usually came back for lunch at the dorm, and if you couldn't make it for lunch at the dorm, they would pack you a lunch bag. There were classes in both the morning and afternoon. Not much in the evening. Freshmen quizzes were every Friday morning, so you would study physics for a week and then chemistry for a week and then calculus for a week. Probably not the best system.

CHOI: They would prepare a box lunch? Oh wow!

KELLER: Which you could take with you. I guess they don't do that anymore (LAUGHS). Where did you live when you were at MIT?

CHOI: I lived in New House. It's farther down.

KELLER: Yes, I know. It didn't exist then. The whole interactive style – there was a lot of social support and a lot of fun.

CHOI: What did you do for fun?

KELLER: I don't know! We just had a lot of fun. Nobody studied on a Friday night. I don't think even on Saturday nights. There were these LSC movies right on campus – like 26-100, and everybody would go. There was just the same old college fun stuff. I played tennis and also enjoyed the swimming pool.

CHOI: Were you friends with men and women?

KELLER: Well, I didn't date that much, a few dates here and there. Not that much interaction with the men until my junior year, when I met my husband-to-be.

CHOI: Where?

KELLER: There were two lab assistants, physics grad students. He was in physics. He was like a teaching assistant – what do you call them?

CHOI: Teaching fellows?

KELLER: Yes, he was a grad student, and he worked in the major physics lab for the physics majors. That whole junior year was this killer laboratory course, 8.07, that would be quite a sink in your time. He wasn't actually my teaching fellow, but he was around, and I met him. That improved my social life quite a bit! He liked it, too, because he got to meet all my friends. I wasn't really big on the dating scene. We didn't have study groups that included men. It was more independent study.

CHOI: Did you use the Cheney Room a lot?

KELLER: Where's the Cheney Room?

CHOI: In Building 3 on the third floor.

KELLER: Which one's building 3?

CHOI: It's kind of toward the middle.

KELLER: Oh yes. No, not at all, I didn't use it. The Student Center opened up.

CHOI: What was that like?

KELLER: It was fabulous! It's all different now, but the whole top floor was the Student Center library, open 24 hours a day, and you know how much we all studied. It was just across from McCormick Hall, so when that opened up we did study a lot in that library.

Except for an occasional date here and there, I really wasn't big on the dating scene until I met my husband. I was 19 when I met my husband.

CHOI: How long did you date him for before you got married?

KELLER: Well, let's see. I think about four and a half years, but we weren't in the same city, because I went off to medical school.

CHOI: You did some lab assistant work first before you went to med school?

KELLER: No, I went right to medical school.

CHOI: Where did you go to medical school?

KELLER: At that time, of course, things weren't that serious with my husband until after all the medical school applications had gone in, so the only place I applied to in Boston was Harvard, which I didn't get into. They took a good female friend of mine. But I didn't apply to any other schools in Boston.

They used to provide counseling for us, but for nothing other than what are the top 10 medical schools and stuff like that. Washington University in St. Louis was thought of very well, so I applied there. I went there. Also Washington University gave me a \$1,500 scholarship each year when the tuition was only \$1,800 per year. They also gave me a \$500 loan each year. It's funny, because in the retrospective scope, I remember when I applied there and got in, they offered me one of the M.D.-PhD program positions which would have paid for everything. But I was going to be away from Rob, and it was going to add to the time commitment, and I just thought I had to get the medical school degree quickly.

CHOI: Because he remained in Cambridge?

KELLER: He remained in Cambridge. He didn't get his PhD for another two years in physics. He worked in Theoretical Particle Physics. So I went off to Washington University in St. Louis, and then he was getting his PhD. He was finishing up

about August of 1970 when I was in medical school. I had decided in February 1970 to transfer medical schools so we could get married. He had applied for jobs. There wasn't that much for him in St. Louis, so he actually got offered a position someplace in Maryland and in New York City. New York City has many, many medical schools. So once I knew that he probably would be at New York's City College as a postdoctoral fellow, I applied pretty much to every medical school in New York for a transfer.

CHOI: Which is difficult, right?

KELLER: Yes. The reason for the transfer was so that I could get married. It was just a totally social reason. So some of the schools kept sending me a first-year application. The schools weren't that receptive, but there were two schools, both Jewish schools, that seemed much more tolerant in accepting transfer students for some personal reason. They had dealt with Jewish people who had escaped from oppressive conditions in Eastern Europe, so right from the beginning they were willing to consider it. I did end up being accepted at Albert Einstein College of Medicine in the Bronx and also at Mount Sinai. I think Mount Sinai came through a couple weeks later, and I had already accepted Albert Einstein. I'm not Jewish, but only those two schools were willing to consider the transfer of a medical student so she could get married!

CHOI: Well, had you been doing well in medical school?

KELLER: Yes, I did fine, but I wasn't the superstar in the medical school class.

CHOI: Was it a big shift going from MIT to medical school?

KELLER: Medical school was easy compared to MIT. That's how intense the education is here. You're set for life. You learn a discipline. You learn how to approach science. You learn how to think. Just memorizing that material in medical school was nothing. A lot of the students had done the work before. It was all new to me. I had done very little in the way of traditional pre-med courses, which a lot of medical students had.

