Dr. Amanda Eggen, Director of Patient Engagement and Clinical Programs, *RUNX1 Research Program*

Welcome, everyone. The goal for this podcast is to tell the story of the Research Guided by Patients Initiative, a project launched by the *RUNX1 Research Program*, establishing a diverse stakeholder group of rare disease patients, researchers and clinicians to prepare to partner and codesign patient-centered outcomes research for our rare disease of focus, *RUNX1* familial platelet disorder with predisposition to hematological malignancy.

This is research that puts patients at the center and ensures their perspectives and priorities are a part of all aspects of research, development, design and implementation. My name is Dr. Amanda Eggen, and I'm the Director of Patient Engagement and Clinical Programs for the *RUNX1* Research Program. With me is Dr. Katrin Erickson, RRP's Executive Director. Katrin, would you like to introduce our disease and our organization?

Dr. Katrin Ericson - Executive Director, *RUNX1 Research Program*

Sure. *RUNX1*-FPD is a rare monogenic disorder caused by germline mutations in the *RUNX1* gene. Though we are learning more and more every day about the range of signs and symptoms patients experience, in general, the majority of patients experience lifelong bleeding issues caused by a decrease in the number of platelets as well as poor functioning platelets. While bleeding issues certainly impact quality of life, the biggest concern for patients is their 30% to 50% lifetime risk of blood cancer.

The true prevalence of the disease is still unknown, but our internal epidemiology analyses estimates that there may be as many as 18,000 *RUNX1*-FPD patients or individuals within the United States right now. And the *RUNX1* Research Program - we're a nonprofit organization established in 2016 by a patient family. We're focused on supporting patients by empowering the patient community's voice and funding world-class research to prevent cancer.
Amanda

Thanks, Katrin. I'm glad you mentioned the patient voice. Ensuring that the patient voice is truly heard and integrated into RUNX1-FPD research is what motivated this effort. We will share lessons learned in order to help other rare disease groups consider best approaches for them to assemble a similar program.

Katrin

Amanda, it might be worth noting we'll be including a few others in this podcast, including PCOR experts from the National Health Council, who were wonderful partners to us and consulted on the project from the very beginning stages to the bitter end, and several RGPC members, including our chair of the committee, Georgie Blackburn.

Amanda

Great. Thanks. So let's start from the beginning. Katrin, can you talk about why we decided to launch this initiative?

Katrin

Well, when I think back to RRP in the second half of 2019, just after you joined actually, Amanda, we felt great about the momentum of the research field and as an organization with our partners, we had committed over $3 million at that point towards research, both to build models for future testing of treatments in the clinic, and also we had put money towards the RUNX1 database to help us aggregate and describe clinical patterns across patients with different variants across the world.

Additionally, at that time, the NIH had launched a natural history study, the first of its kind on RUNX1-FPD. So with all of this momentum, the one piece that was missing was really a focused, organized approach to infusing the patient voice and the patient experience into our research processes.

Amanda

Definitely a challenge and an opportunity to have this research momentum, as well as a handful of really activated patients, ready to be more involved in the process. So I recall in 2019, we met in Aspen for RRP's third annual Scientific Conference. Near the end, there was a dynamic discussion amongst researchers about how to begin designing an early clinical trial to test some promising drugs for our community.

While so much was understood about the science of the disease, so many questions remained about the patient side of the equation. What realistic endpoints would be both acceptable to the FDA, but also acceptable to patients? What were the most important aspects to patients beyond cancer prevention? What would be acceptable side effects? The community was not sure. We knew we needed to build out infrastructure to include patients in these sorts of research design discussions.
Katrin

Yeah, it was right around that time, actually, that Monica and Tim Babich, our two founders, had introduced us to Sean Cryan, one of, if not the very first RUNX1 patient the Babiches had met just a year or two before founding the organization. And Sean, it was really great because he had come to them with a real interest in helping in our mission toward a cancer prevention. He himself had experienced MDS and went through a transplant. And his daughter, who at the time I believe was a teenager, had been diagnosed with AML and also successfully went through a transplant. But even with those successes, having beat MDS and having beat AML, both he and his daughter suffer routinely from the results of a transplant.

Amanda

Yes, I spoke to Sean pretty quickly after Tim and Monica introduced me to him, and we spoke about launching a patient and family advisory council that he was really interested in to really focus broadly on patient community building, education and awareness, other areas of our focus. But also on building out a research focused arm. He really liked the idea, so we began to look around for the best way to do this.

We came upon PCORI, and they’re expensive resources on PCOR methods, and one rare disease organization focused project previously conducted between the National Health Council, the University of Maryland, and was a project that was funded also by the Eugene Washington Capacity Building funding mechanism which supported our project. Perhaps Dr. Eleanor Perfetto, the Executive Vice President of the National Health Council, could speak to this project a bit. Eleanor?

