BSCIP Advisory Council PQI Committee Meetings-20260604_130011-Meeting Recording

June 4, 2026, 5:00PM

3h 9m 5s

Jill Olinick 7:37

All right, well, we'll go ahead and call our meeting to order. Thank you, Kimberly, for doing so. And we'll go ahead and start with roll call.

CCOC4042_Conf_Rm_240P 7:38

And.

Good afternoon, everyone. My name is Keith Sones. I'm the Program Service Manager with the Penance Binary Jury Program.

As Kimberly Robinson mentioned, our chair, Dr. Brian Hayden, is held back by another meeting, so he'll be joining us late. Jill Allnick.

Jill Olinick 8:12

Here?

CCOC4042_Conf_Rm_240P 8:13

Donchester.

Chester, Don 8:15

Here.

CCOC4042_Conf_Rm_240P 8:18

Kevin Mullen.

Dr Abilash Haridas 8:19

Pardon?

Kevin Mullin 8:20

Here.

DH **Dr Abilash Haridas** 8:21
And.

C **CCOC4042_Conf_Rm_240P** 8:22
Ugly lines.
Doctor Adriana Velicios.

DH **Dr Abilash Haridas** 8:30
Yeah.

C **CCOC4042_Conf_Rm_240P** 8:34
Doctor Abhilash Avidas.

DH **Dr Abilash Haridas** 8:37
Here.

C **CCOC4042_Conf_Rm_240P** 8:40
Carrie, she is marked present absent because she has a reason for not being here today.
Okay, so that gives us four. So right now, Jill, you do not have a quorum. If Dr. Higdon logs in a little bit later or Petty Lance or Dr. Valbuena, then we can count them and we can come back to vote on the minutes from November.

JO **Jill Olinick** 9:07
Okay, that sounds great. Thank you.

P **Patty** 9:09
Excuse me, Patty Lance is here.

C **CCOC4042_Conf_Rm_240P** 9:12
Oh, cool. Excellent.

DH **Dr Abilash Haridas** 9:14
Yeah.

Jill Olinick 9:15
All right.

CCOC4042_Conf_Rm_240P 9:15
All right, now you have a quorum. Excellent.

Jill Olinick 9:17
Fantastic. I will go ahead and call for a motion of approval for our minutes from November 12th.

Kevin Mullin 9:24
Kevin, I...

Jill Olinick 9:28
Do I have a second?

Patty 9:31
I.

CCOC4042_Conf_Rm_240P 9:32
Thank you.

Jill Olinick 9:33
Thank you.

CCOC4042_Conf_Rm_240P 9:36
And was that Patty? Yeah. Okay.

Jill Olinick 9:37
All right.

CCOC4042_Conf_Rm_240P 9:42
Okay, so we're going to move right into the next agenda item, which is program updates. And Beth Collins is our unit administrator, and she's going to start us off

with some statistics that we usually provide to the council. And then we'll go through each region. And I'm very happy to say that we do have some
guests to speak for some of the regions on some success stories for this meeting. So I'm really excited to be able to have that available. So with that, Beth, I'll turn it over to you.

Collins, Valerie B 10:16

Thank you. Good afternoon. We did attach the regional reports for quarter two and quarter three to the to the invite to the calendar invite. So that's you all can peruse that. And I'm going to give the weekly update and then the annual numbers as well. really quickly. So these numbers are from May 26th through June 1st. The number of referrals received was 36. Eligible client, eligible applicants enrolled was 10 and the closures we had
thirty nine from applicant status, 15 from in-service, and a total of fifty four closures altogether. The annual numbers through Monday, June 1st, the total number of referrals we have received is two thousand and thirty seven. Total eligible clients currently being served is three hundred and seventy eight.
And the total number of clients served to date is 770.
So yeah, like Kim already said, what we're going to do now is go through the regions and let them.
very successful case stories that they want to share with you. I did want to take a really quick minute while I'm talking to introduce and let you all know that we do have a new manager for Region 2, which had been in the works for some time. That's our Orlando office in sort of North Central Florida.
Her name is Michelle Hooper. She is on the call and we're going to go in order, but I did want to just take a little minute to let you guys know she's been in this position about 5, six weeks now. So we're excited to have her and she is actually going to share a success story with us today too. So we're going to start with region one with Allen Moore out of our Jacksonville office.

Moore, Fallon 12:27

Good afternoon. How are you guys?
Okay, so I would like to share one of our clients. She was a 30 year old female who had a motor vehicle accident where she hit a pole and she was in a coma for 10 days. She had a severe TBI.

and numerous other internal injuries. But she did have private insurance that did not cover a lot of, did not cover a lot of the therapies that she needed. What was needed was
Inpatient rehab, outpatient rehab, she needed.
I'm sorry, I'm just going off of my memory. But she did also have to go to Shepherd Center for inpatient rehab there. She rehabbed there for a little while. And she had to do the outpatient day treatment program, which was not covered by her insurance. So B-Skip covered the outpatient day program for her.
And we also covered some occupational therapy, physical therapies, due to her insurance running out.
She did have a turnaround. Like I said, she was in a coma. Prior to her accident, she was a, she was a teacher. She was a college professor, rather.
It.
In economics.
She was an economics college professor prior to the accident.
And once all the therapies and everything that we provided for her, she did come around well enough to where she could go back to working as a college professor part-time. So the college did allow her to come back to work part-time. And

CCOC4042_Conf_Rm_240P 14:24
Me.


Moore, Fallon 14:40
We did purchase some items that she used while in the classroom while she was able to, you know, that allowed her to do her job.

Paola Katherine Duran 14:49
to, you know, that allows her to do her job.


Moore, Fallon 14:54
Um...

Paola Katherine Duran 14:54
Um...

Moore, Fallon 14:56
So with that also being said, we spent a total of 5000. I hear an echo, a bad echo. Does anybody else here?

Paola Katherine Duran 14:56
So with that also being said, we spend a total of 5000. I hear an echo, a bad echo. Anybody else here? Everyone needs to mute.

Robinson, Rebecca 15:04
Yeah.

CCOC4042_Conf_Rm_240P 15:04
Mm.
Everyone needs to mute.

Moore, Fallon 15:11
Do you guys still hear it? Hello?
Okay, I don't hear you. So we spent a total of $5,500 on her therapies. And she was considered community reintegrated. But the cool thing about her story is her and her husband later
They later decided that they needed, well, not needed, they wanted to do a non-profit for traumatic injuries, not just necessarily brain injuries, but brain and spinal cord injuries. So they have a non-profit that's called Project 145 that we also use currently at BSCIP.
And what they cover for their.
Some of the things that they cover.
Is.
Financial assistance.
Financial assistance, peer support groups, housing assistance, and rehabilitation and transportation. So she stated that she had a hard time getting transportation from Shepherd Center back down to the Jacksonville area. And since her and her family had such a hard time, that was something that she wanted to cover in their non-for-profit,
profit. So we have actually referred some of our clients to them for grants and they

have been more than helpful. I know two of our clients in DSkip has gotten grants from their nonprofit. So
That's one thing that I think is awesome and amazing that they are, that they are paying it forward.
Yeah, that's a success story that I just wanted to share and also a resource as well that I wanted to share also.
All I have.

CCOC4042_Conf_Rm_240P 17:19
Thank you, Fallon.

Collins, Valerie B 17:19
Thank you.

CCOC4042_Conf_Rm_240P 17:21
Thank you.

Collins, Valerie B 17:24
Okay, we'll go ahead and go to Region 2, Orlando. Michelle Hooper, sorry. Overland.

Hooper, Michelle 17:31
Hi, everybody. I'm really glad to be here. So I'm representing Region 2. So about a client that came into our program, February, late February of last year. He's a 59 year old male who's a retired teacher. He came in as a trauma alert after sustaining a fall. Imaging showed C2 and C4 along with T2 and T3 fractures. Later on, the MRI revealed a focal hemorrhage in the left aspect of his spinal cord. This traumatic spinal cord injury caused him to have impaired upper extremities.
and motor core issues. It was recommended that he receive occupational and physical therapy. After he got home, he started physical therapy in the beginning of April to help him with his gain and decreased potential for future falls.
He started occupational therapy in mid-April for fine motor tuning and gross motor training, along with home exercises for self-care management. He received case management from VSkip the entire time, and then we received a letter in late July stating that his insurance benefits

had been exhausted for therapy. At that time, Beskip authorized therapies to continue his treatments for both occupational and physical therapies until December of 2025 under Beskip. He was, and then in January of 26, his insurance was able to pick up and he finished receiving all the therapies that he needed and was discharged in March of 26. He's been community reintegrated in May and has regained strength and looking forward to starting exercises at his own gym. Thank you.

