080020 Interviewer: We would like you to start by stating your name, where you were born and raised, and just as an introductory question what you're interested in as a boy or going to school and how you wound up in the medical profession, sort of from an educational standpoint. Just a little bit of personal background.

080040 Robert: Uh, my name is Robert Wones and I grew up in Dayton, Ohio. And I went to college at Northwestern University and actually have a degree in civil and environmental engineering. But while I was in school, in college, I was in a lot of classes with pre-med students and one thing led to another and decided to pursue a career in medicine after finishing my engineering degree. I came to Cincinnati, to go the University of Cincinnati College of Medicine, after college.

080116 Interviewer: What years were you at Northwestern?

080118 Robert: 1972 to 1976, and medical school here in Cincinnati from '76 to '80. I was a resident in internal medicine at what's now the University of Cincinnati Hospital from 1980 to 1983 and joined the faculty in 1983.

080136 Interviewer: I just asked that because I was at Northwestern in the early 1980s in graduate school of the School of Speech.

080142 Robert: Yea, I started out in that school.

080144 Interviewer: Oh really.

080145 Robert: and changed to, well maybe I started out in journalism, then speech, than arts and sciences, and then engineering.

080154 Interviewer: It's the typical college student's path, but that's o.k. What if can you recall one or two things in some of those classes with pre-med students and just your thinking about maybe changing career paths a little bit to explore medicine as opposed to environmental engineering or management or something like that.

080218 Robert: You know, I'm not sure that I have any great, logical, I think just being in with the pre-med students convinced me that it was something I could do because there aren't any physicians in my family. It was not something that I had thought about before. So it was really more of a matter of, gee I could do this and having realized that I could do this, then, so this would be a good thing to do.

080245 Andrea: Excuse me, I'm sorry, Dr. Wones there's this vent over here that we're hearing it on the audio would you mind trying to speak up just a little bit so that we can, so that way we'll kind of counteract it, it cuts out the sound.

080304 Robert: O.K.

080307 Interviewer: You joined the faculty in '84?

080312 Robert: 1983, yes.

080313 Interviewer: 1984, 3, uh, what were some of the early types of assignments or aspects of the medical practice that you were involved with in, let's say the 1980's, just as a general.

080328 Robert: Well, when I initially joined the faculty my major responsibility was general medicine education for the medical students and residents, also practice in general medicine and primary care. But my primary academic interest was epidemiologically related. I was very interested in populations, in addition to how individuals were taken care of, how that all added up to how a population was taken care of. And within that sort of broad epidemiological interest, really, health screening and health promotion was a significant interest. So in addition to the practice and teaching activities in the 1980s, I had, actually had a grant with the Environmental Protection Agency to study what impact, if any, chlorine in drinking water had on blood cholesterol levels. It appears it has none. Um, also we studied drinking water barium levels and what affect that might have on blood pressure and so forth. I also had a grant with the NIH to study cholesterol screening technologies that occurred outside of the doctor's office, such as in malls and workplaces and so forth. So health promotion, health screening, population epidemiology, those were my scholarly or academic interests.

080500 Interviewer: In doing this work where you're engaged in grant-responsive research, where you're producing both a report for the funder and then hopefully getting this information out in to literature, what did you see as sort of the benefits or the positive aspects of going this route in terms of trying to make a difference in either the practice of medicine or in the advent of various discoveries or findings in medical research? What did you see as the benefits of sort of pursuing the sponsored research approach?

080541 Robert: Well, the projects I discussed had, potentially at least, could have had major impact. We virtually all drink chlorinated water. Almost every public water system uses chlorine to clean its drinking water, not to mention swimming pools and so forth. So, had there been an effect on blood cholesterol levels, which it turns out there was not, but had there, at least by our research there was not, had there been an impact that could have had a tremendous public health impact in terms of recommendations for drinking water and so forth. Similarly, in terms of the blood cholesterol screening, you know, people, there are a lot of screening programs that occur outside of doctors' offices, workplace, shopping mall, so forth, and some of what we learned about that process and so forth was important in what later became the official recommendations of the national cholesterol education program about how to do those kinds of screenings. And that information, parenthetically, became sort of directly relevant to what we did with the Fernald medical monitoring program.