Dr. Eleanor Perfetto, Executive Vice President, National Health Council

Thank you. Amanda. Thank you for asking me to join. I’m happy to talk with you a little bit about the project that we did with the National Organization for Rare Disorders. It’s called NORD for short, and we had the pleasure of working with them. It was actually their idea to bring patient-centered outcomes research to their constituents, to the members of NORD. They wanted to be able to have them understand what it is and understand how to get involved and to do the work within their own organizations to really bring patient centered outcomes research to the patients in their disease communities.

So we worked together. We got the funding from PCORI, and we created a program in modules so that any of their members or NORD themselves could take those modules and implement them. And the idea was to build capacity in that rare disease community to be able to do patient-centered outcomes research. And you have to begin by understanding what it is and what the patient’s important role is, and then go off in different directions when it comes to actually becoming engaged in what they can accomplish.
Amanda

Thank you, Eleanor. So we proposed a project to take the tools developed by this team and apply it with patients, clinicians and researchers in our community.

Katrin

And we really wanted to use these tools to build the foundation for a similar group for RRP, even though RUNX1 research was not yet ready for clinical translation. Our thinking was, the earlier the better.

Amanda

That's right. We knew it felt early, but if we built the tools at this point for a sustainable program, the field and the patients and families would benefit. Eleanor and her team agreed to serve as advisors on PCOR methods, and we were delighted when we were awarded the capacity building funds through the Eugene Washington PCORI Engagement Awards Program to support this effort. Katrin, do you want to talk about the process as it started?

Katrin

Yeah. So how did we start? I mean, really our first task was to recruit a diverse stakeholder group for the committee, which we were calling the Research Guided by Patients Committee. We had committed upfront that we would recruit 13 founding members for the committee, and that this group would have a heavier weighting towards patients and family members. But, of course, include other key stakeholders like clinicians and physicians.

Amanda

Yeah. So we knew we'd have Sean, who we talked about earlier as one patient, and that we already had begun to really get to know a handful of active patients who are ready to be involved. Many had expressed interest in learning as much about the research landscape as possible, and saw this as a really great opportunity to expand that knowledge and really get involved.

Katrin

Yeah. And because we had spent several years through research funding, and also through our annual conference, building our research community, we already had several academic clinicians who had really appreciated that first foray into meeting patients at our 2019 conference and expressed a real interest in joining a committee like this.

Amanda

And then do you remember our debate at this point when we were thinking about the patients and family members to invite, we thought, do we extend individual invitations to those who we knew already had a real leaning towards research and a sort of background in medicine or health? Or would it be better if we
really started with a broader group in case we were sort of too biased and would miss some of the quieter voices and different perspectives?

Katrin

Yeah, I remember debating this and I think we ultimately landed on the value of a very diverse group, if possible. But since we were starting by building a foundational training for a group like this, we opted for a first round with those who already had a real interest in research and then planned to diversify the committee and the group of participants in year two and beyond.

Amanda

Yeah, so upon reflection, as I look back across the last two years, I think that feels like the right choice. Even though we kept returning to the need to make sure we included more patients who might be on the fence about research and might be part of a harder to reach group who is often looked over for genetic testing research, such as lower income and people sort of not already in the research space and clinical trial space. So I think the approach of starting with small steps really worked out, though we of course hope to grow soon and we continue talking about diversifying.

Katrin

I think when you're starting off from scratch, it's really important to have those early quick wins and not feel discouraged. So I feel good about the approach we took. I remember actually one of our very first patient members that we invited who, fortunately gladly accepted, was Georgie. And it's through this whole experience, this Research Guided by Patients Committee experience that she really elevated and became a major advocate for our disease. And with her background as a patient herself, but also unfortunately, she represents a few family members, including her children, that are affected.

Amanda

Georgie, can you say a few words about working with us on this committee and why you joined us?

Georgie - RGPC Chair and RUNX1-FPD Patient

It's my pleasure to be part of this committee and it would be my pleasure to join the RUNX1 research group. In the beginning, I've been a RUNX1 patient since 2019. There are four generations in our family that have it and my mother passed away from it. So certainly it's of interest to me where progress can be made. And when the aspect of research guided by patients was brought to my attention early on, I thought, okay, this gives me a voice to what is going on within the community. And I have always felt that having a voice empowers a person and it would allow me to learn as much as I possibly could about the illness and see what I could do to help.
Amanda

Thanks, Georgie. Next there was Kathleen Babich. She had previously been on the PCORI Patient Advisory Board. We knew she'd bring great personal experience, but honestly, we had been respectfully trying to give her space. So when I spoke with her for the first time and just learned how interested she was in helping the foundation and getting to a cancer prevention, and learning that she had been studying for a PhD and really focusing on patient engagement with RUNX1-FPD community members. I thought it was a perfect fit and she was thrilled to join. I'll have Kathleen introduce herself next.