Collins, Valerie B 19:40
Thank you. We'll go ahead and go to Region 3, Roslyn Clark.

CCOC4042_Conf_Rm_240P 20:00
Is Roslyn muted?

Collins, Valerie B 20:05
Yes, hold on, let me see if I can unmute.

CCOC4042_Conf_Rm_240P 20:12
You can.

Collins, Valerie B 20:12
Okay, I can't do it.

CCOC4042_Conf_Rm_240P 20:18
Okay.

Collins, Valerie B 20:20
I can't hear her.

Paola Katherine Duran 20:22
Have you, do you can you hear me?

CCOC4042_Conf_Rm_240P 20:26
So.

Clark, Rosalind M 20:27

Okay, can you hear me now?

C

CCOC4042_Conf_Rm_240P 20:29

Yes.

Collins, Valerie B 20:29

Yes.

Clark, Rosalind M 20:29

Excellent. Okay, good afternoon. My success story is actually here and she's going to speak. So I would like to introduce Tana Jackson.

PD

Paola Katherine Duran 20:29

Yeah.

Clark, Rosalind M 20:44

Hannah.

Hello?

Robinson, Rebecca 20:54

We can't hear you.

PD

Paola Katherine Duran 20:58

No.

Clark, Rosalind M 21:07

Well...

She's here, but unfortunately I don't think you can hear her, but

Collins, Valerie B 21:16

Yeah.

Clark, Rosalind M 21:20

I'll go ahead and read; she sent her.
I just let her hair go.
Okay, Tana, and this is for her fiance, her husband, whom she's referring to. He was referred to the foundation back in 2025 from the first of now many hospitals, and this is from Tana, as a result of being critically injured in a car accident.
By the grace of God, he survived, but our lives were nowhere near prepared for what was in store for Zach.
Recovery at just 31 years old, needless to say, we had just had our first baby and purchased our very first home. Our lives flipped upside down, and Zach was not only our provider, but the handler of all things that comes with adjusting to a new lifestyle.
And as a first time mom, the newly postpartum, I was at a loss and didn't know where to begin. I just knew that I needed the best everything, the best of everything to help him navigate his new norm. From the very first conversation about filling out the application to be a client,
of your foundation today, we have felt not only ease, but sincerely about caring for our situation. The BSEIP program has helped us in every single way to get back to a life where we feel confident and comfortable moving forward together. It's still a bit It's still a bit long road ahead for us, but the resources and assistance given to us in our extreme time of need, my family will forever be grateful and thankful for everything Roslyn and the foundation has done for us.
I guarantee we wouldn't be where we were, where we are today if it was not for your help, effort, and consistency. In during this journey with us, many family cannot, my family cannot thank you enough for your generosity and support. And she appreciate the foundation of the program, everything that we've done for Zach, just
Thus far.
I'm sorry she couldn't speak.
That's all I have.

Collins, Valerie B 23:49
Thank you. We're going to go right ahead to Region 4, John Wineski.

WM

Wanecski, John M 23:56
Good afternoon, everybody. I get a lot of success stories when I ask for them, and it's hard for me to sort through them all because they're all really good. But the one I

picked today, it focuses more on not only the services that we provided, but the rapport that the case manager is
establish with the client, because that's a huge part of the recovery as well. So the guy I picked, a 51 year old referred to us last May, spinal cord injured. He was at his house and he fell in his bathroom and it ended up in an acute C3 fracture.
with C3, C4 central disc protrusions. He was mentally, he really didn't think he was ever going to have a life after this accident. And we got involved with our case manager, Nicole Trievo, and we provided physical therapy for him and occupational therapy for him and some supplies.

Clark, Rosalind M 24:36
Yes.

WM **Wanecski, John M** 24:58
And Nicole was always there, you know, to talk with him, to keep encouraging him, to do well with his therapies. And they established quite a strong bond there. And anyway, he was closed, community reintegrated, and wrote us a letter that I'd like to read to you that I think encapulates
how important it is for our case managers to have a good professional rapport with their people that they serve. So this is the letter that he wrote. He said, hi, Nicole, good afternoon. I've received a letter from the Brain and Spinal Cord Injury Program regarding the closure of my case.
Please proceed and know that I have 0 complaints about the program and especially you, my case manager and my guardian angel. I also wanted to share with you that I started a new job last week and life is pretty much back to normal. I still need significant improvement with my spasticity.
and fine motor skills. I'm working hard doing my therapies on my own because I'm not yet covered by health insurance, but once coverage kicks in, I will look into continuing my rehab program. The brain and spinal cord injury program was a fundamental part of my recovery. Without its support, I definitely would not have achieved the level of independence I have right now.
I am back living by myself, driving everywhere and working on site every day. All the good stuff that for a moment I thought I had lost. A very special thanks to Nicole Triejo, who spared no effort to grant me the best support possible and now holds a special place in my heart.

Please continue assisting patients and people like me. The simple fact of knowing that the brain and spinal cord injury program exists and efficiently uses its resources to give us hope and invaluable results. Thank you again forever for everything. And that was our client. But again,
A big part of that was Nicole, our case manager, you know, just being by his side through the whole process. And he's back in the community. And as you can tell, he's very satisfied, very happy. He's going to continue on with his independence. So I thought that was a good one. And that's my story.

Clark, Rosalind M 27:14
Yes.

PD **Paola Katherine Duran** 27:15
Thanks.

Collins, Valerie B 27:16
Thank you, and her.

PD **Paola Katherine Duran** 27:17
Thank you, sir.

T **tana** 27:19
I don't know if you guys can hear me now.

Collins, Valerie B 27:20
Ohh.
Yes.

C **CCOC4042_Conf_Rm_240P** 27:25
Yes, yes, yes.

T **tana** 27:26
Okay, I'm so sorry. So I logged out and logged back in. My name is Hannah. Roslyn was my region.

Collins, Valerie B 27:35

Go ahead.

C **CCOC4042_Conf_Rm_240P** 27:37

Yeah.

T **tana** 27:37

I don't know if you still want me to give my speech or not. I totally understand. I'm so sorry my mic wasn't working before.

C **CCOC4042_Conf_Rm_240P** 27:45

No, absolutely.

T **tana** 27:47

Okay, I'm so sorry to cut in between and throw your meeting off.

C **CCOC4042_Conf_Rm_240P** 27:47

Absolutely.

No, you're good.

T **tana** 27:54

Okay, well, again, my name is Tana, and my fiance's name was Zachary Johnson. And Zachary was the definition of an all-around stand-up guy. He made friends everywhere he went and is mostly known for his tough exterior but gentle heart. He would lend a helping hand to everyone and anyone in need.

In May 2025, he was critically injured in a car accident. That evening, he was on his way home from our storage unit, no more than five miles away. To this day, we still don't know why he veered off that road, but only how it ended. He was the only vehicle found at the scene of a head-on collision. And while initially he was pronounced DOA,

WM **Wanecski, John M** 28:26

I.

tana 28:38

By the grace of God, he survived. But our lives were nowhere near prepared for what was in store with Zach's recovery. Zach was 31 years old when he was injured, and our world slipped upside down, as he was not only our protector and our provider, but the handler of all things. Our baby was turning 3 months old, and we had just purchased our first home.

As a new mom navigating postpartum, I was at a loss at where to even begin. I just knew Zach needed the best everything. He spent 152 days in three different hospitals across Florida, each one specializing in the next step to his survival. Every doctor, nurse, and staff member dedicated countless hours to helping us overcome one obstacle after the next.

finally getting us to a place where we could go home together.

We were introduced to the brain and spinal cord injury program at the first emergency hospital he arrived at, and then again at the last. From my first conversation on how to fill out an application to being a client today, we have felt sincerity in caring for our family's situation. As I was learning to be Zach's full-time caregiver,

Our case manager continuously put me at ease so I could focus on taking care of my family while she guided our every step at trying to get us back to a life where we felt confident and comfortable moving forward together.

Zach's amount of injuries were so grand that his insurance would only cover a portion of the supplies we needed daily. Roslyn kindly asked specifically what he was using and had an abundance of orders delivered directly to us, making sure we didn't run out when money was tight.

And that new home we just purchased was not equipped to accommodate Zach's level of needs. But from the ramp outside to the custom ADA modifications inside, Bisop made it possible for us to move into the home we had picked out and worked on together before his accident.

turning what seems like only a dream into a reality for us. Because for Zach, this wasn't just an opportunity, but a second chance at living a normal life, as this will be the first shower he will be able to take in 13 months.

Not to mention all of the other intricate details that are entailed for someone with his disability doing daily tasks.