080705 Interviewer: Can you remember just being an area resident and someone interested in what's going on sort of locally with environmental health issues? When you started hearing about Fernald, either in the news media or colleagues or just when it started getting on the radar screen, and what led you to getting involved in a project out there?

080730 Robert: I don't have any independent memory of when it was in the news media because it was pretty much, you know, my memory is now of the project, and so I can't tell you what I remember from reading the newspapers versus what I remember from the project. I do remember getting involved and the way we got involved was, as people are aware, there was a class action lawsuit by the residents living around the plant. That lawsuit was ultimately settled, and part of the settlement was to create a medical monitoring program for the participants. So the trustees of the settlement, who had been appointed by Judge Spiegel, issued a request for a proposals or an RFP in about 1989 to the community and others saying, gee, we're going to do this medical monitoring program, would you please prepare a proposal for us to consider. And I was invited to be a part of the University of Cincinnati's proposal because of my interest and knowledge about health screening, since that's ultimately what the program became. I was probably the most knowledgeable person at the University about screening techniques and so forth. So I participated with several others in putting together a proposal which ultimately was accepted by the trustees and implemented as the Fernald medical monitoring program.

080926 Interviewer: In terms of sort of where the community and where the judge was going with the concept of setting up a screening program, what were sort of the objectives of that monitoring program for the community?

080945 Robert: Uh, well interestingly, I think, there really weren't any clear objectives mapped out for us. It was a project where, in addition to having freedom to propose how to do it, we really had the opportunity to propose what it is we were doing. As far as I could tell from the request for proposals and so forth, there was not really a clear idea of what medical monitoring meant, what it was supposed to accomplish, and so forth. So we really started from scratch and said, not only here's what we're going to do, but here's what we think the purposes of doing medical monitoring are. So we really had a chance to kind of define the whole purpose as well as the performance of the program, and it was our philosophical approach to this was there may or may not have been health effects relative to the people living around the plant. That's a question that maybe someday we'll be able to answer, but certainly in 1989 we couldn't answer it. But there was certainly appropriate worry, concern and so forth. What would be the most appropriate remedy? I'm not a lawyer so don't hold me to the legal terms, but what would be the most appropriate remedy? If there was a health effect or even if there was a major worry about health effects, what's the most appropriate remedy? The most appropriate remedy would be to either find those health problems and take care of them if you could, or reassure people that in fact they were fine and didn't really have anything to worry about. So that's really how we constructed the goals of the program. Our clear, number one goal was to provide a direct health service to the participants that would benefit them in some way, and then perhaps balance whatever health harm they had suffered as a result from living in that area. So the program was designed very clearly to provide a direct health benefit to individuals. Now, while doing that if we could accomplish some other things such as collect data for research and so forth, that was fine and those became secondary goals. But the clear purpose of the program was to provide a direct health benefit to

individuals, and again that really was part of the proposal. It really wasn't necessarily defined ahead of time. That's what we proposed doing, and that's what we've done.

081235 Interviewer: Now, this draws on sort of your broader understanding of health benefits, benefits of health screening programs. You mentioned that there was sort of a dual benefit, one of providing information sort of as a heads-up, or something is going awry with an individual's health and you can kind of get a heads-up and they can go on from there to their physician or what have you. And then the secondary, the second track of this is to, sort of from the reassurance standpoint, if someone who isn't suffering those effects that they can come on a fairly regular basis and sort of check in and make sure. Can you address both of those as the twin engines of this notion of the health benefit for the residents?

