

Investment in Grants Change the Future for Lung Cancer Patients

Diane Mulligan:

Sarah, it is almost impossible to overstate how quickly things are changing for the better in lung cancer. New treatments, better earlier and easier ways to diagnose lung cancer are being announced all the time.

Sarah Beatty :

And Diane, this is amazing news for people who are living with lung cancer. What's driving the pace of these new discoveries? Research. Take a listen to understand how research equals hope, especially for one lung cancer specialist.

Dr. Jessica Donington:

I didn't think it was possible in my lifetime, but I suddenly think that, oh, my gosh, we can double survival, we can get survival up to 25 and 30%. I feel like in a very short time with screening and the advancements in our current medications, it's just so possible.

Diane Mulligan:

Welcome and thanks for joining us for the Hope With Answers: Living With Lung Cancer podcast, I'm Diane Mulligan.

Sarah Beatty :

And I'm Sarah Beatty. Lung cancer is a tough topic. It's a disease that affects patients, families, friends, coworkers, but first and foremost, it's a disease that affects people.

Diane Mulligan:

Now advances in lung cancer treatments over the last few years have really made it possible to live with lung cancer for years after diagnosis, thanks to the incredible strides in lung cancer research being made every day.



Sarah Beatty :

The Hope With Answers: Living With Lung Cancer podcast brings you stories about people living, truly living with lung cancer. And the researchers dedicated to finding new breakthrough treatments and others who are working to bring hope into the lung cancer experience.

Sarah Beatty :

Diane, I'm so excited to dive into this Hope With Answers episode. Now at first glance, it might seem sort of odd to be this excited about lung cancer. There's good news happening in cancer treatments all the time, right? Seems like it. Well in lung cancer, it has been a long time coming. There just has not been the commitment to research and discovery in lung cancer like there has been in other types of cancer.

Diane Mulligan:

You know that's so true, Sarah, the incredible breakthroughs in other types of cancer treatments are really wonderful. But lung cancer research has long suffered from a lack of funding and therefore a lack of new treatments and ways to diagnose lung cancer earlier. And you know, that's left people living with lung cancer, waiting, hoping, wishing for a way to live longer, healthier lives.

Sarah Beatty :

But today we are here to tell you that things are changing and they are changing fast.

Diane Mulligan:

But how fast? Let's get some perspective from Lung Cancer Foundation of America co-founder and president Kim Norris. Kim, you've been involved in lung cancer research for almost 20 years. What have you seen for most of that time in terms of new discoveries?

Kim Norris:

Well, there's no other way to put it, Diane, that things were slow for years; the only treatments available were surgery, chemotherapy, and radiation. Then came the discovery of treatable lung cancer biomarkers. We discovered that each lung cancer tumor is unique and that opened up a whole new world of discovery. After that, immunotherapy opened up even more ways to treat different types of lung cancer. And for many people, living with lung cancer, it has become more like managing a chronic disease rather than the usually fatal diagnosis it was just a handful of years ago.

Sarah Beatty :

And Kim, the theme for this year's Lung Cancer Awareness Month is lung cancer by the numbers. And as we know the numbers prove, they show so clearly why there's so much hope for people living with lung cancer thanks to research. Tell us about that.



Kim Norris:

Well, it's interesting. It started with a conversation between two patient advocates, both living with lung cancer. One for five years and another who had been living with lung cancer for 10 years. Both advocates say that during that time, the entire landscape has changed for people diagnosed with lung cancer. I even wonder if my husband who died 20 years ago from lung cancer would still be alive today if he had been able to take advantage of all the research that's been happening in just the past five or 10 years.

Kim Norris:

We now know people living eight, 13, I don't know, 15 years after diagnosis and then we realized that these numbers are really powerful. They're not just black and white numbers. They're people, people are living longer, healthier lives with lung cancer and it's all thanks to research.

Diane Mulligan:

And, you know Kim, that's what Lung Cancer Foundation of America does. Fund research through fairly large young investigator grants.