CHOI: But you had your learning skill set from MIT.

KELLER: Yes, it really is a training that made medical school absolutely easy. But, you know, it was only when I applied to medical school that I felt a little prejudice against women.

CHOI: How so?

KELLER: I'll tell you exactly – which is fascinating, because it seems like prejudice to me, now that I think about it. At Washington University I felt no prejudice. I think maybe about 18% of the class were women. I never felt any prejudice there as a woman. At Albert Einstein I think there were also about 20% or so of women in the medical school class. I never felt any prejudice there as a woman, never. But when I was applying to medical school I still remember being interviewed at Harvard and being asked all sorts of personal questions. Did I have a boyfriend? I said, "Yes, I probably would marry him." The interviewer said, "How are you planning to combine this, and what about children?" I said, "I'm planning to do that. I'm going to do it!" I had never in any way felt any limitations on my expectations that I would succeed. But there was prejudice there. It was just that those questions were strange. Now it's all illegal: you could never ask those questions.

Then I remember Christmas my senior year, after I'd already been accepted to Washington University, I went up to UC San Francisco, and I was interviewed by this very senior woman. She probably looked to me like in her 60s, which seemed very old at the time [LAUGHS]. I hadn't yet gotten accepted there. Just all sorts of concerns came up. This was from a woman who had devoted her whole life to medicine. For her generation, it would have been extremely difficult to combine medicine and a family, so she was still operating on that model – which was not the mode that I was in. And then she even said to me, "Well, so what are you going to do if you don't get into medical school?" I said, "I've already been accepted. I'm going to go to medical school because Washington University has accepted me." So there was a lot of prejudice.

CHOI: It was from a woman, too.

KELLER: That's right. Both. Just a perception of what was possible. It's so different now. It was just interesting. Then, in medical school, I just became very interested in pediatrics. It's funny that the way things worked out for me. They had tremendous pre-clinical years at Washington University, and at Albert Einstein they had absolutely fabulous clinical experiences – the choice of hospitals and the breadth of it. Somehow, when I ended up on my pediatrics rotation, I ended up in the communicable disease ward for infectious diseases. I was just totally fascinated with it. I saw whooping cough, I saw tuberculosis, I saw measles, I saw meningitis. I just saw everything, and because the pediatrics department ran the communicable disease ward it was mostly children, with an occasional adult. Obviously, I just liked the pediatrics ward.

I went into pediatrics, and then it became obvious to me at the end of my second year of training as a pediatric resident that I just loved infectious diseases. I decided to get additional fellowship training in that and become a specialist in pediatric infectious diseases. It is interesting. You look back about things. I guess our generation was really – people my age were really the ones that benefited first from all of the women’s lib work and all of the women’s rights things. I wasn’t really an active women’s libber. I just expected to be treated fairly!

I never had any trouble dealing professionally with men. I mean, I went to an all girls’ high school, but a boys’ college. I could interact just fine with men, professionally. But, it is interesting. In my career-- Now I do imaging and spectroscopy of the brain in children who were infected with HIV from birth or prior to birth. It is kind of funny that I would have ended up in spectroscopy, because my dad was a spectroscopist. It must be in the genes. I care for the children with HIV, and I take care of them in addition to other children with infectious diseases. My hospital is a UCLA-affiliated hospital, so I’m on the faculty at UCLA.

It’s interesting, just looking back over that career. If I had taken that M.D.-PhD offer at the start of medical school, I probably would have gone into some whole different career path, endocrine or some other, who knows! I didn’t really know I loved [working on] infectious disease at that time. Maybe I would have ended up in infectious disease anyway. But the way I did it was that I really liked clinical infectious diseases, and I went into the research part because I liked the clinical infectious diseases.

As a new faculty member, I was into breast milk immunology. I was one of the select group of few breast milk immunology experts in the world, and we tried to define what were the protective factors in the milk. Then, after I had been on the faculty about eight years, I had a sabbatical, and I became a mouse immunologist. This was to study the effects of antibodies coming across from the mother mouse on the developing baby mouse’s immune response. So I did that for another 10 years. Then HIV overtook pediatric Infectious diseases. It became this horrible disease, and we didn’t have good treatments. Everybody was afraid of it. Because I had both the immunology and the infectious disease expertise, I proposed to my chairman that she just let me take over the HIV program for the children at my hospital, in 1991. I would develop it and get that whole program going, which I did.

CHOI: Wow.

KELLER: As part of that I became very much a part of international research networks. It used to be called the “Pediatric AIDS Clinical Trials Group.” Now it has a different group, “IMPAACT: International Maternal Pediatric Adolescent AIDS Clinical Trials.” But we became very interested in preventing transmission from the mother to the baby. That’s a huge success story. I was part of the studies, and had patients on those protocols to try to figure out the best way to prevent mother-to-child transmission.

We figured out if you treat the mom and the HIV viral load is undetectable in the plasma, you have a wonderful chance of preventing the baby from getting HIV. We have to solve this in Africa now. Maternal transmission is finally down in Africa, the mother-to-baby transmission. So I was very much into these clinical trials. I saw the revolution.