Kathleen Babich - RGPC Member and RUNX1-FPD Patient

Hi, I'm Kathleen Babich and I'm a patient member of the Research Guided by Patients Committee. I’ve had various roles as a patient on the committee. First, I am a RUNX1-FPD patient who has had AML and had an allogeneic bone marrow transplant 25 years ago. I am the mother of two sons with RUNX1-FPD and I'm the grandmother of three grandchildren with this blood disorder. I was sister to a RUNX1-FPD patient who died of complications post AML and bone marrow transplant, and I was a daughter to a RUNX1 myeloid malignancy patient who died from not Hodgkin's lymphoma.

My initial introduction to RRP was through my son Tim Babich, who with his wife, my dear daughter-in-law Monica, co-founded the RUNX1 Research Program in early 2016. I contributed to our initial research endeavors by procuring available samples from family bone marrow biopsies and having these sent to Dr. Paul Liu’s lab at NIH for analysis. Then I visited NIH’s National Human Genome Research Institute to contribute a skin biopsy for sequencing. Later, I enrolled as a patient in the NIH RUNX1-FPD clinical study, and two years ago, Dr. Amanda Eggen invited me to be a patient member of the Research Guided by Patients Committee.

I could not have been more delighted that I have been a member of this team and I’m thrilled that I’ve had the opportunity to be in a role where I can help make a difference. Finally, the patient and patient family are integral members of the team, working alongside with clinicians researchers, and other health care professionals.

Serving on the Research Guided by Patients Committee has provided me with the opportunity for such valuable learning, such as RUNX1-FPD biology and the current state of research, how medical research is conducted using the scientific method with conclusions only based on objective, factual evidence, learning about patient centered outcomes research or PCOR basics and building equitable patient centered outcomes research for RUNX1-FPD. My exposure to webinars and presentations by top world class scientists in cancer cell biology and hematology in such areas as clonal evolution and RUNX1-FPD has been so informative and enlightening. It is so important to be an integral part of the research team.

Amanda

Thanks, Kathleen. So, as we invited these new individuals to join the group, we set up pretty structured interviews for ensuring that we discussed the goals of this project, what we're trying to accomplish, but also to really hear from them, what they hope to get out of something like this, and what their involvement
really meant for them. And I along the way took really careful notes about that to ensure that it would inform our draft engagement plan with the community as we launched.

Challenges that were mentioned, by a lot of people really, most included competition for time and a need for us to be as flexible as possible with the ways they could participate, such as recording sessions and sharing later for sort of self paced viewing and follow up discussions. Because everybody was ultra busy with their own lives and their own professions. So we had to really think about that, and that's something that I took away from the interviews as we move forward.

Katrin

You were having these interviews February 1, 2020, and that was a month before the global COVID-19 pandemic hit, so this approach to thinking about flexibility and providing convenient times, all of that ended up becoming so critical. And so it was good to know that we already had a path forward and that we were ready to execute.

Amanda

Absolutely. The world really turned upside down, as we all know, and sort of stayed upside down to date. But yeah, we really had to be flexible and make some quick modifications to our plan engagement approach. So while we originally planned to hold quarterly meetings, three out of four of those would be on Zoom since our RGPC members are located across the world and we're a rare disease and that's just what we deal with. We had planned to hold our major meetings and training events in person alongside RRP’s annual conference in the fall or each fall, and we were all looking so forward to getting to know one another in person and connecting that way.

So it was really disappointing we could no longer meet in person, but we did find some value in being able to record everything and really think about self-paced learning methods from the beginning to make it as flexible as possible to reach people across the world.

So knowing we'd eventually want to put the materials online, so that many others could participate, and other rare disease groups could leverage the tools we developed, was definitely a benefit. And we were glad to learn, later, that several patients felt really much more comfortable not traveling to meetings given their post stem cell transplant state of immunocompromised.

Katrin

I'm curious, as part of the draft engagement plan, we had put forth an honorarium that we would offer all RGPC members, and I don't think I was actually there at the meeting when you proposed that. And I'm curious, how did the RGPC Round One members react to that?
Amanda

That's a good question. I think they actually really appreciated it. Several of them said, “oh, Amanda, I'm really not in this for the money. That's not why I'm doing this.” But I got a feeling that they really respected, or they appreciated the respect that it sort of demonstrated in that offering to them. The respect for their time and the energy that they put into the work.

Katrin

Pharma and biotech industry honorarium for clinician expertise is widespread, and it's great to have a program in place where we provide honorarium to patients and family members and caregivers because their expertise is of equal value. So I was so excited to be able to offer that as part of the Research Guided by Patients Committee initiative.

So we launched into year one, and at that point, we had said we had aimed to recruit a full 13 members. How long did it actually take us to recruit the founding members of RGPC?

Amanda

I think in the end, from start of recruitment to confirmation of a sufficient number and composition of the committee, it took about three months, I believe? During that time, we created flyers that we posted through social media and sort of spread through our community, our networks on both the research clinician and patient and family side. But we also extended very individual invitations to those who we knew were sort of interested in this work and interested in being involved.