081321 Robert: Yeah, there is really sort of three elements. One was if people had disease, let's find it, find it early if we can, so it's treatable. The second was to identify risk factors for disease such as high cholesterol, smoking, high blood pressure and so forth, which if modified might ultimately prevent disease from occurring. And then the third was having found no disease, having found no risk factors, offer people some reassurance. So, those were really the sort of three goals that we built the clinical aspects of the program around. And, uh, once you adopt those as goals then what follows is pretty straightforward. You know, in any population of individuals we have a pretty good understanding of what diseases are most common, and that's how we designed the program. And one of the features of the program is that it is not restricted to diseases or conditions which have a plausible linkage to the Fernald site. Much of what we know might happen to people as a result of exposure to radiation, for example, is not fixable. So it's great to find it, I suppose, but if you can't fix it, you know, our benefit is limited. So our philosophy was what can we do that will actually help people to live longer, live better. And we know that regardless of what happened at Fernald, what health effects there were, that the number one cause of death in that population is going to be coronary heart disease, you know, it's number one by far in any population in this country. So our program was designed to identify risk factors for coronary heart disease and to try to educate people about those and so forth, cholesterol, blood pressure, and smoking. And again, to the best of our knowledge those don't have any link to radiation exposure or chemical exposure and so forth. But if your goal is to improve the health of a population, the population of participants living within five miles of the outer border, than you got to attack coronary heart disease, and so our program is designed to do that. Number two, of course, is cancers, you know, cancer broadly defined, and within cancers we pick those that occur most commonly or at least most easily identified and treated, again, whether or not they had a known linkage to radiation exposures. So, you know, lung cancer, breast cancer, colon cancer in women and lung, prostrate, and colon in men being the top three. And again, designed specific screening techniques and so forth around those. So you can see that was kind of how we designed the program. What's most likely going to happen to people regardless of what happened at Fernald and what can we do to identify that, fix it, prevent it and so forth.

Now we did throw in a few things that were unique to Fernald that you probably wouldn't put in a general screening program. For example, we measured urine beta-two Microglobulin, which is a protein level in urine which is thought to be a pretty good predictor of kidney tubular damage,

and uranium metal can cause kidney tubular damage. So, I mean, there are a few things we threw in that were unique to Fernald. But for the most part, we picked tests and procedures and examinations that were oriented towards what we knew were the most common causes of disease, disability, and death in any population.

081726 Interviewer: What was the length of initial award? Is this, did you guys, subject to a renewal on a periodic basis, or what was that aspect of the settlement because, you know, hypothetically the community could benefit from health screening into the future?

081741 Robert: Well, the settlement had three asp, at least three aspects. It had a property value aspect for property value diminution. It had an emotional distress aspect and then it had the medical monitoring program. Those were the three major categories, and the settlement didn't define how much went to each of those. That really became the task of the trustees and the judge. And it's a task, by the way, ten or eleven years later that's still ongoing as we sort of, as the trustees wrap up the last of the, the last of the programs, still trying to figure out exactly for the last time how much money goes into each of those three things. Uh, the original RFP that the trustees sent out said "prepare a budget for a thousand participants." No one exactly knew how many people would participate or even how many people were in the class. So our original request was to prepare a budget for a thousand participants. We thought that was too low, so the budget we submitted was for three thousand participants. It turns out that once the program was approved and we got started and so forth, we ended up with over nine thousand. So I don't know that anyone could predict ...

Tape stopped for a moment to disconnect the phone that started ringing. Interview was picked up here.

081922 Interviewer: We were talking about ...

081923 Robert: ... we planned for a thousand we said uh, we think three thousand, and it ended up being now 9,600 is our current number, and so interest was much greater than anyone really could have guessed. Now, even so that was perhaps only half of the total number of participants in the other aspects of the program, but still we ended up with a lot more. So, you know, our original program talked about a first exam over the first year, we ended up doing that first exam over three years because that's what it took to get nine thousand people through logistically. Once we pretty much reached the end of the initial examination, then we and the trustees and the judge together decided that we would do re-examinations at three-year intervals because the settlement had some sort of general language about medical monitoring for some indefinite period of time but clearly beyond just initial examination. So having completed the initial examinations we decided to do re-examinations at three-year intervals. The three-year interval was picked mostly because that's how long it took us to get through the first one so when we started the re-examining it started out at three-year intervals. And we designed the program around that. Subsequently, as the numbers have declined somewhat we have now gone to every two-year interval examinations and that's probably how we'll end up the program. Exactly when

it will end is a little bit unclear. As I indicated, the trustees are still wrestling with the final distribution of funds and obviously how much they put in to the medical foundation that they created to fund this will determine how long we go. But it looks like we'll go at least through 2007, 2008, somewhere in that range.

082122 Interviewer: Can you recall when you, you when UC got the award and you're getting ready to sort of announce it to the community and get set up and invite people to participate, that kind of thing? Can you talk a little bit about how that process was undertaken, through either community meetings, announcements in newspapers, and where folks went and continued to go for the screening, and how sort of the early wave of this screening sort of went from a community standpoint?