When I took that program over in 1991, it was so depressing. Children were dying of HIV, and it was very sad. I even remember saying to my husband, “Honey, I’m only going to do this for about five years because it’s too much like cancer medicine. I’m not into it. I’m not built like a cancer medicine doctor.” It was too sad. Then the whole revolution came, new drugs. I mean, we had all these protease inhibitors and new drugs, combination cocktails. We were able to provide a very high quality of life for these children, and most of them grew up. I saw the whole thing. We transfer the children around age 21 to the adult service. They survive to 21. Now, not everyone survives. There have been some disasters involved with secondary infections or cancer. Adolescents in particular are challenging because they can sometimes go through a very bad phase of not taking their medication, and it can go so badly.

CHOI: Do you work closely with social programs to make sure for instance that people are taking their medications or dealing with depression?

KELLER: Yes. We have a whole team that we use. We have psychiatry and we have social work. But it’s still very challenging. Then during that time I just became more and more fascinated about the effects of HIV on the brain. That was at a time when the adult HIV doctors thought of brain manifestations as a late manifestation of someone with very advanced disease. Now we’re finding out that that’s not necessarily the case. If you do very extensive testing with subtle neurocognitive tests, 30%-50% of the HIV adults have results that aren’t quite normal.

We in pediatrics, of course, had always seen the effects of HIV in the brain because the children who acquired HIV when they were not really immune-competent – it’s called HIV encephalopathy – we had a lot of children with brain

effects. The key issue is, which of these wonderful medicine cocktails that make the HIV virus undetectable in the blood is best for the brain? How can you figure it out? Are there better imaging devices that can be used instead of waiting for patients to fail on a neurocognitive test? Should we be following the children and youth who have had HIV their whole lives more closely with better noninvasive imaging of the brain? Of course results would be applicable to adults, too, but I focused on my unique population of children infected from the mother at or before birth. Spectroscopy (a very non-invasive technique) basically uses MRI techniques, so it's not X-rays. We have had a number of studies in that area, and now we're branching out to diffusion tensor imaging and other MRI techniques.

I have a partner who is a physicist. I don't claim to be a physicist in this part at all. I'm the clinician. I can understand the clinical aspects and we can work together. That's been a very valuable partnership, rather unique, because you have these PhD physicists with all their wonderful capabilities for developing new techniques, but they can work with clinical experts to apply it and interpret it and work with it, which has been wonderful. We just got a new NIH grant to continue the studies. It's very interesting.

It is also interesting to look back at the research spectrum that I had. I started out studying whooping cough. Then I moved to breast milk immunology, which was an eight year run or so, or 10 years. Then I became a mouse immunologist because I thought it would be more relevant to see what the effects of transplacental antibody coming across from the mother to the baby would be on the baby immune system's development. I did that for 10 years. Meanwhile, clinically, HIV was taking over, and the clinical challenge of preventing transmission, not just from the mother to the baby but to anyone, became an important challenge. It has been very exciting to be part of that and to see many successes. From that clinical trials base it has been fun to spring forward to trying to do something with the imaging of the brain to see if we can develop better technology to follow these children. These children are now long-term survivors and are becoming adults. Basically, we want to see if the HIV drugs are working in the brain or are they causing any harm.

CHOI: This whole time you have been working a lot, and you have been doing research. Did you have your daughter when you were a faculty member?

KELLER: Yes. I was assistant professor when Karen was born in 1982, and I was 34 at the time. My second daughter, Lisa, was born when I was 39. I was already associate professor by the time Lisa was born. I probably wouldn't be able to afford it now, but I had a full-time, live-in nanny the whole time. She became like the

grandmother. She was part of our family, but she went to her family on the weekends. Then we even helped sponsor her for a green card. She had come from the Philippines and overstayed her visa. She had applied for green card status. We supported it. When she got it, her husband came over. They were the grandmother and the grandfather.

CHOI: Like a family.

KELLER: They are part of the family, though more recently, Vicky passed away because she had bad heart disease. But Armando still keeps in touch with us. They were more like grandparents for these girls. I have been luckier than anyone else I know in terms of arranging that childcare.

CHOI: How did you balance such a busy work schedule and having a family?

KELLER: Now it's even busier. The expectations for the faculty are very demanding, in both research and clinical care, so I think it's harder for women faculty now. At the time when I started out, it was a little bit more of a relaxed atmosphere.

CHOI: Really?

KELLER: Yes. Unless someone was critically ill, we didn't have to come in on the weekends. Now you're there every day. Anyone in the hospital is so critically ill, otherwise they would be taken care of as an outpatient, so it's much more demanding clinically. The clinical responsibilities at the time when I started out weren't quite so hard. I mean, I would be getting calls, but very rarely would I have to go in on a weekend. That started to change mid-80s more and more. Much more now. My husband is not in medicine, which I consider an advantage. When I say I had a full-time, live-in nanny, she always spent the weekends at her relatives', so we took care of the children full-time on the weekends. When we came home, she was off, too.

CHOI: Did you work an excessive amount of hours?