Kim Norris:

Yeah, the goal is to attract the best and brightest minds into lung cancer research early in their careers, and to provide big enough grants that they can set up their labs and gather that first big collection of data that they can use to apply for even larger grants that may one day lead to clinical trials and hopefully therefore new treatments.

Sarah Beatty :

And you know, who has such an interesting perspective on what it takes to develop new lung cancer researchers is Dr. Jessica Donington, a professor and expert in lung cancer surgery at the University of Chicago Pritzker School of Medicine. And she's also one of the very first recipients of an LCFA Young Investigator Award.

Dr. Jessica Donington:

I think funding from foundations like the Lung Cancer Foundation of America is essential in building that pool of investigators, it takes a long time and a lot of money to go from a great idea and a bright star with a great mind to, really an NIH-funded investigator. There's a whole period of growth that has to happen and we've learned with other malignancies and other diseases that, that that early part of the career is really built with foundation money, with people who really care about that disease pushing those people along. You have to build preliminary data, you have to grow as an investigator and that only happens with kind of grassroots funding.

Dr. Jessica Donington:



And I think we always use breast cancer as the classic model in oncology of a grassroots building up of really important research dollars that really provides the foundation for many young investigators. And I think it's essential. I think at the point when we are applying for foundation grants we are very young, we're a little undifferentiated I say, sometimes. I could go down a clinical track, I could go down a research track, I could go down an education track and not just as a surgeon. As a medical oncologist, I could do breast cancer, I could do melanoma, I could do lung cancer. And so having those dollars dedicated to lung cancer research is absolutely essential.

Diane Mulligan:

This conversation is fascinating because it shows how LCFA Young Investigator Grants for lung cancer research really do double duty.

Kim Norris:

That's right. They attract great minds to lung cancer research right now and they're also an investment in the future of lung cancer research.

Sarah Beatty :

And that's a point that recent LCFA Young Investigator Award winner, Dr. Triparna Sen, who's assistant attending at Memorial Sloan Kettering Cancer Center in New York City brings up.

Dr. Triparna Sen:

Something that people often overlook or don't understand is that these funding help us train young investigators. Like, with this funding, we get postdocs and trainees technicians into the lab. So we are essentially training the next generation of cancer investigators who will go on to become independent investigators themselves.

Dr. Triparna Sen:

So you're not only just providing resources to advance research, but you're also providing resources to train the next generation of cancer investigators. And I think that has a much more long term impact than the next clinical trial. So I think overall, the funding that I got from LCFA has been absolutely critical in developing me as a researcher. So thank you so much.

Diane Mulligan:

What incredible insight from Dr. Sen and she's one of the most recent LCFA Young Investigator Grant Award winners.

Kim Norris:

Yes. And that reminds me and comes back to "by the numbers." So, the number that I would like to introduce is the number 17. LCFA has funded 17 grants so far, and 10 of those grants have gone to



women. We're lucky to talk to three of them in this episode, and to share more about the amazing work they're doing.

Sarah Beatty :

And one LCFA Young Investigator really stands out, Dr. Kellie Smith, an Assistant Professor of oncology at John's Hopkins Medicine in Baltimore. She's the recipient of grant number four and grant number 10. So another couple of "by the numbers" for you there, that LCFA is so proud of.

Diane Mulligan:

You know, Kellie clearly explains why these young investigator grants are so critical in the early stages of a researcher's career.

Dr. Kellie Smith:

Well, I think these awards are more geared towards early stage investigators. So it really allows you to do more of the high risk, high reward types of studies. So these are things that would not be funded by traditional mechanisms, such as the NIH. These are grants that really enable investigators and young investigators to generate preliminary data to make these really impactful discoveries and then to apply for additional funding in the future. So it provides this really nice foundation for people who are just getting started in their career, which I think is really attractive to young investigators in the cancer field.

Dr. Kellie Smith:

So even if someone is not inherently interested in lung cancer research, just naturally these grants probably encourage them to pursue this area of research because it really is an attractive avenue. And just based on my own personal experience, this was the very first grant that I was ever awarded. And I've been able to leverage that now into several million dollars worth of funding. So it really is responsible for my ability to pursue independent research and really establish a foothold here at Johns Hopkins.