082153 Robert: Well, the trustees, actually, when they got the requests for proposals back, they liked the program that UC proposed and they liked the location that the Mercy Hospitals proposed. So what the trustees did is they came to us and said, hey, UC and Mercy, do you think you could take your two proposals, put them together some way, and that's really what we want to do. And that's what we did. So the University of Cincinnati became, and I was the Project Director for the program, but we did a joint venture with the Mercy Hospitals, specifically Mercy Fairfield Hospital, which is in the area. And that's where we actually decided to base the examination program because it was close or at least as close as we could get to a reasonable medical facility. So that's how the program got started. Now the trustees directed us and the attorneys for the class and so forth to design a program for letting people know about, not only the medical monitoring program, but the sum of the programs in general. So there were advertisements in newspapers, there were ads made for television and radio, there were town meetings, so forth. So I'm not sure there wasn't any of the usual kinds of ways you would think of for communicating this that we didn't use. And even after, we even used some of the members who had been examined and one or two of the radio and TV spots, so forth and so on, and so that's how we got the word out to people.

0823445 Interviewer: Now having had a little time in terms of looking back on the program now over several, now in place over a several years period, do you think that set of strategies to let people know worked pretty well, in terms of the numbers of folks that started? It sounds like it's three times what folks thought it would be. Of course, it's always hard to tell with health screening the level of participation you're going to get.

082412 Robert: I believe that almost everybody associated with the program felt that our participation rates were much more than anyone would have predicted or expected, and that was in part due, I think, to the quality of what the program offered and in part due to the real interest of the people in the population in this project and so forth. But I think there's little question that word of mouth and so forth, once the program got started was a very powerful influence in ultimately how many people we examined. So, if we had offered a cruddy service, I suspect we wouldn't have gotten as many people. But when we designed the program, in addition to what I discussed earlier about the content, we did some things that people were not used to getting or doing when they had an examination with their regular doctors. So for example, we provided them or we decided to provide them with a copy of their entire health history and examination

and laboratory results and so forth, along with a fairly detailed explanations of what each of the tests meant. It was really overkill, I mean, we gave people way more than they could really probably, practically deal with, and we did that for a reason. I mean, we wanted people to leave the program saying, gee I've never had an examination that was that thorough, and B, I never, I never received communications like that. And, by and large, I would say we succeeded in accomplishing those two things, I mean, many, many people that we've talked to said that was the most thorough exam I've ever had and others have said I never get this kind of information anywhere else. So I think it was word of mouth from that kind of experience that really helped people get through the door.

082618 Interviewer: Can you reflect a little bit about anything your folks saw out there in terms of sort of reluctance, particularly early on, of residents to get involved with anything involving the government, even if it's a product of a settlement? Sort of that fear of, you know, government either keeping things secret or not telling the truth, that kind of thing, and how you tried to overcome that?

082647 Robert: Well, those were significant concerns. And of course, we were separate from the Department of Energy and so forth, which helped, but we constructed the program, for example with confidentiality in mind. The examination forms, for example, don't, or when we started out at least, didn't have names on them, O.K. We numbered, everybody had a number, five-digit number starting with six. I don't know why we picked six, but. So, and then laboratory data and computer, no names, it was all computer it was the number that we used and so forth. So, you know, when we got results back from the laboratory, it would be number 66352, you know, there wouldn't be a name on it and so forth. So there were a fair number of things that we did to, really, to do a little bit more about confidentiality than people would typically do, even though nominally the information might not be sensitive. Now, over time as people's confidence with the program has improved and increased you know, we've dropped doing some of that. It's inconvenient to not have people's name on their x-ray reports, for example. Um, so now we put their names on x-ray reports and so forth, but when we started out we were very, very careful about confidentiality-related concerns. The other thing that the people were very worried about or concerned about was research, initially. So that, in fact we didn't even use the "r" word initially, we talked about analyses or so forth and so on but we really tried to avoid the use of the word "research." People were very concerned about how that would be done, what it would show and so forth and so on, and not being guinea pigs and so forth. Interestingly, about six years into the project that view changed 180 degrees. And whereas at the beginning of the project there was major concern about, we don't want you doing research, it really changed and the program began to be criticized for not doing more in terms of research. As people again developed confidence and trust, then all of a sudden they wanted to know what are you finding, what are you finding. And so starting about year five or six or seven in the program we started getting a lot of interest and even pressure from participants, "can you please analyze your results, tell us what you're finding." So, those were significant issues early on, both overcome by developing trust with the participants, and here we are.