KELLER: Yes, I worked an excessive amount of hours, and maybe I would have to go in to write grants and analyze data. So if I had to go in more in the late 80s and the 90s on a Saturday for half a day because I was seeing all the patients, my husband was usually available. He loved to be taking care of the children and have his time without mom (LAUGHS), because it was good! I think it would have been extraordinarily harder if my husband had been in medicine. It would have been much harder. So I consider that to be a big advantage not only from

the point of view that he lives in a different world and has different interests, and it's just fun. That was a big help.

I always treated Vicky as one of the family. She always had supper with us every night. That was the way it was. I found that my boss' technician had this aunt in the Philippines who wanted to come. She was a former school teacher. This was during [the rule of Philippine dictator Ferdinand] Marcos, when everything was falling apart financially in the Philippines. Her husband had a hardware business which eventually went under. He gave too much out on credit to people who had no money and it did collapsed his business. It was just total financial disaster in the Philippines. So she came.

CHOI: Was this just one person you knew randomly?

KELLER: She was the aunt of my boss' technician.

CHOI: So you trusted her word? Or did you meet her aunt first?

KELLER: I trusted her word, and met Vicky when Karen was five weeks old. It worked out. We were very compatible.

So let me say— I changed my nickname to "Margie" when I was dating my husband. I was Mah-garet Anne Eikrem before that. One day when we just started dating he said, "Well what do you want me to call you?" I said, "My family calls me 'Margaret Anne.' My mother's name was Margaret, my grandma's name was Margaret. I have another aunt whose name is Margaret." He said, "Well what do you want to be called?" "I always loved that nickname 'Margie.'" He said, "Why don't we switch? Why don't I call you Margie? You would like that." Here I am, 19 years old, and I said, "I think I'm too old to change that!" Anyway he convinced me, and now I think of myself as Margie. I don't think of myself as Margaret. At 19 years old your life is just beginning. So I go by Margie. I'm a Margie. I'm more a Margie than a Margaret. That's what the Boston accent did: "Mah-garet." To "Mah-gie." So what were we talking about?

CHOI: How you brought your nanny over.

KELLER: Well she came over, and she had a visa to come because they had had a business. Like everything, I tackled it with organization. I knew personal reference was really important. I was just getting nowhere on finding someone to take care of the kids during the day.

CHOI: How old were they at this point?

KELLER: They weren't born. This is when I was pregnant, with a due date in six weeks.

CHOI: Oh, okay!

KELLER: Karen was due in January, and I was, in November-December, big time trying to find someone and not having any luck. At that time, I was thinking of someone to come in during the day. I knew it was very tough out there. Then the group at work had a baby shower for me, and I was sitting next to my boss' technician whom I knew very well. So she said, "Margie so what are you going to do?" I said, "I don't know Nellie, I'm trying this, I'm trying that, I'm not getting anywhere!" She said, "Would you consider a live-in situation?" I said, "Yes!" (LAUGHS) We hadn't really discussed it, but I knew it was necessary because nothing else was working. Nothing else was working. She said, "Well I have an aunt in the Philippines who would like to come. She used to teach school, and it's very tough financially there." She actually left a 15-year-old son with her husband because they just had no money when his business went down.

She came when Karen was five weeks old. Let me just tell you that as a gross over generalization (LAUGHS), it's really a generalization, I just think she-- The Filipino culture is very tolerant of children. Also, she was just also an extraordinary individual herself. She became part of the family. For example, I used to come home from work, and my husband and I would try to put dinner together, but she would see how stressed I was with Karen on my hip wanting to be with mommy and trying to get dinner ready. She hadn't had to cook in the Philippines because her older sister, Guadalupe, had lived with them and done all the cooking for the family. She learned to cook so she could get dinner ready for me so that I wouldn't have to do that and I could enjoy the children more when I came home.

CHOI: That's really nice.

KELLER: For example, I had someone else clean the house. I didn't have Vicky do it. She was the nanny and became a part of the family. She was superb. I knew a lot of women who had nannies. Some lucked out for a while, some haven't. She was the only nanny we ever had.

CHOI: And the first choice, too.

KELLER: Just personal recommendation. Then 1992 was when she and her husband got their green cards. They both came and lived with us. Then they found their own place; they would go on their weekends to their own place. They bought their

own condo, but they lived with us for a while, maybe a year or so. If Lisa needed a costume for a school play, Vicky was an expert seamstress, and her husband would get into the design of it with her, and I mean they were like my wife! That's how I succeeded. I had a "wife." I did! Now it's so much more expensive and much more challenging. I probably wouldn't be able to have that type of arrangement. But that was the one advantage of having kids in my old age of 34 and 39. It was that we were pretty established in our professions. We had enough money, but even now, it would cost so much more.

CHOI: It is true that having kids in your 30s, it's different than having them much younger when you're in school.

KELLER: That's right. Also, I think it is good not to wait too long. I think probably the optimal time is probably in your early 30s. I would not recommend to people that they wait, because then when you have your kids late, they're in college when you're trying to plan for retirement (LAUGHS)! It's fascinating.

CHOI: How did your daughter decide to go to MIT? Was she influenced by you and her father?

