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ReSound Government Services ReSound Relief: Tinnitus Management in the Digital Age

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Presenter: Michael Piskosz, MS
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Partner: ReSound

- - [Michael] Just wanna get confirmation for that, perfect. Well thank you for joining today's class which today we're gonna be talking about, the ReSound Relief app, Tinnitus Management in the Digital Age and a couple of other topics we're gonna talk about today. Aside from just going through the flow of the app and learning about some of the different features and exercises that are available in the app, we're also gonna go through the App Store a little bit and take a look at some of the reviews and the ratings in the Relief app. And then lastly, we'll go into the subscription model, for a little bit as well just so people can get an idea of what comes with that purchase. My name is Michael Piskosz, I'm a Senior Audiologist, for the Global Medical Affairs Group at GN ReSound. And in Global Medical Affairs we do a variety of things from presentations like this to working on research-based empirical evidence-based medical documents to support many of our features and platforms as well as work with a number of key opinion leaders around the world in a variety of different disciplines.

So first things first, the learning objectives of today's course, are one, to implement the ReSound Relief app, into the tinnitus management practices of clinics. So hopefully, you'll get some information that can allow you to implement this into your tinnitus practices back at the office. Number two, to guide and educate patients on proper use of the ReSound Relief app so hopefully you'll have a better understanding of the flow of the ReSound Relief app and therefore can transfer that information onto your patients. And then lastly, locate and interpret App Store ratings, reviews and development updates. There's a lot of good information in the App Store, regarding apps themselves. And sometimes a lot of people don't realize what kind of information is actually available to them. Many of the questions that sometimes I get from a customer service or technical support perspective, can actually often be answered in the App Store themselves, when it comes to the ReSound Relief app. So before we get into the app itself, I just kinda wanna set a landscape for the environment that we're gonna be working in, that we're gonna be talking about. And this is an environment that all of us are very familiar with and it's almost nearly impossible in today's world to

not be a part of it to at least to some degree. And what we're really talking about here, is the mobile technology and the data analytics world that we live in today. We all have mobile phones, some of us don't have smartphones yet but in the next five to 10 years as we see from the trends only more and more people are going to have access to smartphones as well in the coming years. But let's have a little fun with this slide first. This slide is a couple years old now so the numbers are probably even greater than what you see here. But each day the following happens on the internet and I'm sure many of us have already partook in some of these in today's morning. Six billion Google daily searches, 500 million tweets are sent. Over four billion Facebook messages are sent and almost six billion Facebook likes, happen every single day. Little over 3 1/2 billion Instagram likes happen every day and one of the most astounding figures to me is that 4 million hours of YouTube content is uploaded every day. When you do the math on that 4 million hours equates to roughly 420 years so a lot more YouTube content is uploaded every day, than I think any individual, could probably even watch in their lifetime.

Something that's really interesting as well is that 90% of all data that we have, have been generated over the last two years, when this came out. And as I said, this is a couple of years old but every day 2.5 quintillion bytes of data are created. And if you're not familiar with how large of number quintillion is, underneath there in parentheses, you can actually see it scaled. Million, billion, trillion, quadrillion, quintillion, sextillion, septillion, octillion, nonillion, decillion. So quite a bit of data is being collected every single day through a variety of different channels and that number is only growing and growing and growing. And then the question becomes, what do we do with that data? And we're gonna talk about that a little bit later on as well. To also set the landscape here, I think oftentimes, there's a misconception that the older populations, people over the age of 65 don't have smartphones relative to other cohorts. And that's simply not true. This study a couple of years ago showed that over 40% of adults over the age of 65 actually possess a smartphone. The trend show that that number is only going to

increase over the years and sometime over the next five to 10 years we can see a significant increase in that. And many of you probably know from your own clinics that in fact many people over the age of 65 have smartphones. So we need to start utilizing the technology that many of our patients have to create a better platform of rehabilitation for them. This is an interesting survey that was done about a year or two ago and I think just the gist of this particular survey is what's important. And I don't think we should take this survey as the gospel but I think it suggests that there's some good insights to the information that they found here. And what this survey did was they asked patients prior to their hearing aid appointment and then they asked after their hearing aid appointment. And what they wanted to do was find out how the patients categorize this experience.