082954 Interviewer: Did that reversal of **(tape cut)** what happened in the past or maybe to prevent something from happening in the future. That's a complicated set of arguments, I think

it takes a community awhile to start, sort of digest that, what it means to have a valuable research project and also it's based on the trust of the researcher, if we don't have that than we can't have any of this in terms of seeing benefits. Are we rolling? O.k. back to this idea of maybe mid-1990s or at some point along the way here, the community leaders and some of the participants started to say hey, lets go ahead and do some research to see what we can find. Is there, do you see any relationship between that reversal and the development of some community or public-based advisory groups that were out at Fernald? First of all, the general one, the Citizens Advisory Board, but then a couple of other ones, a Health Effects Sub-Committee and a public advisory group with the medical monitoring, what role those groups may have had.

090127 Robert: Yeah, I'm not sure that I can figure out how or why or so forth. Certainly, certainly the Health Effects Advisory Committee, I think, played an important role, and there were a number of participants in the program who also sat on our advisory committee who also sat on that board who got, who got very interested in epidemiology and got pretty sophisticated about methods and the weaknesses and so forth of epidemiological study and so forth. It's been very interesting to watch, uh, people who aren't scientifically trained develop a very high level of sophistication about what's a pretty complicated, and epidemiology is about as complicated as you can get, so it's been very interesting to observe that. You know that the effects are lots of different directions. I mean, because one of the things that came out of the some of the advisory committees was the CDC's reluctance, really, to do any kind of studies. And I believe that it's possible that some of the interest in us doing research analyses was a reaction in part to the reluctance of anybody else to want do anything. Because in general, through the CDC's modeling projects and so forth, the answer came back, "not worth doing," "not enough people," "the effect is small, shouldn't do it" and so forth. And I think the activists hearing that were even more interested in us taking what we had and analyzing it because if we didn't do it nobody was going to.

090315 Interviewer: Can you talk a little bit, now this is back on sort of general health screening level and maybe with Fernald as your example, but what my understanding, limited, of health screening is that one challenge for the screener is to get folks coming in to differentiate between screening and then actual, more thorough, either exams or diagnosis or treatment thatis actually doing something about it as opposed to just getting information about it, that screening is often just the first step to doing something? What did you do at Fernald to sort of communicate to folks coming in that this is a good service, but it's only part of an overall health regimen?

090402 Robert: Well I mentioned earlier that, um, I've done research for the NIH on public or non-physician based health screening and, you know, to synthesize all of those results, it really comes down to just what you said, which is finding high blood cholesterol or high blood pressure is really only the start of the process. If you stop there, you have not accomplished anything because it's essential to get people to follow up and do something about what you've found. So I came into the program with that knowledge and philosophy, and we really designed our program around that very principle. We've invested fairly significantly in follow-up. So, the program employs a nurse, Sandy Sand, whose sole job it is to follow up on findings at the examinations. And she makes roughly five or six hundred phone calls a month to participants, and it can be relatively minor and it can be fairly significant, but her job was to make sure that any finding or

potential finding or risk factor that really needed attention, got attention. Now, we didn't have the power to put people in handcuffs and take them to the doctor, ultimately they had to make the decision, but we certainly did everything that we could within our power. So if a finding came through that was really major, like some abnormality on a chest x-ray that might be lung cancer for example, our staff would pick that up as soon as the finding came back, would call up the participant, would call the participant's physician, would fax a copy of the report to the physician, so forth and so on. If it weren't quite so major or urgent, then we would send a letter with the results, as we did to everyone, and then Sandy, our nurse, would call either a month or six months later, depending on the urgency, and say hey, you know, did you take care of that, did you get your cholesterol treated, did you go to your doctor. And she, we found someone who is very persistent. And I suspect that if you talk to ten participants in the program a majority of them would have heard from Sandy at one time or another and can attest to the fact that we, we don't really don't quit until they're either taken care of or tell us to go away. So, uh, that was a very key element of the program that I believe was responsible in part for the program's success was that we really didn't stop just with the finding. To the extent we could within the limits of the program as a health screening program, we really did a lot of follow-up, and there are anecdotal examples of people who weren't going to get it taken care of and whatever it is that we found who later did take care it of as a result of Sandy's efforts.