Since coming home, getting to Zach's doctor's appointments and therapy sessions

was something we relied heavily on his insurance to help with. It wasn't exactly the best, and frankly had us constantly running late to appointments and even stranded for hours afterwards, making us miss any other obligations for the day. But we were dependent on it,
and determined to make it work until his insurance ended and left us with no options of getting around. And it was quite difficult needing not only wheelchair accessibility, but also backseat durability for our infant's car seat.
Roslyn heard about our struggles and immediately stepped into action to help us modify our current vehicle to accommodate Zach. It has been life-changing and truly a blessing that we can finally all travel safely together and never have to prioritize one appointment over another again.
Over these last months, Zach has come so far medically, and I am so proud of him for pushing onward. However, there were days he didn't want to leave the house, but wouldn't say why. Come to find out, it was because every time we did leave, he would watch me trying to maneuver him in his wheelchair while towing the stroller behind me, as if we were in a synchronized,
but chaotic assembly line.
I would reinforce that everything was okay and he was doing great, that he could see the pain and exhaustion on my face. I thought that was just something we would have to get used to while we awaited the day that he could maybe have the upper core strength to control steering and pushing himself. But like our guardian angel, Rosalind came and once again heard about our days
and urgently found a solution by getting Zach a smart drive device so the wheelchair we had just made for him could be controlled by a motor and alleviate the stress and physical wear on both of us. Needless to say, the brain and spinal cord injury program has helped my family
in every single way during our extreme time of need. We will be forever grateful and thankful for everything Roslyn and the program has done for us. We still have a long road ahead of recovery, but I can guarantee we would not be where we are today if it was not for your assistance, effort, and consistency.
We have never once felt like a number or just another charity case, but only as if you were enduring this journey with us. Our family cannot thank your program and all of you enough for your generosity and support.

CCOC4042_Conf_Rm_240P 33:26
Well, thank you, Tana.

tana 33:28
Thank you. Thank you, guys.


Clark, Rosalind M 33:28
Thank you, Tana.

CCOC4042_Conf_Rm_240P 33:30
Yes, that was great.

Paola Katherine Duran 33:31
Thank you, Tana.

tana 33:33
Thank you.


Collins, Valerie B 33:37
Okay, and we'll go ahead and go to Region 5, the last region, Jose de Brock.

Dubrocq, Jose A 33:44
Okay, good afternoon. The person that I'm going to introduce is one of our clients, and that's one of the success stories. I see her there. Her name is Paola. She had an accident when she was 19 years old in Colombia. She fell a horse, and who better to tell her story than herself? So

Paola Katherine Duran 33:57
Hi.

Dubrocq, Jose A 34:05
Go ahead, Paul.

Paola Katherine Duran 34:06
Thank you. Can you hear me?

CCOC4042_Conf_Rm_240P 34:09
Yes.

Paola Katherine Duran 34:10
Okay. Thank you, Mr. DeBrock. I say hi to you and thank you. I love you. I beg, I beg to God that God keeps you safe and everything you do. I thank you. I was 19 and he said I went to...

CCOC4042_Conf_Rm_240P 34:10
Yes.
Thank you.

Paola Katherine Duran 34:28
Trip with some friends to Los Janos. Los Janos it's Bogota is a mountain city, mountainous. There are a lot of mountains and Los Janos it's outside where there is there are no mountains at all. It's plates.
Explain. So, you know, horses and people and everybody run so fast with no limits. So I was there. I went to Los Janos and so I stepped and I jumped on a horse. I had no idea how to horseback ride.
I had no idea, but all of my friends did, so I had to do it also because I could not be left behind.
And I jumped in on one of those beasts. My goodness, they were so big. And it threw me over. It threw me over. I mean, I had no control of the strength that they were so big. I remember that it went crazy.
And he turned me over.
And I opened my eyes. Four months later, I was in a coma for four months.
I was driven from the I was taken from the spot of the of the incident to Clinical Reina Sofia.
And it's an emergency with emergency pilots.
Um, with a, with an, with a, with an army plane.
My mother, my brother, did everything, made everything possible, besides from the

surprise, and because I had gone to that place without my permission.
In an escape without permission from them.
So I was so crazy, my goodness, I just begged to God that him to forgive me. I still... Thank God for what he did.
And I had three years of recovery. I had to learn how to walk, how to speak, how to manage my hair, how to eat from a using a fork and a knife. I was a kiddo, a kid. basically. And I came to the States in the same situation, and I started to go to the doctors. And then Mr. DeBrock, I miraculously found him by
I don't know how Jesus Christ put me, Mister DeBrock, in my way, and he sent me to Miss Doctor Maya Middle.
Doctor Mayra Miro is a neuropsychologist, a clinical neuropsychologist, who tackled my case and treated me as from the from.0 up to point now, where I have been. Successfully recovered.
She started, that was three years ago, 2024. We're in 2024 now. Remember my story.
And ever since I've been going to her office like twice a week.
first, thrice a week, secondly, twice a week, and then I went once in a week.
Until now, I'm completely recovered. Thank God she's on my way, and she put me to to first I went with my mother, my and my and my and my brother. Those are the two people that I love the most.
She discovered that love.
And care was something that I could perceive from my state of unconsciousness.
So that then, my mom and my brother were the two people that tackled all my incident, all my accident, and they forged me in order for me to be the person who I am now. So I'm very thankful, Doctor Mira, who opened my eyes.
And see them suffering for me; they're suffering for me, and they are, Paula, you are a gift of God; you are a gift who you are trying to become; you are in a continuous process of becoming.
So, the process I started with Doctor Miro was for me to open my eyes and situate myself in a position where I was in a constant becoming like a like a wheel.
Like a process, and then every activity.
based as a sequence was a continuation of something that I already started. This is something that I found out. And having this as a fact, it's easier for me to carry on and tackle every single work
That I do, and every time I try to make it better and better and better, so that's how you, you, you, you like forge yourself.

You educate yourself within a parameter, and you can make it possible. I graduated from FIU, I put my all my in my effort, I graduated from French, I started working, I worked for two years, now I work as a volunteer because of my math.
I have to sleep a lot, according to my doctors.
But thank God and eventually I will get a job.
But thank God I, with my diploma and my all the things that I've done with Mister Dubrock and my and my and my all my background, I know that I can do it, and thank to God I will.
Period.

C **CCOC4042_Conf_Rm_240P** 40:51
Thank you. That's an amazing story. I appreciate that. Thank you for joining us. Thank you.

PD **Paola Katherine Duran** 40:54
Thank you.
Great.
Um, there's one thing more. There's one thing more. I would like to be an advocate for the persons with traumatic brain injury.

C **CCOC4042_Conf_Rm_240P** 41:11
F.
Sure.

PD **Paola Katherine Duran** 41:22
To to work as a volunteer for the BCS for the program.
So, whenever you want me to tackle any case, or Mister DeBrock wants me to help you somehow, I can be a volunteer for that.
Mister DeBrock, are you there?

C **CCOC4042_Conf_Rm_240P** 41:42
No.

DA **Dubrocq, Jose A** 41:44

Yeah, don't worry about it. I'll get in contact with you in reference to that. Okay?
Thank you, Paola.

Paola Katherine Duran 41:47
Thank you. Thank you.
You're the best, that's the best.

Dubrocq, Jose A 41:50
Thank you.
Bye bye.

CCOC4042_Conf_Rm_240P 41:53
No, he is.

Paola Katherine Duran 41:54
Stars.

CCOC4042_Conf_Rm_240P 42:02
Yeah.
Oh, you're on mute, Beth.
Is Becky, Becky, Becky is on board?

Collins, Valerie B 42:08
Yeah, that's.

Robinson, Rebecca 42:12
Yeah, I think I am.

Collins, Valerie B 42:12
Yep, so sorry.

CCOC4042_Conf_Rm_240P 42:14
Okay.

Robinson, Rebecca 42:15

Yeah.
Good afternoon, everyone. We had one of our REMS team, Eric Tangler, run some Google Analytics data for everyone. And it's high level, but it'll just give you an idea how many people have visited our site from March 1st through May 31st.
We had a total of 1,435 visits. And most of them are, we've got all the cities listed, but we've had actually 19 other states other than Florida visit our sites, which is really impressive, I think, that other states are visiting.
Of course, the highest is from Florida, which is 902 hits. And then it goes from there. Virginia had 131, Colorado 51, California 44, Arizona 37, and Georgia 33. And then it goes down from there.
But the five highest cities in Florida were Tallahassee, Miami, Jacksonville, Tampa, and Orlando.
And then we also did a breakdown for you of the spinal cord injury people that visited our site. And there were 292 of those. And then we had 333 brain injured individuals that visited our site.
So that kind of gives you a high level on how many people are visiting our site. And certainly if you'd like to see other information,
On the next reporting, you can just let him know and we'll make sure we get that on the report.