So they gave them three choices. Was it a medical experience, a rehabilitation experience or more of a consumer electronics experience? And what you can see is that in the pre-appointment so before they actually sat down for a hearing aid fitting or their initial hearing evaluation, roughly 86% of the individuals thought that it was going to be more of a medical rehabilitative experience, that was their expectation with only 14% expecting it to be a consumer electronics experience. But you can see on the right that after the hearing aid fitting that the number almost flipped. That now 63% of the people felt that it was more of a consumer electronics experience and roughly 37% thought it was more medical or rehabilitative. And if we look at the bottom chart there, they asked the same thing before the hearing aid fitting and after the hearing aid fitting, what was their interest in hearing aid technology? And you can see 2/3s of the individuals had an interest, in technology prior to the appointment but then it flipped to about three quarters didn't have as much of an interest in hearing aid technology, after the appointment. What I think this shows most importantly is that oftentimes there might be a disconnect in how we perceive our patients experience and how they perceive their experience. And therefore I think it's important that we really talk and communicate with our patients to better understand their perspective of how this

experience is working for them. So that brings us to the ReSound Relief app. So the ReSound Relief app is a free app that is available both in the App Store, for Apple-based products and in Google Play for Android-based products. And what the ReSound Relief is mainly designed to do is to guide users in understanding and managing their tinnitus better. The reason why we built ReSound Relief was that there is a huge tinnitus population that's not getting the services that they need. We know that roughly 10 to 15% of the population experiences tinnitus. So that means roughly 700 billion people, excuse me, 700 million people globally at any point in time can be experiencing tinnitus. We also loosely know that only three to 5% of these individuals actually seek some sort of treatment or management type of help. And a large percentage of those people are actually based in the VA system.

So if we took the VA out of it and simply only looked at the Private Channel, it is such an under-serviced problem. So many people aren't getting the help they need and we all know and we're all aware that if somebody goes on to the internet, into Google and types in tinnitus, 1,000,001 things are going to pop up. The only options people really have are to find clinics within their areas, contact those clinics and make an appointment to get in. And that's proven a very difficult model, for the tinnitus population. So by building the ReSound Relief app, we wanted to provide something that was mobile, that could be customized, that could be personalized and sort of act as a buddy that they could have at all times to help complement what you guys are doing in the clinic because you can't be there with those patients all the time. And oftentimes tinnitus patients need daily, if not hourly assistance and we just obviously don't have the platforms to do that from a clinical perspective. So there are three main objectives with the ReSound Relief app. The first one is guidance. We all know that looking at tinnitus management, there are two key components. There's the sound therapy component and there's the counseling component. And we know that if we separate those two that counseling alone shows better results, than sound therapy alone. But it's when you combine counseling and sound therapy that you see a greater

effect. And that's what we aim to do with the Relief app to guide the user, to educate the user about information regarding tinnitus, provide them tips and practical exercises to help them better cope and understand their tinnitus. And I'll also show you in a live demo little later on, we actually provide links and hyperlinks to tinnitus organizations and associations around the world. So when that they need more information, they have a place that they can do that, we wanna guide them through this journey. The other objective is personalization. We all know that not everybody responds to the same type of sound therapy and it's important to figure out what kind of sounds resonate with a particular user. Progressive Tinnitus Management talks a lot about, finding accepted sound, sounds that the user likes and identifying sounds that the user dislikes so that we can try and stay away from those sounds. So to be able to personalize Soundscapes, is a very, very popular feature within Relief. Some features that are available, in the subscription option are where people can identify their tinnitus type, they can create a personalized tinnitus plan. I use the analogy this is a lot like someone going to the gym and needing a personal trainer and I'll talk about that a little bit more later on. And also some data logging where I can track usage and plan progress as well.

The third objective of Relief is the accessibility. It's the ability for someone to have something to provide tinnitus management when they need it. For those of you that work in the VA you know that oftentimes your patients live quite remotely, it may not be convenient for them to come to the office on a regular basis or a weekly basis. Depending on the time of year, if it's winter, sometimes it can be a little hard, if there's a snowstorm, it impedes the ability to get to the clinic. So having a tool like this gives more people, more accessibility to tinnitus management, than they've had before. No expensive requirements, any smartphone, like I said, Android-based products, Apple-based products and just a normal headset, meaning they can use a stereo plug headset, they can use a wireless earbuds or a wireless headset or they can actually play it out of the speaker of the phone itself although we don't typically recommend