KELLER: Well, obviously. She got into other places. She could have gone to other places. I have to think back to that. She also was considering medicine. She majored in Brain and Cognitive Science. But both my husband and I always talked so favorably about MIT.

I wanted her to know that it was an excruciatingly difficult school, so all I said to her was, "Karen you just have to realize before you go there that this is a really, really, really hard school. You have to be ready for that. You still have to be able to balance and have your own life." Karen always had that. It might be midnight, and she would be studying for an exam and say, "Well that's enough." She always was the organizer for all the social events. So she kept life in balance. She always kept life in balance. MIT was a very good experience for her! She could handle it. There were some kids for whom it might not be a good thing. When I was here, one of my close friends tried to commit suicide.

CHOI: Oh no.

KELLER: She later succeeded as a psychiatry resident. One of the girls in my class – it's a very sad thing. So I had seen what mental illness did. Then actually there was another girl. It's very interesting, as we go back. This was 1964 that I came here, the class of 1968. I knew personally two girls that lived on my floor who had big-time psychiatric issues, and one who eventually killed herself. One of them, she

became a success. She got the right help, and she got through that thing. But the other one had graduated with us in math and then went to med school. We kept in touch loosely, but she was probably my closest friend freshman year. I had to distance myself – I had other friends – I had to distance from that craziness. It was just too much. I always tried to be supportive of her.

CHOI: But you also didn't want to absorb all the situation.

KELLER: I couldn't, it was too much.

CHOI: What do you think it was about the environment? The intense pressure?

KELLER: Well, obviously there was probably some genetic predisposition-- When I got to medical school, I talked to students from around the country. MIT was just college to me. I had no idea how intense it was compared to what most of these people in medical school had gone through.

CHOI: Do you still keep in touch with your other MIT friends?

KELLER: Yes.

My second daughter went to Duke. She is a very talented dancer.

CHOI: What kind of dancer?

KELLER: She does ballet very well. She teaches ballet, tap and jazz, and is the office manager for a dance school. She performed in the Duke Ballet Repertory and she does some limited performances with a ballet company. She lives in a world of music and dance. I think Duke was the right school for her. She applied to MIT because everybody in our family had graduated from there. I think she was waitlisted, but there was no dance, and there was no way she could continue the dance at MIT. Also, I didn't think it was the right school for her. She got accepted at Duke, and she loved it. She went there. Two daughters, five years apart. Totally different paths.

Then you asked me something else about my friends, yes! Well, my best friend, and even though we had separate rooms we were sort of like roommates because she was just in the next room, was Carolyn Bjorklund [SB Physics '68]. She was my physics lab partner. That's an intense relationship, let me tell you! She was a physics major, too, and I have always kept up with Carolyn. She married Gary Bjorklund. Her name was Carolyn Henry, and she married Gary Bjorklund from our class in physics. Both of them have been extremely

successful in life. She went on to get a PhD in computer systems from Princeton. He did a lot of applied physics. I think he formed his own company. They are very comfortable. Unfortunately, Carolyn knew that there was a genetic disease in her family. She didn't know what it was, but then finally when she was 30 she started to limp. She now is wheelchair bound. She has a type of muscular dystrophy. I have seen that progress over the years, but she was totally normal when she was at MIT. She really enjoys life. She lives in California.

CHOI: Near you?

KELLER: No, she lives in Monterey, Carmel, Pebble Beach, that area. So we go up and visit her. They have a van that accommodates her electric wheelchair. They can travel, with extreme planning, but they can do it. We saw her last summer, and I was trying to see if we could arrange to go and see the both of them this summer. We stay with them. We have kept up totally, which has been wonderful. My husband is good friends with them, too.

CHOI: It's a good match.

KELLER: It's a very good match. That's one example of a best friend from college. You become a friend for life. She makes recommendations on books that she has read and movies, and (LAUGHS), we just keep up. It's not like we email every day or anything, but we do keep up.

Then Gail Halpern, later Marcus [SB and SM, Physics '68; SCD Nuclear Engineering '71; Secretary of the class of 1968 and Director of the Club of Washington, D.C.; the first woman to earn a PhD in nuclear engineering at MIT; served as Assistant Chief of the Science Policy Research Division at the Congressional Research Service, in several positions at the U.S. Nuclear Regulatory Commission and as Principal Deputy Director of the Office of Nuclear Energy, Science and Technology at the Department of Energy] got married right after we graduated, that weekend. We all went to her wedding in New Jersey. Her husband, Mike Marcus – they both have had very successful careers. She got a doctorate in nuclear engineering. I think he was electrical, but I'm not positive. They now are retired, but when they are out in California they will visit. Her husband spent a weekend with us a few years ago when he was giving talks. We keep up with both of them. I'm looking forward to seeing them here at MIT. They are the class secretaries, so they keep involved with MIT. I've lost contact with Margaret Buck St. Peters [SB Physics '68]. I did keep up with her for a while. I actually would probably make an effort to find her. Hopefully maybe we can reestablish some contact with her. We have gone to some of the MIT club events in Southern California, not too many.

CHOI: Are you excited for this weekend for the reunion events?