JO **Jill Olinick** 44:08
Thanks, Becky. That's fantastic. If I remember correctly, that's an increase to the numbers that had visited previously. What I'd love to see is is kind of 1/4 over quarter, you know, comparison or progression of.

C **CCOC4042_Conf_Rm_240P** 44:08
Yeah.

 **Robinson, Rebecca** 44:15
Yes.
Okay.

JO **Jill Olinick** 44:23
That would be great.

Robinson, Rebecca 44:24
Okay. Okay. Very good.

Jill Olinick 44:27
And Beth, wonderful. That's super exciting now that everything's up and running. Beth, one question also.

Robinson, Rebecca 44:27
We can do that.

Jill Olinick 44:37
Is that number that you gave as far as the 2000 something, is that trending higher than the past year?

Robinson, Rebecca 44:47
On the hits to the website.

Jill Olinick 44:50
No, for Beth, the numbers of that we're serving.

Robinson, Rebecca 44:52
Oh, Beth.

Collins, Valerie B 44:56
Um, I don't know. I would have to look back, um, at that. Are you talking about this?

CCOC4042_Conf_Rm_240P 45:00
Machine.
Are you talking about clients served?

Collins, Valerie B 45:03
Sorry.

Jill Olinick 45:07
Yes.

CCOC4042_Conf_Rm_240P 45:08
Okay, so as of right now, last year, I think we served 900 in some clients. So we're down right now compared to last year, but I won't have all those final numbers, obviously, until June 30th. So I'll know the exact number of clients served.

Jill Olinick 45:26
Okay.

CCOC4042_Conf_Rm_240P 45:28
So we seem to be running either a little bit less or it may end up to be about the same. I believe referrals have increased since last year, the number of referrals. I think right now, Beth, did you say we're at 2000 something, 2037 or something like that number of referrals? And I know that we have had an increase in the number of

Jill Olinick 45:45
Yeah.

CCOC4042_Conf_Rm_240P 45:52
referrals received. But what we're also finding is because Nancy, who was our clinician, has done a fantastic job with educating on eligibility determination. Since she's come on, we've seen a significant change there as far as clients that are determined eligible and enrolled in the program. So there's been a lot of changes over the last year that had made an impact to those final numbers.

Jill Olinick 46:24
Sure. Excellent. Thank you.
Does anybody else have any questions on that section?

CCOC4042_Conf_Rm_240P 46:30
Do it.
Are there any questions about the quarterly reports that we provided to the council

members?
that you want to ask any of the regional managers about?

Kevin Mullin 46:50
Nothing from my perspective and great success stories.

CCOC4042_Conf_Rm_240P 46:56
Yeah, I'm really pleased that we were actually able to have some clients join us and share their stories themselves. I thought that was fantastic. And actually, Jill had mentioned that when we were talking about the agenda, how she thought it would be fantastic if we could do that and we were able to make that happen.

Jill Olinick 47:17
Yes, thank you so much. Wonderful.

CCOC4042_Conf_Rm_240P 47:23
So I guess if nobody has any questions for the regions, we're ahead of schedule just a little bit. I don't know if anybody needs a bathroom break. If not, we can move right in to our guest speaker, which is Dr. Milo Milo Savich. If he's ready and if the council is ready, if nobody needs a break.
We can move right into that.

Matija Milosevic 47:50
I'm ready to go, but I can also wait a few minutes if that's what everybody wishes.

CCOC4042_Conf_Rm_240P 47:54
Okay.
Anybody need a bathroom break?
Okay, then we'll go ahead and we'll turn it over to you, Doctor. Doctor.

Matija Milosevic 48:06
Thank you so much and very nice meeting and seeing all of you, some of you again. I'm going to begin by just making sure you guys can see my screen. So

CCOC4042_Conf_Rm_240P 48:20
You'll have to stop sharing. He's going to share his screen. OK.

Matija Milosevic 48:21
Yes.

CCOC4042_Conf_Rm_240P 48:26
Oops.

Matija Milosevic 48:27
Are you guys able to see my the title?

CCOC4042_Conf_Rm_240P 48:30
Yeah, well, no, hang on, I think I do have to share.

Matija Milosevic 48:31
Okay, perfect. So...

Jill Olinick 48:32
Yes.

CCOC4042_Conf_Rm_240P 48:36
Down at the bottom.
Okay.

Jill Olinick 48:41
I see it.


Collins, Valerie B 48:41
I can feel.

CCOC4042_Conf_Rm_240P 48:46
I could see it, but it's OK.

Robinson, Rebecca 48:46
We can see a screen.

Matija Milosevic 48:49
Okay, perfect. So good afternoon, everyone. And again, thank you so much for this opportunity to present to the council. My name is Matija Milosevic and I'm the director of neuromotor rehab for the Miami Project to Cure Paralysis and also an assistant professor in the Department of Neurological Surgery and Biomedical Engineering at the University of Miami.
The Miami Project, for those of you who might not know, is an institute, a research institute at the University of Miami and the U Health System, which is dedicated to, you know, developing approaches for restoration of
Among other things, neuromotor function and my specific mission at the Miami Project is to develop approaches that use neuromodulation to improve neuromotor function in individuals with spinal cord injuries, even though within the Miami Project we also serve the populations of individuals with traumatic brain injuries and other neurological disorders. So today my talk is going to be focused on our brain computer interface neuromodulation approaches for restoration of walking after incomplete spinal cord injury. And specifically, I'll be giving you a specific sort of focus on how we're integrating some
of the more advanced artificial intelligence based brain computer interfaces to target this neuroplasticity in the central nervous system following spinal cord injury. Just kind of before I go, I'll, you know, my talk is, you know, relatively sort of comprehensive and I do sort of provide
some of the background, so feel free to interrupt me if you have any questions. I'm happy to kind of take questions on the fly. Obviously, I'll take some pauses occasionally to see if anybody has any specific kind of questions on the go, but feel free to interrupt me if something's not clear. I do have kind of some fairly sort of scientific questions.
levels of details which I get into, but then I kind of try to take the audience out as well by providing more functional kind of implications. So just interrupt me anytime if you have any specific questions. I'm happy to take them on the fly. So, okay, let me make sure. Okay, perfect.
So I always try to begin my kind of talks with a motivation behind our

neuromodulation sort of approaches. So we'll begin with this. How do we, you know, sort of control walking? We try to kind of understand that before we develop approaches to restore.
walking function. So, you know, usually when we want to walk, we usually use the motor cortex to initiate the movements to take the step, which then send the signals to these central pattern generators in the spinal cord, which convey messages to the muscles to move the leg.
and generate these rhythmic sort of movements. But that's not where the loop ends. So after we, you know, step, you know, there is a lot of, or move a muscle, there is a lot of sensory information going back to the central nervous system, which is then conveyed via the spinal cord.
cord to the basal ganglia, brain stem, cerebellum to correct some of these movements, as well as the spinal cord to adjust some of the reflexes. And then, you know, eventually these messages get back to the sensory cortex, which conveys to the motor cortex to sort of stop a movement or initiate another movement and things like that. The point is it's a closed loop system.
Right, and that's how we learn; we learn from sensing the environment, and, and, and we can, you know, modulate some of our...
sort of motor actions by sensing and adapting to the feedback that the central nervous system receives. So that's one of our main motivations. Obviously, following spinal cord injury, which interrupts these descending and ascending sort of commands, this motor control loop is
you know, interrupted and affected. So specifically, we are focused on initially developing these approaches for individuals with incomplete spinal cord injuries, and I'll tell you why. And specifically, our focus is on trying to restore these corticospinal tract
connections because they've been shown as to be extremely important for the recovery of voluntary function. So individuals who are able to, you know, who have some sort of post-injury intact corticospinal connections have been shown in large studies to have
better prognostic recovery potential. And it's also been shown that if we can modulate and amplify some of these corticospinal connections, that we can, we can, you know, drive better motor recovery.
How do we do that? Well, we can apply exogenous neuromodulation to activate some of these spinal circuits. We can do that by directly stimulating the spinal cord.

We can do that using implanted approaches, epidural stimulation, for example. I'll be mostly talking about the transcutaneous work that we're doing here. Or we can do that transcutaneously. So this is, the focus is going to be on the non-invasive transcutaneous stimulation approaches for locomotor recovery. We can also apply the stimulation to the muscles and other areas, but a lot of the focus is going to be on

on our work with transcutaneous spinal stimulation. And this, when you apply the stimulation, can amplify some of the descending commands. So you try a movement, if you apply spinal stimulation, think of it as kind of an amplifier. So it can kind of lower the activation threshold. So when you send the signal,

It takes less signal to generate an action, essentially.