that 'cause that could be a little intruding to other people's auditory space. Can also be connected to a Bluetooth speaker if somebody would like to use that especially during sleep times. A lot of people like to stream the Relief app to a Bluetooth speaker to create some sort of auditory contrast in a quiet dark room, when they're trying to fall asleep. And then obviously, it's mobile, a user can have with them at any point in time and use it as long as they have the proper equipment which we just mentioned. No hearing aids are required. This is an important point. The Relief app is not a connected app and by a connected app, I mean that it controls anything in the hearing aid. The Relief app is simply streaming audio to the hearing instruments. So you can use the Relief app without hearing aids or if you have hearing aids that have streaming capability, you can stream the Relief app directly to the hearing aids with no third party dongle or anything like that, okay?

So a lot of flexibility and a lot of accessibility with the Relief app itself. When you first come into the Relief app, you're gonna come into the onboarding section. And onboarding is kind of a hot word that's used a lot right now but what we mean by onboarding in this case is simply to introduce and provide instruction to the user on how to navigate and use the basic functions of the app. Essentially we're just providing a quick tutorial to the user on how best to maximize the features of the app. There's a Welcome screen, there's a Guidance screen that goes through the different options within the app and we'll go over this in the demo in just a little bit. There's an Instruction screen that explains to people how to create or edit a Soundscape or how to add Soundscapes as well. And then lastly you can see, there's Professional Support as well. We get support from the Tinnitus Practitioners Association and one thing I will point out is the ReSound Relief app, was actually built off of our initial research project that we at ReSound collaborated with Jim Henry and his team at the NCRAR in Portland, Oregon. And many of the features you see in the Relief app, stemmed from that tinnitus coach project we did with them some years ago. So we have a lot of professional support to support the Relief app. And when you come into the first

screen so after you've completed the onboarding section and you go into the main portion of the app. The main screen is the ReSound Relief sound screen and this is the screen that will now by default always appear when a user opens the app. And what you have access to in this screen is each bubble on the screen, represents a different Soundscape which is a combination of sounds that when played can help interact with the individual's tinnitus that's experienced by the user. So essentially we're providing sound therapy and some partial masking using these particular Soundscapes. Now you can label the Soundscapes with whatever name you'd like and you can see in this example there are some names, inside those bigger bubbles. And all you have to do is tap on one of the bubbles that will play the Soundscape. If you tap on it again, it will pause the Soundscape. One of the other things you'll see in the demo is that there's some smaller bubbles that float around the screen. And this is an interactive tool where people can actually pop the bubbles. We wanted to provide some touch to the Relief app because we wanted it to be multi-sensory.

Obviously, there's an auditory component. Obviously, there's a visual component, if the user is looking at the app but we also wanted to add a tactile component and that's the ability to pop the bubbles which I'll show you here in the demonstration, in a little bit. And the reason why we wanted to provide multi-sensory interactions is that we know that the brain can be distracted through different senses. So in order to distract someone from their tinnitus, you don't only need to present an auditory stimulus. There are some studies that have shown that light can affect the anxiety of people and it can therefore affect, potentially the tinnitus of people. We don't typically like bright lights in our face, it frustrates us, it can make us very anxious. And that's often correlated with things in society like fire alarms that go off and things like that. Touch is another thing that can distract us as well. So we wanted to provide multi-sensory, interactions in the app so that people can find the distractions that work best for them. In the next screen and you can see on the bottom of these screen dumps that there's an option bar, soundbar where you can see there's sounds, there's

Relax, there's Learn and there's My Relief. Right now we're gonna show you the Learn section. And the learn section is mainly, excuse me, we're gonna go over the Relax section and relax section is exactly what it seems to be. Different tools for the user to help manage their tinnitus through relax type of activities. We have audio meditations. Many of these were provided to us by Dr. Jennifer Gans who is responsible for, Mindfulness-Based Tinnitus Stress Reduction. And also Dartmouth University was kind enough to provide us with a number of these meditation files as well. Now, meditation files don't necessarily work for everybody but they're there for the people that it does work for. We also provide visual Soundscapes. By a visual Soundscape all you have to do is press on the tile and it will enlarge the screen to that particular tile. So for example if we hit the Fire tile that will expand into the entire smartphone screen and you'll hear the crackling of a fire. Now if you wanna get real creative somebody could stream that to Apple TV or they could connect it to their TV and they could have it on a big screen, if they wanted to as well. So there's some really creative and innovative ways that people can maximize the Relief app. There's also Breathing training. There are some breathing apps out there, we incorporated one of those exercises into the Relief app. And it's simply follow the circle instructions.