Dr. Kellie Smith:

Almost all of the preliminary data that I used in my NCI grant was generated by the LCFA Young Investigator Award. So, as you guys probably know, you need a significant amount of preliminary data to apply for these grants and to be awarded these grants from the NIH and without a sizable grant to begin with you can't generate the preliminary data, especially when you're doing human studies, which are much more expensive than mouse studies. The first two grants you guys gave me they were crucial. I would not have been able to get the NIH funding without it.

Diane Mulligan:

Kellie Smith has appeared in several Hope With Answers videos and if you haven't checked out this amazing resource, you can find it on lcfamerica.org website. The video series is wonderful because it pairs a patient advocate with a lung cancer expert, a doctor, or a researcher. And it's the patient who gets to ask the questions, and the follow-up for clarification.

Kim Norris:

You know, I am so proud of the Hope With Answers video project. The videos are really driven by the patients themselves, people living with lung cancer.

Sarah Beatty :

Many of LCFA Young Investigators say it's collaborations with patient advocates and the power of the patient advocate voice that helps them guide their research. Something that Kellie Smith and Triparna Sen talked about.

Dr. Kellie Smith:

I'm a strictly PhD laboratory scientist so I don't get the daily interaction with patients. I don't get to see how these discoveries impact them in a positive way. And I also don't get to see how our failures as researchers impact them in a negative way. You know we're kind of in this silo, so interacting with patients and patient advocates who are affiliated with LCFA really keeps us grounded, and it keeps us focused on why we're doing what we're doing. It helps us to put a face to the de-identified biospecimens that we're getting from the clinic, even if they're not from the same patient. But it helps us kind of put a face to the work that we're doing and it serves as a really great motivator. And I think it also serves as a... It humbles us because instead of focusing on getting the paper and getting the grant, we're focused on making the discovery that can positively impact just one patient's life.

Dr. Triparna Sen:

I think what the patient advocates do is they help bring system-wide issues to light that are required for clinical trial design, for what is important for the actual patients who is the ultimate goal role for our researchers. And my goal is to work with patient advocates to make my scientific studies more relevant to the field, more timely, because we now understand by speaking to them the urgency of the situation, and so make it more timely. And I think patient advocates play a very important role to help researchers like myself move discoveries towards clinical use, but do that in a more sort of not only timely fashion, but also help us design studies that are more relevant to clinical use.

Dr. Triparna Sen:

And another thing that has come to light is the disparity that happens in the clinical trials for patients with lung cancer. I think the patient advocates play an important role in bringing these disparities to light, and that can be addressed by researchers and by clinicians by addressing those disparities and moving towards more equity in clinical trial. I think so they play a very important role at multiple levels and LCFA has done an incredible job in connecting researchers to patient advocates.

Sarah Beatty :



And Kim, a term that comes up time and time again in these conversations with LCFA's young investigators is 'bench to bedside.' I want you to talk about that for just a minute. That's a really interesting term.

Kim Norris:

Sure. That's a term that we use to talk about how long it takes for a discovery in the lab to make it to a patient who needs it. So, for example, when you're in a laboratory you hear about using mice and discoveries, but that's just in theory, then you have to bring it to the human and that takes time. So that's what we mean from bench to bedside. And what we know from looking at lung cancer by the numbers is that, thanks to research, the time it takes for research to go from bench to bedside is getting faster all the time. It's just so exciting.

Diane Mulligan:

It really is Kim and Jessica Donington and Kellie Smith, they both talk about the how and why, and the pace of bench to bedside medicine, how and why it's increasing lung cancer research.

Dr. Jessica Donington:

Bench to bedside has never been as fast as it is now in lung cancer. It is incredible. Things we never considered as little as five years ago are just commonplace now. It was very funny I was working with one of my colleagues and she said, "Oh, yeah, I don't treat one person the same way I did five years ago as a medical oncologist." And then I sat down and go, "Oh, you know what? I don't either." Like none of us do. So there's this whole synergy about the science too, as it advances in one area, it becomes easier to integrate it into others and it's really exciting.