However, when you apply the stimulation, after you turn the stimulation off, you could, hypothetically, and I'll show you this, you could get some sort of residual. activation after this intervention. So we want to really use our neuromodulation approaches to sort of excite the central nervous system and potentiate the corticospinal circuits so that we can have some recovery of voluntary function post-interventions. And I guess I'll be spending a lot of time today trying to convince you That.

doing this in a closed loop sort of manner through a brain computer interface is more efficient in driving these neuromodulatory sort of

circuits and that we can get more recovery and faster potentiation of the corticospinal circuits if we use a closed loop system and if we combine that with activity-based therapy. Much like what the central nervous system does anyway before injury and how the central nervous system looks.

alerts.

So just kind of taking a very quick step back, like I cut a lot of the intro, but I just wanted to kind of, so spinal cord injury sort of causes this permanent axon disconnection through glial scarring, scarring and demyelination.

which obviously affects some of the residual sort of corticospinal connections. However,

Most injuries, as you can see here from the statistics across the United States, across the 300,000 plus individuals living currently with spinal cord injuries, are incomplete. So roughly almost 60% of individuals are incomplete. So there is, and I think that's partially also because of

the acute management advances and the stabilization and everything else that's and

all the medical advances that have happened over the last few years. But essentially there are a lot more individuals who have some spared circuits that we can use to potentiate.
and essentially restore some of the voluntary function. So, obviously, my role is to look at, you know, how we can improve motor function, and which in part is because it's been shown to be one of the highest recovery priorities for individuals after spinal cord injury.
Um...
But obviously some of these approaches could also be relevant for other functions such as bowel, bladder control and other things. But the focus is going to remain on the motor control and specifically on the walk.
And as I said before,
We are initially focusing on incomplete spinal cord injury because having some of these residual connections kind of presents an opportunity for modulating them and sort of amplifying them initially so that we can we can restore and or make them more functional.
So again, sort of current approaches such as physical and occupational therapy can accomplish A lot. We, you know, obviously can, there is a lot of spontaneous recovery that happens initially following spinal cord injury.
over the course of initial inpatient rehab that's predominantly accomplished through physical and occupational therapy. But especially in the chronic stage, one of the challenges that we're faced with is that, you know, some of these conventional PT, OT based approaches are
not, I guess, sufficient to adequately activate the residual circuits. So we need to use exogenous stimulation to sort of reactivate some of those circuits. And perhaps we can sustain that following these interventions. Obviously, this is important because, you know, lifetime cost of
SCI has been estimated to be, you know, between 1:00 and $5 million, predominantly because of attendant care expenses and things like that. So if we can accomplish it, we can develop some, you know, more efficient ways to have recovery in the outpatient and in the community settings, we can maybe
try to reduce some of this cost. So that's kind of our goal and motivation. So we want to improve motor function beyond conventional therapy by enhancing the central nervous system activation, which can hopefully, obviously, you know, provide more independence and

and reduce sort of this caregiver costs and long-term care expenses. Okay, so how do we do that? As I told you, our current approach involves using these or developing these brain-computer interface neuromodulation approaches for locomotor function.

So I'll give you kind of an overview of our program and some of the basic studies that initially we did to sort of provide proof of concept evidence that this closed loop stimulation is more effective in potentiating the corticospinal circuits. And then I'll tell you about some of the translational work that we've been doing where we applied this approach to a longitudinal intervention in chronic individuals with spinal cord injury to see how much functional recovery we can get. And then we went back to sort of the drawing board to further optimize and develop the technology so that we can get more recovery. So it's kind of a three-chapter

Story.

As I told you before, transcutaneous spinal cord stimulation is a non-invasive sort of technique that can be applied to the sort of over the skin surface close to the spinal cord, and it can essentially activate the spinal circuit.

And, you know, sort of stimulation can drive these synaptic changes. We use a closed loop stimulation approach because one, it's more intuitive to combine with activity-based therapy. So if you're trying to step, if you're just getting stimulation, that's not necessarily intuitive, but if somebody is trying to, let's say, step,

They cannot necessarily do it without the stimulation. And then we give them the stimulation to sort of reinforce that attempted movement. As you'll see, we have evidence to show that that can lead to more efficient sort of potentiation of these corticospinal circuits.

Just to sort of give you the overarching kind of hypothesis, you know, spinal stimulation has been shown to kind of affect these sort of synaptic connections of the, so essentially to lower the activation threshold. So for these descending circuits, which makes it easier

for the descending circuits to activate. But our hypothesis is that sort of brain-controlled neuromodulation can elicit this Hebbian-like potentiation, which is kind of fired together, wired together. So if you try a movement and then you get a reward, and then you do that repeatedly over the course of many months or many minutes or hours, you can kind of, the central nervous system can learn this better through this kind of positive reinforcement, Hebbian like fired together, wired together mechanisms of paired activation, right? Like whereas if we just give a reward to

somebody or to the spinal cord or to the spinal circuits,
without any kind of good behavior, then perhaps it's not as good at learning those behaviors. So that's kind of the idea behind the approach. I'll give you a general overview of our system or of our...
approach for this brain controlled transcutaneous spinal stimulation. Then I'll kind of get into some of the clinical and the current kind of developments. So what we do, we use non-invasive, you know, brain signal recording. So this is an EEG cap that you can place on the head.
We need to insert some gel electrodes to sort of, you know, improve the connection between the scalp and the specific area of the brain. We then record these signals. They're actually like all in the backpack, like the computer, but we can actually, the computer is remote. It sends signals wirelessly, but the stimulator is in the backpack. So we can record these signals. Oops, sorry about that. Record these signals and then sort of analyze them in real time to understand when the person's trying to move.
Once we detect that the person's trying to move, and I'll tell you how we are detecting that, we can then apply the spinal stimulation for the duration of the movement. Okay.
This is the general idea of how we sort of calibrate the BCI system. So again, we record data from various sort of bilaterally from both sides of the brain. When the person is imagining moving the left or the right leg, we do it multiple times.
so that we can kind of get, you know, kind of reliable signatures of these movement initiation profiles. And typically, this is a very nice kind of example of what sort of an attempted movement might look like in a single electrode. So if you try to spot the differences between the
The rest state, which is here, and the active state, you can see that there is a very nice sort of...
area in this specific frequency band, which becomes desynchronized. So we call this event-related desynchronization of the cortical activation. And typically that happens across different areas of the brain, but predominantly because the leg is sort of located like sort of
close to the midline, as I'll show you in a second, we get like a very strong response close to the CZ electrode, which is right at the midline, sort of in the middle, in the middle of the head, like over the motor cortex. Okay, so then we sort of calibrate the system to detect this event related desynchronization or this signature.

of movement initiation. And we do some relatively simple, and honestly, initially we wanted to, we didn't want to complicate a decoding problem. We wanted to make this simple enough so that it can be used clinically. So we are not trying to initially, but later on, and now we're working on trying to detect the different movements, different legs, but right now we just, we're not necessarily at the moment interested in whether the person's trying to move the left leg or the right leg. We just want to see whether they're initiating A movement. Okay. And so once we kind of get this event related desynchronization, we activate the spinal stimulation.
It can work in real time. We can do it relatively quickly using relatively, I would say. standard computers, okay, all developed sort of by our team in the lab. This is not a commercial system yet. So to apply spinal stimulation, we, you know, sort of position the electrodes somewhere over the low thoracic high lumbar region, and we always sort of spend a bit of time to
to sort of find the lumbar enlargement and sort of to program the, or I guess to position the electrodes to get very nice recruitment of muscles, right? We can just like slap them on and hope that they're in the right location. And most importantly, hope that the intensity is sufficient to
to get the activations, but we're not trying to activate the muscles. Then we decrease the intensity so that it's just below the motor threshold. So this is not a prosthetic. We want to sort of activate it just enough so that when the descending commands come, that they're kind of like easier to fire.
So, so a lot of time kind of spent programming the stimulation intensity, and to do that, we've spent, you know, well, multiple, you know, experiments trying to figure out how we can selectively, you know, apply transcutaneous stimulation to activate the sensory dorsal root.
fibers, but without activating the motor fibers, because we don't want to create these prosthetic effects. Because prosthetic effects, you know, maybe they're helpful, maybe they're not, but they're, you know, you can use an exoskeleton to move around. We want to amplify these intraspinal circuits.
potentiate them so that once we turn the stimulation off, there is some recovery of voluntary function. That's the idea. So we want this to work as a therapeutic intervention. Okay.
And again, we've created various computer simulation models to kind of demonstrate that we could selectively activate these large size sensory fibers by essentially not cranking up the stimulation intensity, but by fine-tuning it to the right