When it says to breathe in, you breathe in, when it says to breathe out, you breathe out and there are three different speeds, normal, slow and deep so that a user can pick the one that's best suited for their needs. And then lastly we have something called behavioral nudging and behavioral nudging is simply reminders. It's reminding somebody to be active, to do something interactive so that they're not sitting at home and potentially focusing on the tinnitus. And in this pleasant activities list, you can see there are some options like, meet a friend for coffee, volunteer, do something creative like write, paint or draw. Essentially having people engage in activities, can be very useful for tinnitus patients because they're engaging in an activity that's not allowing them to focus on their tinnitus necessarily. In the next section, this is the Learn section. And the Learn section provides the latest information, on tinnitus and tips for

improving, the relationships with tinnitus. So if you go down the list here there's a lot of good information and this is kind of the counseling section of the Relief app. What is tinnitus? Changing thoughts, better sleep tips, further information which is the where the list of sites that people can go to to learn more about tinnitus. We also have a built in hearing test that people can take and this learn section is largely the coping skills of progressive tinnitus management. So if you look through the Learn section of the ReSound Relief app, you'll probably notice some similarities to some of the coping strategies, you'll see in progressive tinnitus management. And then the last section is called My Relief and this collects everything related to the usage of the app and also as an access point for personalized guidance. And this is a subscription model and when you go into the app store you can see that there are two options to subscribe. There's a monthly and there's a yearly option as well depending on what the user thinks is most appropriate for them.

And by opening up My Relief, the subscription option, it will give access to a couple of new sound files but some of the new sound files are free as well. Not all of them are unlocked only through the subscription, anybody can download some of the new files. And if you go into that section called additional downloads, you'll be able to see which ones are free and which ones are part of the subscription. But as I said, My Relief, the subscription is very similar to someone who goes to the gym and needs a personal trainer. Some people can go to the gym and figure how workout all by themselves. Other people need a little more guidance and a little more assistance, they need a personal trainer to put the workout together for them and guide them through the first steps of that workout. And that's what My Relief is. My Relief is simply the personal trainer of Relief so many people will get benefit from Relief just by using the free version and that's perfectly fine. The subscription is available for those people who might need a little bit more help, a little bit more assistance in taking those first steps to better tinnitus management. And one of the things you'll notice and I'll go through this live. So for those of you who have not seen the subscription before, it starts out with a

questionnaire and this questionnaire helps give us personal information, about the user's tinnitus that will help us guide them as to what's gonna be the best personalized plan for them. And before we go into the live demo of Relief, I just wanna pull up some of the App Store statistics that we've collected since Relief has been released a couple of years ago. By August 2019, so just last month, we had over 350,000 combined downloads and we have over 55,000 monthly active users. That's a very high percentage of people that are actively using the app relative to the number of downloads. So that's a great thing to see, it implies that people are finding the app to be very useful therefore we have a lot of monthly active users. It has a 4.7 out of five rating with over 7,000 ratings globally and about 2,800 of those ratings are from the US alone.

And this is all information that's available publicly if you go into the App Store and take a look. Now what I'm talking about here with these ratings are specifically to iOS. We also as I said have it for Android as well and these ratings and the number of ratings are both the highest in the industry for any app, not just tinnitus. So for any app in the hearing aid industry, this is the highest rated app and the most rated app by a significant margin. And we actually can show you that here in a little bit when we go into the demo. And here's a quick look at some of the competitors apps that are out there. Tinnitus has been a very hot topic over the last couple of years but I think it's important to be critical about what manufacturers you choose to work with when it comes to tinnitus management. Are they a manufacturer looking to lead in terms of tinnitus management and tinnitus solutions or they're another Me-2 company just putting something out to keep up with the hot topics and trends at the moment. So you can see we went over some of the ReSound Relief data as well but you can see one of the other manufacturers 241,000 downloads, a 4.8 rating but only eight reviews relative to our 2,700 plus. Another manufacturer, seven reviews, a 1.7 rating, another manufacturer only 14 reviews with a 4.0 rating. So the fact that there aren't a lot of reviews implies that people aren't finding it. They just they're not resonating with it