So in the end, even though we were targeting about 14 members for the committee, we ended up deciding to move on and get started with 13 members. And that was partly due to it - it took some time to get people's attention and to have these conversations and to sort of make sure we had people who had the flexibility to participate again in the midst of COVID. They have so many competing priorities for their time. There was one patient who really wanted to be involved, but he decided with COVID, it just wasn't going to work for him. He was working from home with kids, his partner was working from home. They just couldn't do it.

Amanda

So we moved on with 13 members, and that included four patients, four patient family caregivers, four clinicians, who, by the way, were also researchers, as they were academic clinicians, and then one basic scientist researcher.

These RGPC members primarily hail from different regions across the United States, but one of the family members is from Northern Ireland. So as we move forward, we will continue to strive for even more diversity in terms of geographic location and cultural background. But we thought this was a really good mix to start with.
Katrin
So we recruited our first founding members, and then the next step was for us to hold focus groups. Maybe you could walk through, Amanda, what this focus group part of the project entailed.

Amanda
The goal of these focus groups was to understand what the RGPC felt they and their peers needed to learn in order to leverage their varied expertise and perspectives to participate well in patient centered outcomes research.

So we first developed focus group guides based on the input received during the individual interviews when recruiting for RGPC members, as well as input from the National Health Council team based on their previous experience with similar groups.

We decided also to split up the group so that one included patients and family members, and one group included researchers and clinicians. Though we saw value in building bridges across stakeholder groups, of course, we felt this was the best approach for the focus groups to ensure that everyone had time and real room to express their perspective. Then we would bring the groups together for a larger group discussion soon after.

Katrin
I do remember that being a discussion that you and I had, and the rationale for splitting the two groups up, I think especially because the focus groups were online and we weren't in a room together, and so there's not really that ability to connect with people.

It was an important step for us to take and just honor the fact that this group didn't really know each other very well and that we wanted to respect the fact that there can be a sense of intimidation around physicians and counselors where patients think, “oh, well, they probably know so much more.” And while you and I and many others who are in this line of work know that that's not true, it can be a prevailing theme. So, I thought it worked out well. And I remember how valuable the focus groups were, and I think it might be helpful, actually, if we share some of those key takeaways from those initial focus groups. What do you think?

Amanda
Yeah, for sure. So, some key takeaways that we really brought forth that it would be helpful for everyone to really understand the basics of RUNX1-FPD biology as a foundation for processing the science and the research that we'd be discussing moving forward. And then to really gain some basic language or some shared language in terms of rare disease, genomics genetics and health research in general. And that there was some worry that we expected patients to be real experts in research. And so that was a really important point to focus on. It really highlighted a need for us to reiterate that they would not be expected to be experts in research. That's what the researchers are for.
They’d be expected to be experts in their experience with the disease, and that's really what they bring to this. And the value of them being a part of this, their experience living with the disease, is something that none of the rest of us have. And so that is the key to them being active and providing their voices in this setting.

So I just want to reorient our listeners at this point. We had completed three months of recruitment for our RGPC members, and then followed up with a month to focus on the focus groups. We then developed a summary of takeaways from focus groups that ensured we built the training curriculum to really address what we had learned from the RGPC as important as we got started on patient centered outcomes research together.

So then we went on to build a training program with four very specific modules or topic areas. First, we focused on an introduction to health research. Second, the basics of the biology of RUNX1-FPD and also an orientation to where RUNX1-FPD research was at that point in time. Third, we developed a module on the basics of patient-centered outcomes research and comparative effectiveness research, which we refer to as PCOR and CER. And then fourth, how to apply PCOR and CER to RUNX1-FPD specific research projects underway or being developed in the near future for our disease.

So first, let’s discuss how we approach developing the basics of health research. In addition to taking the input we received from the RGPC, we began by looking through existing curriculum that we could find online and from various sources focused on health research basics.

I had been really looking at a lot of different materials that I could adapt to a brand new slide deck and a script to go with it to recreate the concepts. But when Eleanor and team reminded us that it was really best not to recreate the wheel, and that there were other experts out there who could really cover those concepts and already have, it was a real relief.

So I started looking at everything with a new eye, and I found really a lot of great options from the NIH, NCATS and the CDC and other health research focus groups. But the best option I found was a newly launched PCOR program called Research Fundamentals Training Package, developed by PCORI.

It's about a five hour self-paced, very interactive program that walks any layperson who might want to learn about health research through the process and how patients can be involved. But we decided that was way too long for our purposes for this specific group. So like we have said, they don't need to be research experts.

Eleanor

Yes, so Amanda, one of the things that we at the National Health Council talk about a lot, and I know that's something that's important to PCORI, is that the purpose of patient centered outcomes research is not to turn patients into researchers. That's not the goal. It's not the intent. And so we don't want to make them seem like they're going through a master's course on research when their role is already pretty well established. They are experts in their diseases, so we don't have to make them experts in statistics or
experts in clinical trials. We have those experts that we bring to the table. The researchers are there, the clinical specialists are there.