level, so that we're selective in activating only these red.
sensory vibers.
Okay, so we then initially wanted to, this is a proof of concept study initially done in control sort of individuals, like with an intact sort of spinal cord. We wanted to see whether indeed the closed loop way of delivering the stimulation is more effective in potentiating
these connections between the brain and the muscle. Okay. So we developed this intervention. It's a single session intervention. So they come in only for a single session. Well, they come in on several days. It's a crossover study where we, you know, kind of tested this brain control. In this case, we didn't go to the spinal cord, we actually went to the muscles, which is, which can also provide a lot of feedback to the central nervous system.
So, so we have the person imagine the movement.
It says, ready, go. Once we detect that they're imagining the movement, we will apply the stimulation for five seconds. As I've told you before, and I have this similar slide several times because it's a similar approach for now, we calibrate typically the CZ electrode, which does have a very strong kind of
signature of event-related desynchronization, and it really kind of depends. For different individuals, it might be in different frequency bands. Partially, that depends on how used to one is in imagining movements. Sometimes it's also been shown that if people have played sports in the past, that they might...
have a slightly different kind of cortical activation profile. So we always calibrate this to the specific spatial region in the brain that shows like a strong activation, but also to the frequency or to the oscillatory kind of frequency that
that also has this very nice clear signature of activation.
And then...
Second session, so after the calibration, we would apply electrical stimulation for five seconds in this case. This is a very controlled experiment. The people are not walking. Proof of concept. We want to show in a very controlled setting that this can strengthen the connection between the brain and the muscle.
So once again, the experiment is we do pre, during and post assessments. And then we have these interventions and there are three types of interventions all done on different days. So the first intervention is we use the brain controlled, the brain control to activate the electrical stimulation.
Okay, and the electrical, the brain BCI system is 80, in this case, was 87.4 times or

percent accurate. So there is about 15% of the trials or 13% of the trials. If you don't get the activation within a certain amount of time,
you don't get the reward. So only if you activate the brain as we calibrate it, then you get the reward. Okay. We have two controls in this case. One was you still use the brain computer interface, but electrical stimulation is delivered.
Much later, so, so it's kind of like you get the reward, but you get it.
much later where you cannot necessarily associate it with the activation of the brain. So we wanted to see whether timing is important. And then the third control is you just get electrical stimulation without any activation of the brain. You sit there and you just get the rewards without any activation of the brain.
Of the motor cortex, OK?
Obviously, we match these conditions in multiple different ways to make sure they're directly comparable, so that we're not comparing apples and oranges. And this is important to assess before, after excitability of the corticospinal circuits, we use transcranial magnetic stimulation.

C **CCOC4042_Conf_Rm_240P** 1:12:48
True.

MM **Matija Milosevic** 1:13:04
to elicit these motor evoked potentials. So what that is, this is not the intervention, this is our assessment. So we place the magnetic coil over the motor cortex, we apply a single impulse, like a known input, and we measure the output. So we measure this motor evoked potential to the known input.
And then we can look at the changes of these more evoked potentials before and after the intervention.
So these are the results. These are the more evoked potentials. So this is the synchronized intervention. So we can see that in almost all, but we get like a significant group facilitation.
After the intervention.
In the synchronized condition, if the stimulation is delivered much later.
there is no potentiation of the corticospinal circuits. Or if you get stimulation without any sort of descending dr input, you also don't get any facilitation. In fact, you even get some initial inhibition. So you kind of decrease the connection between the brain and the muscle.

which could be sometimes actually useful for treating spasticity.
but we want to potentiate the corticospinal connections because we want to improve voluntary function. So that's our initial evidence that this can be an effective way, this closed loop sort of way or closed loop approach can be an effective way to potentiate, amplify the connection between the brain and the muscle.
We tested some other sort of spinal reflex circuits and we didn't see any changes. So this is definitely, as I told you at the beginning, like within these corticospinal circuits, which we can elicit through transcranial magnetic stimulation. So this is our original kind of proof of concept evidence that we could.
even after a single session in these controlled experiments, facilitate the corticospinal connections. Obviously, the limitation is that this is done in controlled participants and that we need to now see whether this can potentially be same circuits in individuals with incomplete spinal cord injury. So we then initiated the next.
face study to test the feasibility of this brain control. In this case, now we went to the spinal cord.
But again, brain controlled neuromodulation approach for facilitating, again, lower limb corticospinal circuits after incomplete spinal cord injury. And again, we wanted to make sure and sort of have more evidence that this can potentiate the circuits.
after a single session before we move into a larger clinical trial to test whether it's functionally relevant. Because then, you know, we spend years trying to see something, but if we don't have the mechanistic evidence that this can potentially be circuits, then, you know, we don't want to invest time and effort from everybody before we're certain that there is.
sort of mechanistic evidence that this can potentially. So in this study, we recruit 10 individuals with, sorry about that, with incomplete spinal cord injuries.
Asia B or C, all traumatic, all chronic, ranging between just under a year up to 26 years following spinal cord injury. And we have a very similar experimental design. In this case, we have two
conditions, but it's a single 30-minute intervention. And then same individuals are crossed and randomly sort of crossed between these two interventions. And we measure corticospinal sort of circuits and some motor performance, which I'll show you in a second,
Before and after the intervention, but it's a single session intervention. We just want to see if this can, if there is a signal that this can this can potentially these circuits in individuals with fine cord injury.

we obviously then spend some time to make sure that the stimulation intensity is correctly adjusted. And the reason I'm mentioning this is it does require some study on how to specifically place the electrodes, how to optimize the intensity so that you can get the activation of the underlying spinal circuit.
Spinal stimulation is now for upper limb function, an approved FDA indicated therapy. We're not collaborating with any industry partners. These are all research devices. But I'm mentioning that because there is still a lot of work before this can be feasibly integrated into clinical settings. And we need to continue doing science to understand how this can
I guess, be utilized most efficiently. But let me continue sort of going on about the study. So in this study, again, like we had individuals in the supine position, and I'll explain why. They look at the screen. Once we detect, this is what the EEG electrode looks like. Okay, once we detect,
that they're attempting the movement, we provide stimulation for a period of five seconds. I'll play the video again.
So he's imagining, imagining, imagining. Oh yeah, there we go. He got the stim for a few seconds. The reason why they're in the supine position, we don't want them moving. A lot of things affect these spinal, corticospinal circuits. We want them to be, we want a controlled experiment. We don't want some movement or posture to affect this. We want to
We want to have like a very clear baseline and control that nothing else is kind of playing a role in this. And that's also why we opted not to do this during walking, but have it done in a non-ambulatory setting so that we can really focus on these sort of reflexes before we combine it with walking and other things.
which also could potentiate or affect the excitability of these circuits. Okay, so that's what the intervention looks like. In this case, we had two sort of arms, and these individuals were crossed both, or I guess all individuals participated in both interventions on different days.
Once again, we, in the BCI controlled neuromodulation condition, we would apply the stimulation and the success rate in this time was 88%. So very similar to the previous case, in 12% of the times, if they don't get this activity, they don't get the stimulation. And in this random control condition, they would just get the stimulation without.
any sort of descending activation of the corticospinal circuits.
So then, and obviously we match these conditions to make sure that we're not

comparing apples and oranges, because that's also, you know, difficult. So we wanted to make sure that we're delivering the same amount of stimulation, the same number of trials, the same sort of latency. So we're really trying to match so that we don't have sort of a dosage effect.
Rather, we want to isolate that it's only the brain-computer interface that's contributing to this, to these enhanced.
changes that we're seeing in the corticospinal circuits. So then once again, we measured these TMS elicited motor evoked potentials before and after the intervention.
in both interventions. And what we could see is that even individuals with incomplete spinal cord injuries, we can get very nice.
strong and robust facilitation of the corticospinal circuits after a single session. And it actually outlasts the intervention. We measured up to 30 minutes following the intervention. It seems to be persisting even after the 30 minutes. Whereas if we just apply the stimulation, we don't see any statistically.
changes, but actually it does go down a little bit, not statistically significantly, which is similar to the previous study. Okay, so we're happy, we're building some confidence that this closed loop approach is, you know, makes sense, that we want to pair this through or deliver the stimulation through a BCI.
We also measured the spinal reflex circuits before and after the intervention, and we are seeing some changes in the spinal circuits as well. So again, like giving us an idea of where within the central nervous system.
these neuroplastic changes are actually occurring.
Okay, so I summarize this. So no changes after random stimulation, but we are seeing potentiation of the corticospinal and spinal circuits, and not inhibition, but potentiation. So we're strengthening the connection between the brain and the muscle, even after a single session. This was individuals with spinal cord injuries, so we wanted to sort of get
some measure of motor function. Like, okay, yeah, we can amplify the corticospinal circuits. Sort of the question becomes, who cares? So we use this motor performance task, which is called the lower extremity motor coordination test, where we had individual step towards the target.
As many times as they can, within 20 seconds, we quantified sort of through a motion capture system the movements, and what we saw is that the number of steps.

increased following BCI intervention, but not after the random intervention. This is a single session intervention. We're not really creating a lot of functional changes, but we are seeing some signals of functional benefit which might correlate to the changes in the corticospinal circuits.
So, so we're again like optimistic, and and we have some nice evidence to move this to to the next phase of testing, which now...