090715 Interviewer: Just anecdotally, I was at, I go the FRESH meetings, I was at the one last week and Edwa Yocum, whose been a major community figure in terms of health issues, was talking to some of the other folks about, "I was talking to so and so and I called her asked her did you go to your medical monitoring check-up and did you follow up on that?" So that message is being relayed also by some kind of key community leaders in terms of both the benefits of screening and the need to sort of take it to the next level, and that's the result of almost a decade of being out there, and again that's hard to assess but it's out there. So I just wanted to let you know that. Back on the sort of the research front here, has there been in the last two or three years efforts to, sort of at the UC level, to organize this data or attempt to find funding with the data that you got to try to look at certain risk factors and see what's out there and what's been done in that area?

090822 Robert: Uh, yeah, we've really and again, you're going to talk with Susan Pinney and she can tell you much more because epidemiology is my hobby. I'm mostly the clinical and administrative head of the program. I've really let Dr. Pinney do most of the research effort. But we started doing analysis of data perhaps three or four years ago, once we had three, four, five years of data entered into the computer system and so forth, and about a year and a half ago actually completed a fairly detailed analysis of cancer rates among the participants in the program, subsequent to participating in the program, so an incidence study. And, um, those results were reported at the Health Effects Sub-Committee. A paper has been written, has been submitted, I don't think it's been accepted as yet. The results of that, I found, to be rather striking, and was actually kind of surprised that they didn't receive more attention from the press and others when we talked about them. And those results were that renal, kidney, bladder cancers, we were finding perhaps twice as many new renal system cancers as we would have expected for a population of our size, and age, and gender and so forth and a pretty significant finding. We didn't find any difference in lung cancer rates. We found a difference in prostrate

cancer rates, but we think that's a screening effect because we were looking for it. And we found differences in melanoma rates, but we're not convinced that's, it turns out that this area has a high rate of that anyway and so forth. But the renal system is not so easy to explain away, and really is a pretty significant finding, I think. It didn't get much press at the time it was announced, interestingly. I don't know whether the public or the press was tired of hearing about it or whatever, but I'm not aware of that many examples where there's been actually what appears to be a documented health effect around an, an environmental health effect around a facility like that. I mean, we all remember Three Mile Island and Love Canal and so forth, but if you ask how many documented, so forth, there aren't very many. So I thought this is really a pretty significant finding. Obviously it requires lots of further study and in fact, Dr. Pinney has been funded to carry out those additional studies on renal system cancers and so forth funded by the settlement. And that work is just starting, but very significant results really.

091143 Interviewer: From an exposure pathway standpoint, in terms of, again, much more research needs to be done, but in terms of the sort of either chemical or radioactive elements or materials that were released and potentially folks might have be exposed to, are there any sort of red flags in terms of things that could potentially affect that part of the body, that will be sort of a focus of additional work or …

091209 Robert: Well, it's, uh you know, we're really into speculation at this point because the only thing that we know of is that there are twice as many observed as we would have expected. That's our only fact. So everything after that becomes speculation. But I think it's very possible that if there is a health effect that it may not be radiation, it may be a chemical exposure because certainly there are some known occupational risks for bladder cancer and so forth with exposure to certain dyes and other chemicals. It may be a synergistic effect, I mean, uranium is excreted if it gets into the body through the kidneys and in the bladder so maybe there's a synergistic effect between a little bit of radiation from the uranium and a chemical exposure. We don't know, it's all speculation, but we certainly should not restrict our analysis to just radiation. That's what the CDC's done. You know, all the CDC modeling studies, because there aren't any actual studies it's all mathematical models, have all been focused on radiation, at least to the best of my knowledge and uh ...

091330 Interviewer: Why is that?

091332 Robert: Well that was kind of the obvious, that was the obvious thing that Fernald did, is they worked with uranium so, I guess, but perhaps the less obvious thing is they also worked with a lot of chemicals. So, I, you know, we obviously are not going to restrict our analysis just to potential radiation exposures, though that's what we have the most quantitative data about, but to try to consider potential chemical exposures as well, at least as well as we can.

091404 Interviewer: I have just a couple of more things I'm interested in. The settlement sort of created a potential population of folks that with access monitoring. Did this include the workforce or where did the workforce come into play because some folks that work out there also live fairly close, some don't, but where did the workforce population come into play?