But we need the patients at the table. What we need for them to do is represent the voice of the patient, to have everyone understand what's it like to walk in their shoes for a day? What are they experiencing? What are the things that are most important to them? That's their role. That's the thing that they're an expert at. We don't have to teach them that. They already know it. We just need to teach them that there's an expectation that we want to hear their voice and that they should be telling us these things, and we want to bring them to the table for that purpose, and they shouldn't be afraid of that. It's something that they can actually make a great contribution on.

**Amanda**

Thanks, Eleanor. So what we decided was to provide them a really high level introduction to what health research is and the language to use in that context, and then try to keep their perspectives as sort of fresh as possible and close to their own experiences with RUNX1-FPD, so they could contribute their perspectives to the research endeavor.

**Katrin**

Yes, I remember, Amanda. I remember at that point you actually tried to obtain the original recordings from PCORI so that we could cut that long five hour video into smaller pieces. And unfortunately, we weren't able to get the original. So we were, I think, quite innovative, and we found a solution and decided that maybe the way to do this is for you to screen record the video, and that would then allow you to actually make those clips directly yourself.

And then it also allowed us to add in materials that we felt were more appropriate and really customized to our specific disease. So it ended up working out really well because we were able to splice in different elements that we felt demonstrated how one could apply some of those key concepts in the context of RUNX1-FPD which, of course, is why we were bringing this whole committee together in the first place.

**Amanda**

Yes, I was so glad as we're, the RGPC members, that we were able to whittle the five hour program down to a shorter than one hour program with all of the basics they needed. And that actually included an additional little video, one of those sort of cartoon sketch-style videos that really nicely illustrate the basics of clinical trials and drug development, which I think is really going to be key for our community in the near future and long term. So we knew that was an important process for them to understand.

One important feature of this Health Research Basics training module that we created was the importance of offering true, vivid examples for all audiences to process new information. So having the base material that was really focused on diseases that were familiar to a general audience, like depression, diabetes, and heart disease, was a really nice way to illustrate these health research concepts for this audience. And the RGPC appreciated that quite a bit. But I did, as we talked about, add parallels to RUNX1-FPD
and how these concepts would be applied and are currently applied to our area of research, now and into the future. So, that seemed to really strike a nice balance for the RGPC members.

We did, as you know, go on to conduct a pretty thorough evaluation, including discussions at the end of these modules and an online, anonymous quantitative survey. And findings really showed that the RGPC members felt good about that approach moving forward.

Next in the process was a module on the basics of biology and cancer development for \textit{RUNX1-FPD}, and a summary of the current state of research. That's really, Katrin, your area of expertise, and you took on this great effort to create all of that material. It was quite involved, as I remember. Would you like to go ahead and walk us through that process?

\textbf{Katrin}

Yeah, thanks, Amanda. It was quite involved, but I do have to say it was really enjoyable for me to just take that time and space to think through how do I make sure that our patient community and, especially these RGPC members, have a good grasp or understanding of the genetic basis of their disease? How do I help them understand the differences between types of genetic mutations and their role in the disease pathogenesis of \textit{RUNX1-FPD}? What's actually happening inside their body, in the cells that are actually driving towards cancer? And then what does the research community think is the reason for cancer development, and how might we interdict cancer development?

What I tried to do was think about learning styles knowing that different types of learners may have preferences for auditory learning versus visual learning. So we created an audio visual story, essentially allowing for different types of learners to find the material and concepts accessible. In the end, it was important to convey the fundamentals about the disease and also the tools that are being applied in the research community to better understand the disease and develop therapeutic interventions.

So it was a lot of work, as I said at the beginning, but it was 200\% worth it. And the process of creating this resource was really fun, too, because we pulled in a patient to help refine the graphics and the transcript, and we had her even weigh in on all of the analogies that we use to try to explain different core concepts around the disease biology. So I felt that process, too, was a great success and highlighted to me the value of a collaborative group engagement on driving these kinds of resources to really ensure that the audience is going to feel that this information is truly accessible.

\textbf{Amanda}

I'm so glad you brought up Janna. She's the patient who was really involved in helping refine these materials. She actually wanted to join us today to say a few things about her experience in helping us create the material, because she really took away some value from that process as well.
Janna - Freelance Designer and RUNX1-FPD Patient

So I've freelanced for rare disease organizations ever since my dad passed away from MDS in 2015, and I've always been responsible for making things less clinical and more user friendly. But this time I am a RUNX1-FPD patient myself, or a person with a RUNX1 mutation. That's what I changed a lot of the wording in the presentation to be because I don't really consider myself a patient yet. I know I have this mutation, but it doesn't affect my daily life. And I know that there are a lot of people out there like me, but I also know that there are a lot of people out there who maybe do have more in their daily life to deal with as a result of RUNX1.