enough to leave a review, the companies may not be promoting it, the apps may not be very active, there could be a number of reasons for it but when you see the traffic that the Relief app has, it's very suggestive that people are finding this app to be very, very helpful and very, very useful as well. So I'm gonna, give me a second here, I'm gonna switch out to my phone so we're gonna try and avoid any technical difficulties so that we can do a live demo. Okay. iPhone right now as well, perfect. Okay, so the first thing I'm gonna do is actually, we're going to go into the App Store first and I'm gonna type in Relief. And you'll notice when I type in Relief, ReSound Relief comes up on the bottom there, is one of the top 10, it's on the first page of the search which is a very, very good thing.

So we're typing Relief and you can see comes up, we just click on that and you can see everything that I just mentioned to you, 4.7 out of five, we're gonna click on that. We now have over 2,800 ratings and you can see the latest reading that we've got right there. So if you see where it says See All, in the top right hand corner, I'm gonna click that and now it's gonna give me a really good breakup of the reviews and the ratings that are available. And this is available for everybody to see and the most important thing is look at how the ratings cascade with number one rating being a five and then it cascades to a four, a three, a two and a one. That's exactly what you wanna see. We couldn't write it up any better than that. And if we scroll down a little bit, you can see it gives you the option of how you wanna sort the reviews. So I'm gonna sort of by most recent and you can see we've got quite a few reviews, here in the last week or two with some really, really good scores and you're more than welcome to read through these if you take a look at the Relief app and you can see we've got quite a few last month as well. So these are great if you ever wanna take a look at them yourself or if you really wanna share them with some of your other patients as well. If we scroll down a little bit more, into the information section, there's some really good information here as well. One, you can see the total size of the app, you can see compatibility and it can show you what other devices it's compatible with. You can also see the languages that it's

available with and I often get this question a lot, is Relief available in such and such a language? And if you click on the language and expand that you can see it's available in 19 different languages. So if you have any patients from overseas or we're looking forward in a different language, this is a great place to check if it's compatible with the language that we're looking for, okay? So some really good information to look at when you're down there. And now we're gonna come into the Relief app itself. So when you open up the Relief app, it's gonna come into this onboarding section that we just reviewed. First thing I'm gonna do is hit Start, patient does have the ability to skip it in the upper right hand corner but I do recommend that everybody takes just 30 seconds to go through the onboarding screens as I think it will give them a better place to start when using the Relief app. Next screen, the Navigation screen, it's gonna show you the four different options that you have within Relief, the sound section, the relax section, the learn section and then My Relief. Some information on how to create or edit a Soundscape so if you long press the Soundscape bubble, meaning you hold it your finger down for about, two, three seconds you'll then get the option to delete that Soundscape or to edit that Soundscape. And on the bottom it shows tap on the icons to add your Soundscapes. It's just showing about My Plan which is part of My Relief, the subscription.

And then lastly get comfortable and enjoy 'cause we're about to get started. So once you hit get started, it's gonna take it into the sound section of the app. And if you remember this is all where all the Soundscapes are going to be available. Now there are default Soundscapes that when someone downloads the app for the first time, they'll have available for them. But you can see that I've got some unique Soundscapes here that I've created over time. So if I wanted to play one of the Soundscapes as I said all I'm gonna do is hit one of the buttons. So let's hit the monks button. By pressing it again, it'll pause and you probably also notice these floating bubbles. These are the bubbles I mentioned before that you can touch and pop them. And it's really just meant to be a tactile stimulation and kinda a non-scored non-timed

game because the last thing we wanna do is create any anxiety and stress for somebody by timing them or scoring them. So they can pop these bubbles at their own leisure. The only thing I would recommend is to not pop the bubbles when it's behind one of the Soundscape bubbles because then you're just going to be playing and pausing that particular Soundscape. But when they're in open space, pop away. Now if we scroll down, you'll see there's a bubble with a plus sign. By pressing this, it's going to open up the sound mixer and the sound mixer is where you're able to create your own Soundscapes. And you can make it one sound if you want so let's just say we want some crickets, I'm gonna click on the crickets. And then you have a slider that essentially just act as your volume control. Make it louder, make it softer. Let's say I'm gonna put it in the middle here. Now let's say I wanna layer some sounds. Maybe I want some brook water. I might bring this to the background a little bit. Scroll up, maybe we want some frog.