091425 Robert: Well, the settlement for the residents specifically excluded workers. The workers subsequently also sued the Department of Energy, class action lawsuit, and that was again settled. The settlement again included a medical monitoring program, the Fernald worker's medical monitoring program, which I also direct. And there are some differences between the programs, but there are a lot of similarities, and that program is in its sixth year. Um, so workers are really in their own program and residents are in their own program. If you were a worker and a resident you should be in the worker's program. There's a few, obviously if you deal with nine thousand people you end up with a couple who sort out into the wrong place and so forth, but by and large if you were a worker you would be the worker's program. And the residents would include people who lived there but did not work there.

091529 Interviewer: Has the data being collected on the worker's side, has there been much research done with that yet?

091536 Robert: Uh, no. Uh, the funding of the worker's program is different structurally than the residents program, and essentially there's no funding within the settlement itself to computerize the information. So we have certainly collected the information in a way that would be suitable for research but it's sitting on paper for the most part and has not been computerized. So without data in the computer you really can't analyze it. So, we hope that in the future some additional funding will come from somewhere that would allow us to computerize the worker's data so that the same kind of studies that we've done with the residents could be done for the workers.

091624 Interviewer: What federal agencies may be part of that? Would that be the National Institute of Occupational Safety and Heath potentially or ...?

091635 Robert: Well that's, I'm not an expert at federal agencies. Yes, I think NIOSH would be a potential source. There's an institute within the NIH, in terms of environmental health and so forth. In my opinion, the Department of Energy, this would be a good investment for them to make. The problem that we have run into relates back to confidentiality issues and so forth, and the workers are pretty sensitive to that. So we did have one, we did have one sort of an offer, I think it was from NIOSH, I don't recall exactly, to do some funding of that data. But at the end of that, at the end, at the end of the computerization the funding agency, which I think was NIOSH, wanted essentially that data file so it could do its own analysis and so forth, and including identifiers of individuals. And our worker's advisory committee did not find that acceptable, so we did not proceed forward with that. So, confidentiality remains an issue, particularly for workers.

091800 Interviewer: Did you see some differences in terms of the population of workers versus residents, in terms of issues of trust building that kind of thing?

091810 Robert: Um, well there's some major differences between the populations demographically, the worker's group is much older by average than the residents group, and there are some women but it's predominately a male population. So those are sort of big differences. Beyond that I would say that the same fundamental kinds of trust issues and so forth

were there as well, though with the workers I didn't perceive that we had, we the program, had much problem there. I mean with the residents, it was the first time so forth and so on, we really had to earn trust. The worker's program, whether it was because we had already done the residents for awhile or for whatever reason, I didn't perceive that we, it seemed like we started with a pretty good level of trust from the workers. And that's only improved as time has gone on, but I don't perceive that, we started at a higher level. But the distrust of the Department of Energy remains high among workers as well as the residents, but especially among the workers, so.

091937 Interviewer: Uh, just some closing thoughts. Let's say you're, you know, you're at some point in your career, you're either going to move on from this project or retire or whatever, if you can sort of articulate what you hope to see as sort of the impact or legacy of the Fernald Medical Monitoring Project in the community, on the health and well being of the workforce and the surrounding community long range, how would you say that?

092006 Robert: Very simply. We set out, when we designed the programs to design something that would make the populations for whom we were responsible live longer and better than they otherwise would have. And so I hope at the end of this process that we're able to demonstrate that we accomplished that, and I think we will be able to do so. It's a little bit early yet, believe it or not, even though we're in the eleventh year of the residents program, but I'm hopeful that twenty years, thirty years down the road, we'll be able to look back and say, yes these 9,600 people who participated in the program on average we would have expected to have died at this rate, and in fact they lived longer than we would have expected statistically. And that's a result of the medical monitoring program and the screening procedures that we did and so forth. So that would be what I hope the legacy of the program is, that people lived longer and, of course, lived better as a result of what we did in the program. And if all the stuff that we're doing works as its supposed to, in other words, we know that screening mammography helps detect breast cancers early and if you detect them early you can cure it. So we have superior levels of screening rates, I mean much higher than the general population, so if all that stuff works like it's supposed to, I'm confident that we'll actually achieve the result that I've just described.

092139 Interviewer: And then just general as someone that's in the health screening, health promotion area as well, do you see any lessons you'd like to leave for, let's say a younger person that's just school-aged now, in terms of future needs to monitor their health and go to the doctor on a regular basis, and sort of the benefits for the health promotion community in general from this project in terms of learning ways to make that work.