Dr. Kellie Smith:

As a PhD scientist, we very rarely see the fruits of our labor actually pan out in the clinic. I mean, it's very rare. But with lung cancer research, because as you said, it's moving at such a rapid pace, we are able to see these discoveries making their way into the clinic in an accelerated timeframe. So things that we have discovered five, six years ago are already in the clinic in clinical trials. So this bench to bedside medicine is a phenomenal thing to be a part of within the context of lung cancer.

Diane Mulligan:

We talked about this a little bit ago, of the 17 young investigator grants LCFA has awarded. 10 have gone to women, it feels like that is really meaningful given the fact that the rates of lung cancer are still increasing in young non-smoking women.

Kim Norris:

Yes, this is a very frustrating element of lung cancer. We know from the numbers the lung cancer disproportionately affects women, especially young women, but we're still trying to understand why. In



the meantime, women advocates are paving the way toward greater awareness of the problem of lung cancer.

Sarah Beatty :

And we talked about how research equals hope. Research equals hope all the time and Jessica Donington and Kellie Smith help explain how the patient advocates are so important to changing the experience of someone living with lung cancer.

Dr. Jessica Donington:

You know, lung cancer for a long time has had a stigma issue as being seen as a male disease, with people who have smoked for 100 years. And it's just not, it's not that disease. And I think that our advocates which are very heavily female like a lot of cancer advocates are, have really done so much to change the face of lung cancer. And to make sure that everybody knows that no one asks for this disease. This is a tragic disease that can happen to anybody with lungs. And even in those smokers, they did not ask for this disease. And so I think that that population is really... I think they do more to change lung cancer than even us as investigators.

Dr Jessica Donington:

The ability to change the face and to get rid of stigma, I think is one of the most important steps in treating this disease. And I'm all for funding female investigators. When I got into lung cancer 15 years ago, it was a very male-dominated field in terms of the doctors who treated it and the researchers who performed the research. And I always believe that a group of physicians and researchers that matches their patients provides the best care.

Dr. Kellie Smith:

I think the awareness of lung cancer is important as well. So outside of the scientific bubble we are still humans in the world, right? We're people in the world. And becoming more aware of the impact of lung cancer is very very powerful. And when I started working on it, I didn't know that it was the number one cancer killer. I didn't know that the five year survival was so poor. I didn't know that most patients with resectable disease will eventually go on to recur. And I think now a lot of the public is starting to become aware of these facts and these numbers.

Dr. Kellie Smith:

And you talked a lot about the numbers in Lung Cancer Awareness Month, but prior to a few years ago, people didn't know these things. And the advocacy groups like LCFA, especially, have done a wonderful job getting these numbers into the minds of people, so that they realize what a problem it is. And ultimately that is going to help drive more researchers in because as I said, they're scientists, but they're also people in the world who have Twitter and have Facebook and they see things on the news. And that's what motivates them to go into these area of study.



Diane Mulligan:

Kim, we are so glad you joined us today to talk about the hope for people living with lung cancer. Thanks in part to the incredible research being done by Lung Cancer Foundation of America's Young Investigator Grants.

Kim Norris:

I'm so happy to talk about how research equals hope when it comes to lung cancer. And I am especially proud of the work that all of LCFA's young investigators are doing. I like to say we have this amazing portfolio of young investigators that are doing amazing work. And it's thanks to them and so many researchers like them that we'll continue to make great strides in the fight against lung cancer.

Diane Mulligan:

Absolutely. And we'd also like to thank Dr. Jessica Donington, Dr. Triparna Sen and Dr. Kellie Smith for joining us on this podcast episode.

Sarah Beatty :

And thank you for joining us. And if you're enjoying the Hope With Answers: Living With Lung Cancer podcast, consider making a donation to help LCFA produce this resource for patients or anyone seeking answers, hope, and access to updated treatment information, scientific investigation and clinical trials. It's really easy, just text LCF America to 4-1-4-4-4 to join in this important fight.

Diane Mulligan:

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