So that can sound like morning in a forest. Some ocean waves. And you can control each sound with a different volume slider, you can layer up to five different sounds to create a very dynamic Soundscape if you like or you can just choose one. And you can at the top, enter whatever particular title you'd like, hit the check mark and now you can see I have the forest Soundscape. Now the first bubble that appears will be the last Soundscape that's been played and it just kinda goes in sequential order. So if I would have played the monks again. You'll see it comes back to be the first bubble which is the last one that I played. If we scroll down to, you'll see that there's a soundbar here as well on kind of the bottom third of the screen. This has a plus, excuse me a play and a pause section but it also has a timer. Which can be very useful for people who wanna use the app at bedtime and maybe set the timer for some amount of time before they fall asleep. And if you remember, as I said if you long press, you'll have the option to either edit that Soundscape or delete that Soundscape. So if you hit the pencil which will be the Edit, it will take you into that particular Soundscape and then you could go ahead and start to edit that particular Soundscape. We're

gonna go into the Relax section now. And the Relax section has a couple of different options. It has guided meditations. So meditations, you have guided meditations, these are the meditations from Dr. Jennifer Gans and Dartmouth University. There is a variety of them there, simply hit one of the tiles.

- [Instructor] Welcome to the relaxation series by Dartmouth College Health Service. Our goal is to provide stress and tension reduction resources that help you become more calm-centered.

- [Michael] We also have the deep breathing exercise that we mentioned, just follow the instructions inside the bubble. Three different speeds normal, slow and deep. It's up to the user to decide which one works best for their needs. Imagery, again just hit the tile that you want, it'll expand the entire phone screen and you'll get the auditory stimulus of the fire crackling as well. And then last, this is the behavioral nudging, the pleasant activities that we mentioned. And these are just like calendar reminders for anything, just like meetings or anything like that. So let's say I wanted to just give myself a reminder, you would have to turn the notifications on. That would be in the settings, the native settings of your particular phone and if you turned on notifications for Relief, then you'll be able to apply these to your calendar. And just like you get a pop up reminding you of a meeting in 15 minutes, an hour, a day before, you could do the same thing with the pleasant activities as well. We're gonna go into the third section, the Learn section. And as I mentioned before, this is really the counseling section of the Relief app. So talks about what is tinnitus with a variety of different topics. How common is tinnitus? What can I do? The changing thought sections. And again, many of these are derived from the coping skills, from Progressive Tinnitus Management. So changing one's thoughts can change how they feel about something, very much based on cognitive behavioral therapy CBT. Why can anyone help me? So changing the upsetting thought to something more positive? Tinnitus is ruining my life, change it to something more positive. Better sleep, just some sleep tips. Eating and

drinking habits, relaxing before bed time. Sleep behavior. So just some tips and suggestions on ways to get better sleep for individuals. This is one of my favorite sections of the Relief app which is the Further Information section. And as I mentioned, this section has a number of hyperlinks which we consider the most credible tinnitus websites, in the world that someone could then click on and go to that particular website. So let's say we click the American Tennis Association as long as you've got an internet connection or connected to WiFi, you can directly go to the ATA website from here. So this is a great tool to help those individuals looking for more information, when the app itself is no longer enough. As I mentioned, we have a hearing test option, people can come in and take a very quick screening if they'd like. Obviously it's not meant to be used for diagnostic purposes, just meant for a quick screening as a way to help you get some, generate some leads for people that might have hearing loss and also might have tinnitus as well. Lastly we're gonna go into the My Relief section which is the subscription model that I had mentioned. But before we do that, we'll go into this Additional Download section.