So I really wanted to create something that was not too alarmist, but also something that was realistic and informative. And when I started on this project, Amanda was worried that maybe it would be too hard because the topic was something that I was so close to. But I actually found it was the opposite. Knowledge is power. We hear that all the time. I learned so much, like, for example, the fact that a germline runs one mutation alone is not enough to cause cancer. And the more you know about something, the less scary it is.

Amanda

Thank you, Jana. And so, in summary, I really thought that you both did a great job balancing clarity as well as really teaching these concepts while also considering time, because, as we know, this could have been more like a six hour session with all of the complicated concepts to explain. But again, we did not want to transform our RGPC members into RUNX1-FPD experts, but rather really provide them the basics to build upon so they could provide input from their own experience from there.

But I should mention that these tools have been so valuable not only for the RGPC, but for our patient community at large. We shared these beyond the RGPC themselves, and so many patients really appreciate the greater understanding that they have now on the basics of the disease, and the basics of research and where our community of researchers are in discovery and clinical findings to date.

Katrin

Yeah, I think you’re absolutely right. I think that is a challenge we’ll always face, given the complexity of research and the speed at which the field innovates. And thinking about how we keep materials short and succinct will be front and center for us. But also, we need to ensure that we’re explaining sufficiently all of the key concepts and the most useful terminology so that people feel fluent in their knowledge of the disease.

Amanda

So one thing I did want to talk about today was a concern that you and I had at the beginning of this whole process. As we began to really bring patients into understanding RUNX1-FPD research, and where we were in the trajectory toward a cancer prevention, we had this concern that maybe patients and family members might have a sort of difficult emotional reaction to understanding how early in the process we
were and just how much more time might be needed in the process of discovery toward a cancer prevention.

Katrin

I think there's really two sides of the spectrum here. There's the concern of sharing that, “hey, we're really early in this process, and a cancer prevention could be a decade or more out.” And that's hard to deliver. But at the same time, on the other end of the spectrum, there's the concern that we are suggesting we're really close by describing all of these really fruitful discoveries within research and that we see a clear path towards clinical trials, doesn't necessarily mean that a cancer prevention is going to happen in the next year or two.

It's really about striking that balance and trying to be thoughtful about how you describe where we are and being honest and making sure that no one feels that not enough knowledge is being offered or provided to, in some way, shape or form protect the patient community from things they may not want to hear.

Amanda

Yes, thankfully, we spent a lot of time talking with each other with the National Health Council team and some of our RGPC members about this. And in the end, like you said, we just realized it was so important just to be honest and truly open, and we received a very positive reaction from the RGPC as a whole with this approach of open dialogue about where research is and where it's going. So I actually wanted to bring Eleanor back in for a moment to just speak to the value of this a bit more.

Eleanor

PCOR, patient centered outcomes research, came to the forefront as a reaction to the paternalism that we were seeing in research and that patients don't want to have someone doing research for them, on them. They want to be part of that research and you're not protecting them. They know what they live with every single day. You're not protecting them from it. They have that experience, they know what it is. So partner with them and be open and honest and transparent because that's what they want. And yes, they can handle it because they're already handling the every day of their disease and they know it better than anyone does.

Amanda

Eleanor, that is a really great segue into the second part of the module that we were building during this part of the project. As mentioned, we developed a self studied video covering an introduction to the biology of RUNX1-FPD. From there, we really needed to orient all of the audience members to the current state of research for RUNX1-FPD. We did this separately because we knew that moving forward, RUNX1-FPD research would evolve and change over time, and we knew we would want to tailor this part of the curriculum to the research that is going to be happening in the future.
We decided, in fact, to center this section of the curriculum around the annual RUNX1 Scientific Conference that the RUNX1 Research Program hosts every fall. That way, we could encourage this bi-directional discussion and perspective sharing that you mentioned by including scientists working on RUNX1-FPD in those discussions themselves.

Katrin

Yes, we had scientists come directly off the scientific portion of our conference to help synthesize the key takeaways. And while we prepared them for the need to use plain language, we quickly realized that this is not an easy feat. It was a challenge, and given that the conference had just ended the day before, they still ended up going into the weeds, going quite deep on the details of the research and the different tools used to find these new results.

And so we learned that by asking them to come back the next morning and present at a very high level to our patient community was probably not a very realistic ask. And because these scientists weren't directly involved in the RGPC, they didn't quite have the context around what we were really looking for and weren't really successful in succinctly describing those key takeaways in a way that felt, again, accessible to a patient community.

Amanda

Actually, the evaluation showed quite positive responses from the RGPC members who attended the session. We did feel it was really important in future years that we would add more time between events and really offer sort of a translation step for these learnings. So we did this last year for the second RG PC Cohort, and that was really very well received by all. As you might recall, you and Nancy Speck, our scientific advisory board chair, spent several days working through translating these learnings into a very nice presentation. And absolutely, we received such positive feedback from the RGPC, and then there were other patients that attended this session and really enjoyed it.