KELLER: At MIT it's a very positive feeling. I enjoy that I will see some of the classmates. There is a sort of a special bond among the women because all the women knew each other because we all lived in McCormick. That was particularly fun. The only other reunion I've come to is my 25th. This is the 45th! I'm planning to come to the 50th. But sometimes life intervenes and you don't always get to do what you want. So I said, "Let's go to the 45th and plan on coming to the 50th." Oh yes, I want to wear the red jacket in the procession (laughs)! That has been the goal for quite a while! I mean I want to do that. It is just fun to see. Aren't the freshman half women now?

CHOI: Something like that. It's a huge number.

KELLER: It's wonderful to see! I'm happy to see it. Women are finally here-- it's interesting, if you think about the biases against women. I guess I was just very obviously effective in dealing with that and overcoming that. I must have had that skill. You can't take things personally. The smart men who are in positions of power learned that it was a different world.

One time, I remember, I won't give names, but someone, a wonderful person who later did so much for my career to advance it, was interviewing me for a position. I was interviewing for a fellowship position. He made a big mistake, and after he said it he realized it was a big mistake. We may cut this out, I don't know (LAUGHS), but he was interviewing me. So I asked him because I'm a very direct person, "What's the salary for this position?" He stumbled a little bit and said, "Now your husband has a job?" I just looked him straight in the eye and said, "That is an irrelevant question." He blushed, and he realized he had made a huge boo boo. He was a wonderful person. I never held a grudge against him. He found out what the exact salary was and he told me. Later he became a wonderful boss. You just have to educate people! You can't take it personally. It was a changing time. They all changed.

CHOI: I think it's nice because you got to work for him afterwards so he also got to see how good a worker you were.

KELLER: He did so many things for my career, it's unbelievable. He was a good person. When I finished my Pediatric residency and Chief Residency in 1975, I became a fellow in pediatric Infectious Diseases in San Diego, from 1975 to 1976. That was unfortunately the last year of their NIH training grant. They were running out of money. I assessed the situation. My husband was a PhD physicist who was

working in the radiology department on grants. He had positions on soft money, but he was supported by grants. The money was running out for my position. I thought like a man – OK, I mean I knew how to think like a man!

The job is ending, and nobody has offered me anything. because they don't have any money. They did suggest this Giannini fellowship, which I ended up being awarded, but it wasn't that much money – \$10,000 in salary. They were helping me with that, but nobody was really coming up with anything. Also, I had to say in my heart I just felt that my husband would have many more job opportunities in Los Angeles than in San Diego. The same would be true for me, since San Diego was a one medical school town and LA had multiple medical schools – USC, UCLA, a lot of different places. UCI [University of California, Irvine] not far away, a lot of job opportunities.

CHOI: You always thought about your husband, too?

KELLER: Oh yes. It was a joint decision, but I started to apply. I didn't apply all over the country because I knew we couldn't just go all over the country. But I applied in LA for a fellowship position. I think people treat women with a husband who has a job differently than men in terms of the urgency of having a job! So I got a job offer at Harbor-UCLA Medical Center. My husband and I decided we would take it, and he stayed in San Diego until he could get a position in LA, which he got within a month. Then he moved up. So we had strategized it all.

That was a very good decision to move to Los Angeles, because he has had a very successful career, and he is at the Aerospace Corporation. It's a wonderful position. When I finished my fellowship, I accepted a faculty position at the UCLA School of Medicine, so the move was good for me too.

CHOI: And you're still in LA right now?

KELLER: We live in Rancho Palos Verdes, which is the LA area. It's the closest piece of the land to Catalina Island.

CHOI: I've heard that Catalina Island is beautiful.

KELLER: If I stand on my tiptoes on one corner of my yard, you can see the very north tip of it. That's our little ocean view! We love Los Angeles. I love Boston, too, but Boston's too cold.

CHOI: Even as a Bostonian you like the LA culture? I've heard it's very different.

KELLER: It's very different. I've had family in Los Angeles and in San Diego. It is a very multi-ethnic group. I like that. I love it.

CHOI: Diversity is good.

KELLER: There is acceptance of people for just who they are. There are a lot of parts of the country where I just could not live. There is too much importance on religion and color and all that stuff. LA is very open-minded, I would say.

CHOI: That's nice, I've never been, and I would like to go.

KELLER: Where did you grow up?

CHOI: Close to here, in Brookline.

KELLER: In Brookline, there was a swimming pool that the Girls Scouts would go to swim. It wasn't that far a ride from Hyde Park, Mattapan.

CHOI: Was it at Brookline High School or at Cleveland Circle?

KELLER: I don't know. I think it was a municipal pool at the time. It must be closed now. It was the early 1960s. It was a beautiful pool. It was a special treat. They took the Girls Scouts there, and I just loved it.

CHOI: You had said that you had been thinking about retirement. What are your future plans?

KELLER: On July 1, 2014, I am stepping back and officially retiring from UCLA and the county of Los Angeles, stepping back from the clinical and administrative responsibilities. I'm 66 now, so I'll be 67 next May.

CHOI: You look great!

KELLER: Thanks.