CCOC4042_Conf_Rm_240P 1:22:58
Yeah.

Matija Milosevic 1:23:02
Well, sorry, this is a summary. So again, like through this brain controlled intervention, we can potentiate corticospinal and spinal circuits even after a single session. And this might contribute to the improvements in functional.
functional improvements in the lower limb function, but it's a single session and it doesn't involve walking.
As you can imagine, we're now running a trial to investigate and see whether this approach can.
feasibly be integrated with locomotor therapy to, you know, improve walking function following incomplete spinal cord injury. And in this case, it's a four month intervention. Obviously need a lot more therapy to have recovery of or lasting recovery of.
of voluntary function. So in this study, this is a single arm intervention. It's A feasibility trial. We are planning to enroll 6 individuals, and we've actually enrolled all six. Four have completed the study, and I'll be showing you their results.
and two are currently in the trial doing the study. So all six enrolled, 4 completed, all incomplete injuries, I believe one, all of these, I apologize, this is an error, and all T10 above.
all chronic. Okay, so again, we're using the same approach, except now we're combining this with activity-based therapy. So we have physical therapists working with us, and this individual has this backpack. He imagines the movement. Every time the BCI system detects the movement, we
apply the stimulation for five seconds. Over the course of the four months, we or our physical therapists work to progress the activity based intervention so that we are constantly sort of challenging this each one of our participants to

to perform some of the tasks that they couldn't do otherwise without the stimulation. So initially we had some ankle weights, then sometimes we would introduce crutches instead of a walker or various sort of objects that they would want to step over. The idea is we want to make the task
challenging enough so that they cannot do it without the stimulation and then have them attempt it and have them kind of get the stimulation so that they can now do it without the stimulation and then constantly kind of keep them at the edge of what they cannot do so that once we take the stimulation off, hopefully some of these changes last.
So it is important that this is sort of progressively combined with activity-based therapy so that we can again keep the tasks just challenging enough.

JO **Jill Olinick** 1:25:58
Letizia.

MM **Matija Milosevic** 1:25:59
Yes.

JO **Jill Olinick** 1:26:01
This is Jill. I was just wondering, do you, or do you know if any of your, of these six individuals were, or participated with an exoskeleton to initiate their gait originally or?

MM **Matija Milosevic** 1:26:17
So, so.

JO **Jill Olinick** 1:26:17
It, you know, prior to the six-month time frame.

MM **Matija Milosevic** 1:26:20
Yeah, so that's an excellent question. I know that at least one or two of them has been in multiple other sort of clinical trials. They're all chronic. I believe that none of them, at least not recently, have done any exoskeleton training. But a lot of them have been in various

CCOC4042_Conf_Rm_240P 1:26:40
Yeah.

Matija Milosevic 1:26:41
other sort of clinical trials. None have had any other currently ongoing clinical trials that they were involved with. None have had stem cells and other things. So, but perhaps a couple of them might have been in some of the previous exoskeleton-based trials.
elsewhere, but I'd have to check into that. But importantly, they are all chronic. They've all been injured for multiple years. And a lot of them have sort of exhausted their both inpatient, outpatient sort of options. Many of them still continue to do outpatient rehab.
Through.
Again, either insurance covered or through private gyms, they're all very much invested in their recovery. These are sort of the early adopters, I think. And we also implemented, and maybe if I go back here, we also specifically implemented this this one month ramp up period, which I forgot to mention, to make sure that we're not kind of piggybacking off of any sort of, I wouldn't say spontaneous recovery, but just any kind of.
You know, we're certainly conditioning them to make sure that the orthostatic function is kind of conditioned and everything else, but we're not just like getting somebody who hasn't walked in several years, you know, to kind of get these initial benefits just from the, just from, you know, getting out of their wheelchair.
I hope that that answers the question.

Jill Olinick 1:28:20
Yes, thank you.

Matija Milosevic 1:28:24
Okay, so we first wanted to see whether there are any assistive effects. So kind of stim on, stim off effects of the stimulation. But mostly we're looking at or we're interested in the off effects. But, you know, we kind of want to convince ourselves that, hey,
This actually does something when you provide the stimulation on-off. So these are

on-off effects.
So to do that, we can use these, like again, a nice motion capture system. So here is our participant walking with the BCI system with our physical therapist. And then we apply the stimulation. And then for now, we haven't analyzed all the data. We looked at stride length. So no stimulation.
with the stimulation, we get an improvement in the stride length. So that's suggesting this is just when we turn the stimulation on or off. And we also, and importantly, and this is something that becomes important in the later part of my talk, we get this improvement in the step length asymmetry. So meaning that the left leg and the right leg becomes slightly more
symmetrical in how they walk. These are just immediate effects, on-off effects, right? But again, we don't necessarily envision this as a prosthetic. We, at least for now, don't think that this is something that one should take home and use on daily life or go to the community.
and, you know, use, but we envision this as something that one can do initially in the outpatient rehab, perhaps later, if proven to be efficient or effective during inpatient rehab so that they can get more recovery and then they can take the system off, go home, and hopefully have more recovery.
without the device. So to do that, we measure these clinical assessments before and after the intervention without any stimulation. So the stimulation is the intervention, but we measure this sort of voluntary function. So on the 10 meter walk test,
We see that our participants can walk faster. How much faster? Well, they can double the minimally clinically important difference to what's been sort of established for individuals with incomplete spinal cord injuries. So we are seeing that we can double this.
sort of MCID improvement. So we're excited about that. On the endurance task, which is a six-minute walk test, again, we're seeing an improvement of 52.6 meters and the MCID is 36 meters. So once again, we can see that we can get
them to walk longer, faster, but also longer, so they have more endurance. And then we also kind of became interested in this asymmetry. So we are seeing some improvements in the asymmetry, even with the stim off. Okay.
We're excited, but we don't yet think that this is a solution. We have a lot. We've made some strides in the right direction, and I'll tell you sort of what we're doing right now. Oh, before I go there, I'll show you some of the demo videos, and I'll tell you hopefully about some of the functional goals that these individuals have been

able to report.
So this is one of our participants. You can see that he's walking faster. He did tell us that his endurance when walking outside of the study was also improved, that he was able to take more steps when walking in the community with a walker. But most importantly, kind of as a functional goal, he mentioned that he was able to

C **CCOC4042_Conf_Rm_240P** 1:31:48
Ohh.
That's amazing.

MM **Matija Milosevic** 1:32:05
get in and out of his car more independently and without the walker. So for him, getting kind of in and out of the car, having to take the walker out was something that was, you know, preventing him from sort of engaging daily activities. But so now he was able to kind of walk short distances without the walker.
which provided like a meaningful improvement for him because he was able to get in another car.
And importantly, so he improved roughly 30 plus seconds. So on the 10 meters walk test, he was able to walk 30 seconds faster. And this exceeded both MCIDs for the both speed and endurance. This is one of our

C **CCOC4042_Conf_Rm_240P** 1:32:40
It.
I know.

MM **Matija Milosevic** 1:32:52
Other participants, you can see that the baseline is very different. So he's a lot. There's a lot less residual function at the baseline, but even this individual who required a body weight support to walk, and we assessed them using the same condition at baseline and at the endpoint, that he was able to walk faster. So we were happy about that. So this isn't only for...
those who are relatively fast at baseline, but that we can get some pretty good recovery even in individuals who are less ambulatory at baseline. So he improved a lot on the 10 meter walk test, as you can see here, and in his endurance, both also exceeding these MCID scores. And he reported

For him, like one important sort of functional goal was to have some ability to stand unassisted, which we also measured through one of the tests that's not shown here, because occasionally he likes to use the standing frame or he likes to go up to the table and sort of stand.
during his daily sort of routine so that he can, you know, put some pressure on his legs and sort of interact with, you know, other others and so on. So he was able to sort of accomplish that. So that was what he reported was one of his goals that he was able to accomplish.