So I think this was a big takeaway from this work. That it's really important to recognize this translation step and the value of it, and the importance that it happened in these sort of settings for patients and family members to fully be a part of the research endeavor.

Katrin

I would add that the translation is perhaps even more important now, given where we are in terms of research, then it might be later down the line when we're actually talking about drugs, clinical trials, clinical outcomes, and the responses in our conferences, hopefully in the near future.

But right now we're really talking about basic science and translational research projects, which frankly use a lot of novel, innovative, cutting edge technologies to understand genetics, genomics, cell biology, and no one off the street can really pick that up right away. Even scientists have to learn how to understand and interpret these data.
So trying to explain the value of such projects and the results and how that translates into future clinical interventions takes a lot of time. And so we learned that, and we need to give ourselves at least a few days to sit down and think about how do we best explain the value of these projects? What analogies make sense and work? And once you create that space, it all works out.

**Eleanor**

Also, just as we want patients to come to the table and we want them to be the expert in their own disease, when we think about training them. We want to train them so that they will feel comfortable participating and they'll feel like they can contribute. But that training actually has to go both ways. The clinicians and the researchers, they also need some training in order to best work with the patient community. They're very used to using technical, clinical language. They may not have an understanding or may not really understand exactly what it's like to be a patient having those experiences or understand all the experiences that patients have.

And so we also need to train them to be able to work with the patient community, to really be able to learn from the patients and to take that information that they get from them and really use it in the best ways in their research. So it's bi-directional conversation, but it's also training on both ends. It's training for the patients, and it's training for the clinicians and the researchers. I think we have a tendency to think, oh, we need to train those patients when actually it's on both sides. Both of them need to be able to learn how to communicate better with one another and to have the right expectations.

**Amanda**

So they created two modules. The first one was a standalone module to introduce basic concepts and definitions of PCOR and CER and principles that this type of research is based on. And then they provided some rare disease examples of how PCOR has been applied to other, more familiar diseases that are perhaps a little further down the line in research than *RUNX1-FPD*.

We worked together closely on the second module to identify where *RUNX1-FPD* research is now and immediately heading, and we selected specific examples that would best illustrate how patients can work with researchers and clinicians to apply PCOR to those research projects and where we were.

**Eleanor**

We listened to the information that you provided through your discussions with the patient community, and we heard from you the kinds of things that your organization is working on. And so we tried to incorporate those kinds of things into the modules that we updated for your purposes. But then we also added some new information that came just from learning from the field. So, for example, we had had a glossary of terms that was part of the original program. That glossary of terms has since then progressed into a whole taxonomy of different terms. And so we were able to provide that new updated glossary of terms rather than rely on the older one.
So I think it was a combination of those two things, making it more customized for the RUNX1 community, but also making sure that it was the most up to date information that we can incorporate in.

**Amanda**

Thanks, Eleanor. In the end, module three offered a really solid foundation to PCOR and CER concepts. And so then we were really set up for a final module, taking these PCOR/CER concepts, and illustrating how they can be applied to RUNX1-FPD specifically.

So we work together closely with Eleanor and her team to identify research case studies of sorts that would be perfect for the current state of RUNX1-FPD research and very ideal for patients, family members, and clinicians to join us and come together in codesigning RUNX1-FPD research projects. So perhaps, Eleanor, you can speak to this module development?

**Eleanor**

A couple of the things that we really wanted to zero in on were things the RUNX1 community actually has actively going on or is pursuing, and that includes a registry, and it also includes clinical trials. So because we knew that, we knew that those are the areas that you have an interest in that you’re working in, we were able to incorporate those in making sure that these modules were a little bit more customized for the RUNX1 community than just a generic module off the shelf. Which is essentially what we had created so that a community like yours could do the customization that it would need.

**Katrin**

Thanks so much, Eleanor. You guys have been just such great partners throughout this project. Actually, the clinical trial opportunity is really exciting because we’ve brought together a multistakeholder group of investigators from several institutions, and we’re going to bring in the RGPC in the coming year, just after this project ends.

We’re going to start by having them weigh in on the protocol study design, and they’re going to help us think through study recruitment. It’s just really exciting that the RGPC will be starting from the very beginning stages of a clinical trial. In fact, RUNX1-FPD’s first clinical trial ever. And weighing in, really applying the concepts that we’ve been working to develop and cultivate in this new committee.

**Amanda**

Yes, I think that this final module that walked through application of PCOR/CER to data registries and clinical trials, the RGPC is really ready to move forth and begin working with the rest of the RUNX1 community to begin co developing research. In fact, we’re all moving forward together, having learned some essential principles for patient engagement. We at RRP have solidly adopted these concepts throughout all that we do.
Let me pause and summarize those core PCOR concepts that we all learned in this process. First, there should be direct relationships and partnerships between researchers, clinicians, and the patients and family members themselves. There's no assumption that patients do not need to be directly involved in research. Second, learning and communication should be bi-directional, reciprocal, continuous between researchers and patients and their family members. Third, communication between all parties should be open, honest, and clear. And finally, goals, participants, methods, desired impacts, and actual impacts must be clear and transparent to all parties. Patients should be well informed throughout the process.