092210 Robert: Uh, yeah, I don't know that we've learned anything we didn't know about screening per se. Um, you know, you apply the test, you find the result, follow-up is key. So I don't believe that we've charted any new knowledge in terms of how one does screening, but it's all about execution. So we took the lesson, which is you don't just screen, you gotta follow up and apply it. I still see screening programs, you know, where there's no follow-up, you know, the results sent to the member and that's that. So you know it's not always a matter of not knowing something sometimes we know what to do and it doesn't get done, but in our programs we both knew what to do and did it. So, but I don't think we charted any new knowledge per se about.

Now we know a lot more about how to do a medical monitoring program around an environmental issue and a lawsuit, I mean there's lots of things that I can tell you about that. But in terms of screening per se, I think our success has not been in discovering new ways to do things but in applying and executing what we know is what is needed to work.

092329 Interviewer: Has any other community group or government entity contacted your team in terms of the need to set something like this us up some place else?

092339 Robert: We've had, you know various inquiries from time to time. There's a, I've not seen it because I don't read law reviews, but there's a law review summary of the legal aspects of medical monitoring and so forth, and I believe these programs are relatively unique. Um, and not every state has a framework of law that admits or allows medical monitoring. So, for example, when they tried to get medical monitoring as part of a lawsuit in Colorado, the judge said what's this medical monitoring stuff, and so forth and so on. So, I believe that what we've got here is fairly unique and uh, I would hope that a another legacy of the program might be, gee, if you have an unfortunate occurrence like this, uh, this kind of program can really help. Because I think it really has, you know, whether the United States government thinks it's been a good investment or not I can't speak to, but I believe that the performance of the programs has really helped not only the individuals but has really helped, you know, has really helped the federal government in ways that it may not appreciate. I think that lesson can be applied lots of other places, you know, digging a hole and burying the problem and trying to cover it up doesn't work, sooner or later it comes to the surface. And really you're much better off investing some money, uh, putting forth something like a monitoring program and so forth.

Our experience with workers is a good example. Part of the workers settlement related to workman's compensation, which is a state program not a federal, and basically the worker's settlement said, created this expert panel of three occupational health physicians and said, if this panel says that a problem that in a worker was health-related, then we the employer, the Department of Energy, won't contest the workman's compensation claim. So, since that was part of the settlement, one of the special things that we did for the workers that we didn't do for the residents is we provided an opinion letter, a work-relatedness opinion to workers when we provided them their report that said, "Dear Mr. Jones, I've reviewed your record and I think that your, you know, prostrate cancer may be related to your work at Fernald," or it would say "I reviewed all of your medical problems and none of them seem to be related to your work at Fernald." And that was a relatively controversial aspect of the program, and I think people might have feared that we were going to, I don't know, that there was going to be a rush of workman's compensation claims, that all sorts of badness would result from that. But we went ahead because we thought it was not fair to give people health information and not answer that question for them, because it's an obvious question. I mean, if you're a worker, you're found to have XYZ, your first question is going to be, "gee is that related to my work at Fernald?" So we owed it to the workers to offer them some direction in that regard. As it's turned out, about 80% of the workers got a letter that said, "don't think any of your medical problems related to your work at Fernald." About 20% got a letter that said, "you know the problems you have might be related to your work at Fernald." There's not been a rush of workman's compensation claims, probably not nearly as many as there should be. So, but you know, we saved 80% of the group from perhaps

filing a needless claim that had almost no chance of going anywhere because, you know, there's not even a reason. So I mean, I believe that the kind of program we developed and implemented actually in the long run helps the whole process, and what official agencies might be afraid of, you know we're going to have a rush of this or a rush of that, is really unfounded because that if you give people responsible information it ultimately helps.

092829 Interviewer: Anything else? I'm ready to wrap, if you'd like to say anything else on your job?

092836 Robert: No, your questions have been exactly the stuff that I would want to emphasize about the program, which was you know, it was designed to improve people's health, it was designed to be comprehensive, whether or not it was related to Fernald or not. We picked what would really help. Follow-up was a key element of the program and what I hope the legacy is is that we actually in fact did improve the health of those two populations that we were responsible for.

092908 Interviewer: Thanks!