The clinical responsibilities are much more demanding physically and exhausting, and I just think that's for the younger people to do that. All the administration nonsense, it just goes up and up. Being chief of the division of Pediatric Infectious Diseases, there are a lot of administrative responsibilities. I'm head of the training program in Pediatric Infectious Disease, and I'm ready

to pass those on to others. But, I'm not just going to stay home and make blankets (LAUGHS). I'm planning as a transition for two days a week to work—

See, we have a research institute at my institution, the Los Angeles Biomedical Research Institute. All the grants go through that. I have grant funding through that. So I'm planning on a part-time basis for a few years to continue with my brain imaging studies. I'm going to turn over the clinical trials to younger people and just do what I want to do and pay myself from my grants. Maybe I'll get more grants, maybe not, it's just a very tough funding climate right now.

If the research doesn't work out, I will do something else, and I do have something in the back of my mind. Since I work at a county hospital, I see a lot of people who don't have much. I think there are things that we have to do differently. I think we have to really provide much more after-school opportunities and opportunities for supervision of homework for kids whose parents don't speak the language or are uneducated.

When I see these kids that I take care of with HIV and the social chaos of their families, I realize how little support they have for advancing academically. There just aren't the educational opportunities, things that you and I just took for granted! Someone to take you to the library so you can get books!

There is a program called "HOLA" – like "Hola Los Angeles." It's a tremendous program, and we support that just with some donations, but we do give them something every year. They have the most fabulous afterschool agenda. They have sports. They have music. They have study groups. They are trying to keep the kids busy and away from the gangs. That's what needs to be done. But if these kids from lower groups socioeconomically have a chance to survive, they are going to have to be able to compete in the modern world in the education system. I just think I would get involved in trying to bring more of those programs to the kids that come to my hospital. So whatever happens, I'm sure I will keep busy for a long time.

CHOI: That's really wonderful.

KELLER: I was telling someone that I was coming to my 45th reunion. I said, "You have to remember that usually only people who are upbeat about themselves and their lives come to the reunions! It's so fun because everybody is happy."

CHOI: And they want to come back.

KELLER: Yes, they want to come back. Recently I was writing (e-mailing) to this father whose son was thinking of coming to MIT. I said, "I have to say that the decision to come to MIT, other than the choice of spouse, was one of the best decisions I ever made in my life." It's that positive. And it is a different world now. MIT was very different when my daughter was here. But that discipline, that training – she will do very well in emergency medicine.

CHOI: You must be so proud of both of your daughters, because they are doing well and are happy. Does she like her residency? Or it's just very difficult?

KELLER: Yes. I'm proud. My husband was talking to her and he said she seems very happy. It was my birthday a week ago...

CHOI: Happy Birthday!

KELLER: Thank you, we were able to have the girls join us for lunch. Karen seems really happy in emergency medicine. I think this is the right thing for her. And Lisa's happy, too, in her world of music and dance, a whole different world."

CHOI: That must be a great feeling to see that.

KELLER: It is. Even though we had them late, I think it came out okay.

CHOI: It's not even that late, I don't think.

KELLER: But you need a lot of energy to raise kids if you want to have a profession.

CHOI: Do you have advice for women who are just graduating and are thinking about a career?

KELLER: Choose the right husband when you do marry [LAUGHS]. It's so important. He has to be someone who will be your partner in childcare too and help you. Obviously, you always have these divisions of labor. The carpool was my responsibility. It would send chills up my back August 1st, but I would always arrange it. Well, we lived in a rich area, so many women didn't have to work full-time or part-time. They were there for the children. They just loved to have me pick up the kids first thing in the morning and get them to school and then they would take the children home in the middle of the day. We made some wonderful friends that way. Of course, sometimes I was able to reciprocate by giving them very good advice about some medical problem like where they should go. I would try to help them, and they would help me. I think having a lot

of friends who were full-time mothers was a big help, which is not always possible.

CHOI: You had a community.

KELLER: They went to a private school. I don't know if we could afford that school now, but at the time we could. The price of those things have just gone up. So a lot of wonderful women did help me out, and I tried to help them when I could. It's like there was some reciprocity there.

I think that the choice of husband is critical. I've seen a lot of my women friends do okay with two kids. Three kids is getting a lot more complicated. If you don't have the right support systems in place, that's hard.

CHOI: Your parents had four, right? My parents had two.

KELLER: They only had two?

CHOI: I guess that's the magic number.

KELLER: Do you have a brother or sister?

CHOI: A sister.

KELLER: What did she end up doing?

CHOI: She's a surgical resident.

KELLER: Oh, she's a surgical resident!

CHOI: Two was enough for my parents, so I guess three would be a lot.

KELLER: Yes. Well, in the 1950s everybody had huge families.

CHOI: Are you close with your siblings still?

KELLER: Yes. I am.

CHOI: Do they live in Boston?

KELLER: No, we moved to California. I was the oldest. When we moved I was 18 and at MIT starting sophomore year. My brother was in high school, my sister was in

high school, and my other sister was in fifth grade. So they all were in California for many years. My brother moved back to Greenwich, Connecticut for a great job about 15 years ago. Now he's retired. He has grandchildren in New York City, so they would like to come back to California, but they're not going to leave the grandchildren.