Now I've already downloaded everything but if you come in here, you'll be able to see what downloads are available and you'll be able to see which ones are free and which ones you have to subscribe for. So I definitely recommend you check, the additional downloads from time to time to see if there are some new Soundscapes that are available as well. So when somebody signs up for the subscription, it's gonna open up to this questionnaire. And all we're simply trying to do with this questionnaire is to get some information about how someone is interacting with their tinnitus. And some questions like, does your tinnitus make it difficult to relax? They've got three different options to choose from. Never, sometimes, always and again, this is just meant to be a quick screening tool not to diagnose anybody's severity of tinnitus. Does your tinnitus make it difficult to concentrate or focus? Say sometimes, does it make it difficult to sleep? Does tinnitus have a daily negative impact on one's life? Does it make it difficult to communicate with people? How many minutes are you willing to invest in My Plan

per day? This is a very important question because you don't wanna force someone to work out for an hour if they're really, only gonna give you their best for 20 minutes. So let's just say we choose 15 minutes. These are auditory-based questions, people are just gonna select the sound that most represents their tinnitus. And in many cases it may not be any of those so could be none of the above. Which sounds does the individual find most soothing? Environmental. Music. Or traditional therapeutic sounds like noise. Let's say they like environmental. This left-right balance is simply for the audio streaming, has nothing to do with the balance of the hearing aids. It creates a recommended plan and then it lists, it itemizes out how much time we recommend is spent, in each particular section. And now goes into the My Plan data logging section where you can review progress and since we haven't completed any of the plan, you can see that everything is at zero percent right now. You can always delete the plan if you want to recreate a new plan but if we go back and we go into the Learn section, let's just take a quick look at a couple of these. If you come back into the My Relief section you can see that in the Learn section now we've completed 75% of the recommended tasks in that category for this week.

Okay, and that's represented by the bar right here as well. If you click on the usage tile, this is just gonna show you the breakup of data logging. And if you look at the top bar there you can see that the time, one week, one month, and three months and then we itemize it down here, the different types of exercises, sounds, breathing, meditation and imagery. And you can also see what the most used Soundscapes are, for that individual as well. And these are really important information because at the end of the day, it's nice to see what sounds are your patients resonating with. This could also have an influence on what additional sounds you might use and introduce when it comes to sound therapy. So there could be a lot of good information that you can collect from that as well. So lemme stop sharing and go back to the presentation. And what I wanna take the last few minutes to do is talk about some research that we've been doing and has been done on the Relief app as well. One of the questions I often

get as many people that like app, I often get the question, well does it work? And I think it's important to think of this in two channels. I think there's the traditional research channel where we have a study design, we have a hypothesis and we test subjects to that study design and decide and get an idea of what the results are suggesting. But now we also get direct feedback from users in reviews and ratings and I think that's very important. And I don't think that should be dismissed because it's not the traditional model of research. So I think it's important that we look at both of these channels now. And if we look at the user research from the App Store, users are telling us that they really enjoy the app and they're explaining to us why they liked the app which is great. And we can collect a lot more of that data in a very short period of time relative to the traditional research model. But we have done some studies and some studies have been done, using the traditional research model looking at Relief. And there was a study that was presented as a poster at AAA in 2018 from a research group, based out of Warsaw, Poland. And what they looked at was the ReSound Relief app as a tool for therapy and tinnitus. And essentially what they did was they used the Relief app as the primary component of the tinnitus management and they used two types of questionnaires. They used the TFI, the Tinnitus Functional Index and they used the THI, the Tinnitus Handicap Inventory. And they simply did pre and post measures, the post measures were done three months, after the introduction of the Relief app. And what they found was, a significant reduction in both scores.

So the TFI went from 45.7 which was considered a moderate problem with tinnitus, reduced to a 30.5 after those three months which was considered a small problem with tinnitus. The Tinnitus Handicap Inventory, initially, subjects had a 53.4 score which corresponded with a moderate problem with tinnitus and after the three months that score declined to 32.2 which indicated a mild tinnitus problem. So this was one the first studies of its kind to kinda just look at the questionnaire scores, over a given period of time with the Relief app and the results were very promising. We wanted to take that to the next step because we wanna understand more about how the Relief