So since curriculum development, we refined the program based on RGPC input. Then we expanded our RGPC membership to eleven additional members and trained them in utilizing the new and improved modules. And now at this point in time, we have a committee of 24 RGPC members trained up on the basics of health research, \textit{RUNX1}-FPD biology, and patient engaged outcomes research and comparative effectiveness research. They were all ready to jump in and apply their learning to this work.

In fact, throughout the capacity building project, one challenge that we experienced was that this group was made up of very activated, engaged and passionate patients and family members who wanted to jump into conversations with researchers and get right into research design as soon as possible. And it was great having them help us in the process with their passion and excitement for this work as we were building this infrastructure. But we really have a chance now to launch into these next steps in working with them to design the \textit{RUNX1} Patient Data Registry, or as we're calling it the Datahub, and a clinical trial with that passion and energy.

\textbf{Katrin}

Yeah. So it's funny to think back. It turns out that we weren't as early as we thought we were. I think we went into it thinking, okay, we may not have an opportunity for patients to weigh in and start applying methods, but it turns out we do it's perfect timing and we're grateful that we've had this very engaged and activated group of 25 now ready to roll up their sleeves and start working and moving us forward.

\textbf{Amanda}

And finally, to wrap up, George and Kathleen will share a little bit about what this experience has meant to them, both with research and beyond to the larger mission of \textit{RUNX1} research program to find a cancer prevention for \textit{RUNX1}-FPD patients. They also touched on what they're hoping for in terms of moving forward with our community. Georgie?

\textbf{Georgie}

Every disease in my mind has to have a process, and this process has to take steps. It's like being in the forest on a hiking trail, finding the right way to the end. And I certainly want to be part of it. And I know all the others that joined this initiative wanted to be part of it, which is very empowering.

I feel that it's very important to be assured that I could do all that I could to help the initiative. And that initiative includes, as you mentioned, forming a Patient Data Hub collection that assimilates information
from all the \textit{RUNX1} patients, so that that information can be applied to solutions down the road. And also a possible clinical trial down the road that is an option for people to take part in to see if there are ways to prevent cancer or to cure the cancer as it occurs.

The thing I want to mostly get out of this is assurance that we will educate clinicians, so that people do not have the experience of talking to hematologists and other clinicians that don't know anything about \textit{RUNX1}. That through the webinars and the coffee chats we are empowering all of us that have \textit{RUNX1} to speak out about it in an educated way, so that we all collectively can drive toward the answers that keep us, and the generations to follow, healthy.

\textbf{Amanda}

Thank you, Georgie. I'm really looking forward to working with you on these initiatives. Kathleen, what will be your preferred focus, moving forward?

\textbf{Kathleen}

I've been a strong proponent of diversifying our patient group at large and have brought this suggestion up with the NIH clinical study team and others. This has been acknowledged in that alliances have been formed with other organizations to help reach out to underserved populations which may possibly have members with \textit{RUNX1}-FPD, but in whom it has not been yet identified.

Previously, there had been minimal recognition of this disorder. With the advent of RRP, progress has finally been multifold. Using our talents, resources and determination, change can and I believe will occur. I am proud of my role in this endeavor.

All in all, it has been an honor and a privilege to serve on the Research Guided by Patients Committee. I hope to continue with the input with which I have been involved, be of service and inspiration to our new RGTC committee members and help with new endeavors as they arise. We cannot just wait for a cure or better interventions for \textit{RUNX1}-FPD to happen on their own.

\textbf{Amanda}

Well said, Kathleen. Thanks so much. Georgie and Kathleen, we can't state enough how important you both have been for the RGPC and all \textit{RUNX1}-FPD initiatives. I'm certainly really excited to move forward in collaboration with both of you and the rest of the RGPC. Thank you so much, also to Katrin for being such a great co-leader in this effort, and for joining me today to reflect on the last two years of this project. Of course, we have to thank Dr. Eleanor Perfetto and Jana as well who joined to share their reflections on this experience.

And thank you to all of our listeners today. I do hope you took away ideas for being a part of a patient centered outcomes research project or program. Whether you're a \textit{RUNX1}-FPD patient or researcher who may want to join us in the RGPC efforts moving forward, or someone from another rare disease
community beginning to launch this type of initiative, we really hope you found some valuable ideas and inspiration.

We’d be more than happy to speak with you anytime and help however we can, because we feel it's very important for the whole health research to continue to work together toward greater uptake of patient-centered outcomes research and comparative effectiveness research.

For questions or more information about this podcast content, please contact Dr. Amanda Eggen.

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