CHOI: Are you going to see them while you're here?

KELLER: No, but I've seen my brother and his wife from New York City in California twice in the last year. We're just seeing Boston people this time. We are in, I would say in fairly close contact, with my sisters and brother. I have a sister who is a reading teacher expert. She went back to get her master's as a reading teacher much later in life and lives north of San Diego. I'm very close to her. We always kept up a Boston tradition where my mom was one of four. Easter was somebody's holiday, then there was a midsummer party, Thanksgiving, Christmas. There was always a get-together, and we've kept up that structure.

CHOI: That's really fun!

KELLER: With John, my brother, living in Connecticut/New York, it's been a little harder. He gets out to California, and he came West for my 65th birthday party a year ago. So it's close. I have a sister not very far away, just across town a little bit. She and her husband are not retired, and they have a lot of grandchildren. We have a very close connection there, too. It's good. It's fun. It's funny to see how Boston used to be such a focus, but the family and friends have moved way out. It's interesting. They don't live in the city anymore.

CHOI: Where you live is a suburb?

KELLER: Yes. Rancho Palos Verdes is a suburb. There's no traffic. It's 45 minutes to the music center in Dorothy Chandler Pavilion to see something like opera or ballet. When there's traffic it could be worse, but that's about how long it takes. We are south, and we are probably about half a mile from the ocean.

CHOI: That must be so nice.

KELLER: It's a very cool climate compared to my sister's place, which is east of Los Angeles and close to the mountains. I really love California. One of my strong memories from childhood is standing on a corner in Boston waiting for a bus in the cold of winter, and thinking, "Oh my goodness." I always didn't like the cold.

CHOI: Do you miss the snow at all, though?

KELLER: No. But, when the kids were young we would go out to Palm Springs, where there is this mountain, San Jacinto, overlooking Palm Springs. There's a tram ride up, and there's a state park on top. We would borrow all the ski clothes from our friends for the girls. There was one couple who had girls, about a year older than each of our kids, and they would grow right out of those clothes. She lent us the ski outfits. I would borrow some ski stuff from my friends for Rob and me. We would drive out to San Jacinto, take the toll tramway up to 8,000 feet, and then they had sledding and tubing up there! It was just great. Playing with the kids in the snow I usually had to buy boots for everyone for the few hours. Then we would go down and swim in the pools in Palm Spring. So yes, we did the snow [LAUGHS]. I felt they had to experience it. I still remember a snow trip to Big Bear with the girl scouts when I was a girl scout leader. There was a lot of sledding and stuff. That's an important thing for kids to experience! Fortunately, we stayed in a beautiful lodge.

CHOI: Yes, kids like it.

KELLER: That was a little bit more rustic. That wasn't quite like our usual snow trip, going to snow camp with the girl scouts, but we did it! It was funny, a lot of the kids did ski. The night of the snow camp with the girls, we all slept inside, and there was this big picture window. It started to snow, and the kids in the troop, even the ones who had been skiing, had never seen it snow. I mean they had seen snow, but not falling snow.

CHOI: Did they like it?

KELLER: They were just enchanted with it! It was fun. I always liked to watch the snow fall.

CHOI: Well, from the inside.

KELLER: It's a different world from my childhood and youth. Different skills are needed now, but you have to follow what makes you happy, and choice of field is so important.

CHOI: And choice of community.

KELLER: Choice of community.

CHOI: Spouse.

KELLER: Yes. I've been very lucky. I've had a lucky life!

CHOI: I think a lot of it is your hard work, too.

KELLER: Oh yes, I'm one of those people who work hard. But at the same time, the fact that I worked so near where we lived made it possible to attend every recital and every Christmas show. I was able to do that because I made it a priority. Maybe I would go back to work afterwards and finish things up.

I didn't even mention this, because now, of course, I have grant money to pay statisticians to do data analysis. However, in the early days when I didn't have that much grant money, my husband would help me do the statistical analyses. He has a hobby of statistics!!!

CHOI: Wow, did he help you?

KELLER: He was invaluable help on some of these things, explaining things so I really understood it and helping and re-checking calculations and things like that, setting up ideal programs to do things. He was invaluable. On one paper I said, "Honey, I think I'd like to acknowledge you." He didn't want to be on the paper! He was a tremendous help and was able to explain things to me that statisticians don't always explain very well. He would take another look and say, "I think what they did here was okay." He basically knows aerospace engineering. He spends a lot of time on computers, formulating models. So, he was a tremendous help to me!

CHOI: That's really nice! It's like a family effort.

KELLER: Yes, because my success was important to him too.

CHOI: You met him here!

KELLER: I met him here. He is three-and-a-half years older than I am. He was a grad student in physics.

My best friend Carolyn majored in physics and her husband Gary also majored in physics and went on to get a Ph.D. in physics. Carolyn went on to get a Ph.D. in computer systems at Princeton.

CHOI: Did your husband and her husband know each other in the physics department?

KELLER: No, because he was an undergrad. I don't think he had ever known my husband at MIT.

CHOI: That would have been funny.

Well, this is great, and thank you so very much!

KELLER: Thank you, Jean.