app is interacting with people who have tinnitus. So currently, we're running a study with a University here in the United States that's looking at a couple of things. Just tryna get this to switch over. And this study will most likely be done by the end of this year. And what we're looking at is we're looking at questionnaire so we're getting the subjective data but we're also adding an objective, neurophysiological component to this where we're actually recording fMRI data both pre and post on these individuals as well. So not only do we wanna sort of confirm, do we see a reduction in questionnaire score subjectively but do we actually see neurological changes, after using the ReSound Relief app, for some given period of time? And we don't have that fMRI data just yet as I said, the results of this should be done hopefully by the end of the year or early next year. So very, very interested to see what those fMRI data looks like and this is really the first, peer reviewed study in the industry looking at both behavioral and neurological factors, from an app-based management platform. So really exciting study that's going on right now. And some very early data that we've gotten from this study, can show you a couple of different things. If we look here on the left, we're actually looking at the TFI which is the Tinnitus Functional Index and we're looking at the individual data for each subject in the study. And what we can see is, if you look at the overall which is the average all the way to the right on the chart, although we don't see a significant difference, we do see a mild reduction in TFI scores from pre and post measures. So it's certainly not providing any harm, it's not doing any worse. In fact, what it's showing is it's on par or actually helping a little bit so far.

But then if we take a look at the chart on the right, the average reported tinnitus loudness what we actually do see, is we do see a pretty significant reduction, in subjects perceived loudness of their tinnitus. Where starting in week one, was at about 55 and finishing off at about week 18 it's been reduced to about 30. So there are some of these perceptual scales that we're looking at as well that are showing some really nice initial results. But we'll be interested to see how this all meshes together with the fMRI data that hopefully we'll have by the end of the year. So the question then may

become why should a clinician or hearing care professional promote ReSound Relief? Well, one, tinnitus is often a difficult topic to address in the clinic. I talked earlier that it's a very under-serviced problem and many, many people are left looking for help, when it comes to tinnitus. And not just in the United States and North America but in many third world countries where even the basic audiology care is not up to specs. But ReSound Relief is designed to help clinicians overcome many of those difficulties by creating a bridge for conversation pieces. And by offering the most complete and flexible app tool set available, for tinnitus management on the market today. It's designed to complement what you guys do in the clinic. It's designed to help supplement what you do in the clinic when you can't be with your patients all the time. It is not meant to replace what you guys do in the clinic, it's meant to work together with those two things. But the benefits for clinicians, it's a great tool to introduce patients to. It's not threatening. There are some gamified aspects to it, users can use it at their own pace, they don't have to learn everything about the app, in their first try, they can learn about the app as they go. It can be used as I said as a complimentary and supportive clinical tool inside the clinic.

The personalization allows individuals to truly personalize the sounds and the pace at which they work that works best for them. It's a great tool to use for routine follow ups, you can use some of the data logging to see how people may be progressing. You can use the data logging to see what Soundscapes they're using, you might be able to identify are they resonating with water sounds or are they resonating with air sounds? That might help you determine, if you use the tinnitus sound generator and a hearing aid what tinnitus sound generators sound might you wanna use. Our particular tinnitus sound generator at ReSound has the nature sounds that you can choose as well. So if somebody uses a lot of water sounds in the Relief app it could imply or suggest that they might like some water sounds, in their tinnitus sound generator as well. And as I said earlier, it's a great tool for those remote location patients who can't get to you on a regular basis and need something to assist them in those, in between times between

their follow up appointment. So you can even use the Relief app as a tool to kind of recommend future visits as well because you can monitor their progress in the Relief app, on certain scales so that you can see how did they use since we last saw each other. So there's a lot of unique and fun ways that you can incorporate this app, into clinical practice as well. Just to remind you, we have an entire ReSound Tinnitus Management kit that includes a tinnitus workbook or tinnitus handbook which has a lot of good general information, not only for patients but for ENTs and some of the doctors that you may be working with who might want a little bit more information, on tinnitus management. An interactive counseling flip chart, fitting guides, we have multiple white papers available. A number of other items as well. If you want any of these items of course reach out to your trainers and sales reps and they'll be able to provide these for you as well. All of these are available both electronically and in hard copy if that's something that you prefer as well. So with that being said, I wanna thank you guys for the time today. Feel free to download the Relief app if you'd like and play with it. If you do have any questions, you're more than welcome to take down my email and reach out. Other than that, I'll open it up to questions. So a question was, up to how many sounds can a user layer in the Relief app? If you remember from the sound mixer you can layer up to five different sounds and then use the sliders to determine which sounds you want in the forefront, which sounds you'd like in the background? So up to five different sounds. And I've often gotten the question on, is there a limit to the number of Soundscapes that can be created? And the answer to that is no. There is no limit to how many Soundscapes could be created.

- [Moderator] Okay, thank you Michael. Thank you everyone for logging in, at this time you're welcome to log out and have a great rest of your day.

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