C **CCOC4042_Conf_Rm_240P** 1:34:08
Yeah.
It is.

MM **Matija Milosevic** 1:34:16
Our other participant also improved in the walking speed as well as the endurance. As you can see here, both again exceeding this minimally clinically important difference. And he mentioned that he no longer needed to use the knee brace during walking, which provided some stability, but also, and importantly, that he was able to ambulate more at home.
with the assistance of a walker. So he was able to kind of utilize some of these functional gains at home. And this is again like one of our last participants who completed. He also, at baseline, he was much faster, but he nonetheless made important strides and he also improved.

C **CCOC4042_Conf_Rm_240P** 1:34:56
Right.
Good.

MM **Matija Milosevic** 1:35:04
considerably in his, in his both speed and endurance, specifically in endurance. And for him, he's, you know, he's very active in the community. He works and occasionally for his work, he doesn't need to sort of stand and he reported that he was now able to
And specifically, he's a DJ, which he's very proud of. And so he reported that he's now able to sort of go onto the stage without needing like sort of a walker, but that

he can use like his crutches to sort of get onto the stage. So that for him was a functional kind of goal at the beginning of the therapy that he was able to self-report.
that he was able to accomplish. Now, and importantly, we are very interested in how perhaps this is being accomplished, and we are measuring longitudinally these corticospinal connections. And what we are seeing so far, this is an interim analysis, is that there is potentiation of these corticospinal circuits, which we are hoping

CCOC4042_Conf_Rm_240P 1:35:55
Yeah, like.

Matija Milosevic 1:36:03
are correlated or are mechanistically helping us, I guess, understand where within the central nervous system we're able to, I guess, elicit these changes. And this is not the end. This is almost.
Sort of.
the end of one of the chapters. So, so far, we've been able to demonstrate that this brain-controlled neuromodulation can sort of, you know, improve function even after a single session, but that long-term therapy can lead clinically meaningful improvements in walking after incomplete spinal cord injury.
And the BCI neuromodulation is a feasible sort of, I guess, approach for modulating these corticospinal circuits when combined with activity-based therapy. We believe that this is because of this Hebbian-like plasticity, where we pair the activation of the motor intent with the stimulation.
And our hope for the next stage is that we can demonstrate that this way and form of neuromodulation could potentially accelerate recovery, reduce inpatient or outpatient rehab stay, and or maximize recovery benefits so that

CCOC4042_Conf_Rm_240P 1:37:01
It is.
Yeah.

Matija Milosevic 1:37:20
we can sort of have some implications on how this can potentially drive the costs associated with spinal cord injury, but that's the next stage of what we need to do.

However, as we do that, and I'll maybe leave a minute for some questions before I get into this final chapter,
We've learned a lot. And we also then in parallel have these initiatives where we want to develop in parallel these next generation.

CCOC4042_Conf_Rm_240P 1:37:48
Man, still on, still on, there it is.

Matija Milosevic 1:37:53
artificial intelligence-based decoders for eliciting more targeted neuromodulation. So that's what I'll tell you in the very last part of the chapter. And I hope I'm still on time, but I'm happy to kind of take any questions before I get into that final chapter.

Jill Olinick 1:38:10
Could you remind me how many how many visits you're proposing?

CCOC4042_Conf_Rm_240P 1:38:12
This thing in here, right?

Jill Olinick 1:38:15
Our sessions.

CCOC4042_Conf_Rm_240P 1:38:17
Our network is done? No, she's still on.
You can't hear.

Matija Milosevic 1:38:22
I can hear everybody. So how many sessions? So currently, we're looking at this.
Yeah.

CCOC4042_Conf_Rm_240P 1:38:27
Doctor, can you hear us?

Kevin Mullin 1:38:30
Kim, your mic is open.

Matija Milosevic 1:38:34
Hi, can you guys hear me?

Jill Olinick 1:38:36
Yes.

CCOC4042_Conf_Rm_240P 1:38:36
He's still there, he's unmuted.

Jill Olinick 1:38:41
We can hear you, Matia.

Matija Milosevic 1:38:43
So, so may I proceed?

Jill Olinick 1:38:46
Please.

Matija Milosevic 1:38:47
Okay, so currently we're looking at this as a four month, three times a week, 36 sessions. The first month is a just kind of a ramp up period. And technically we could get some, we could narrow this down to three months. I know that this is.

CCOC4042_Conf_Rm_240P 1:38:47
See some building text.

Matija Milosevic 1:39:05
Still a lot, but initially we wanted to have this design so that we can really look to see where we get the plateau, if there is kind of an earlier plateau and kind of understand the dosing effects, so that we can then narrow it down, because if we don't do it for longer, we can know what's gonna happen, but you know.
we can always sort of, with these midpoint assessments, understand whether or not there is any recovery earlier on. And specific to that, what I can tell you based on. Our functional outcomes is that we really get everybody continues kind of improving

up to the end of four months, so...
Two months is not enough. You get some recovery after three months, but you know, there is still kind of...
People still keep going up after the 4th month.

JO **Jill Olinick** 1:40:01
And what's the estimated cost that goes along with it?

MM **Matija Milosevic** 1:40:05
We don't have an estimated cost, I have to say.

JO **Jill Olinick** 1:40:08
OK, yeah.

MM **Matija Milosevic** 1:40:08
You mean of the devices or of the actual intervention?

JO **Jill Olinick** 1:40:13
Well, the combination, because I think one of your statements was, you know, that it will reduce long-term costs for care.

MM **Matija Milosevic** 1:40:22
Yeah, that's kind of a, that's a future goal in something that we want to address, but I definitely, like this is all research, sort of research grade systems. This is not a commercial system, so I honestly don't have a good number for an estimated cost on how much the devices might cost.

JO **Jill Olinick** 1:40:25
Okay.
Sure.

MM **Matija Milosevic** 1:40:42
and then combining that with operational costs, I don't have a number yet. That's the next phase.

Jill Olinick 1:40:46

Sure.

Okay. And my last question, I'll allow others to ask, I'm sorry. I just wanted to find out, it looks like all of your

research subjects were three years or more out after their injury. Is that when you're recommending or are you looking at utilizing this earlier on in the recovery?

Matija Milosevic 1:41:14

We'd like to use it earlier on the recovery. Initially, we opted to begin sort of with the chronic phase because early on in the recovery, there is a lot of, initially in the very acute phase, there is spinal shock. In the subacute phase, there is a lot of sort of spontaneous recovery that takes place. So we wanted to do this

in the chronic stage where we can sort of like have a, like where we can sort of say that at least spontaneous recovery has reached its plateau and that we can get somebody who's kind of at the plateau, you know, to improve. And then later on, we want to see how.

potentially we can do this in the sub-acute rehab to get more recovery, but then we'd need to have more controls because we're kind of almost piggybacking off of spontaneous recovery. And there is also like, you know, safety aspect that we need to demonstrate, you know, in the chronic phase before we kind of...

Are able to to test this in the subacute in the in the subacute phase, but you're right, I think the best.

potential window is maybe in the sub-acute phase. We've initially tested this in the chronic individuals, and this is not a recommendation. This is more of both scientific and safety consideration that we've been implementing in these initial trials.

I'm happy to proceed and try to go through some of these or this last chapter, which is now going back to the drawing board. But if anybody else has any questions, happy to answer them now or at the end.

So maybe I'll proceed and then...

So we're now again back to the drawing board, like kind of in parallel, as we are learning a lot about, you know.

from these trials and these studies, we...

are also sort of developing this next generation AI-based power.

decoder or brain-computer interface for delivering more targeted neuromodulation.

Why, you may ask? Well, that's what science does. But more importantly, as I told you, we've noticed this increase in the step length asymmetry. So what's step length asymmetry? So basically, the difference, it's the ratio between the
weaker and stronger limb, right? So it's how, you know, essentially if the score is 0, it means that somebody is perfectly symmetric. So the left and the right leg or the stronger and the weaker leg are exactly identical. But that's not the case in most spinal cord injuries.
Typically, you know, one has a stronger and a weaker limb, and we are noticing that individuals with spinal cord injuries have a much stronger asymmetry, but we can improve it slightly through this intervention. So then we did the cross-sectional sort of comparison.
individuals with incomplete spinal cord injuries and sort of controls to see the difference in the step length asymmetries. And obviously, we're seeing, as expected, that individuals with spinal cord injuries are more asymmetric.
And then when we looked, we were able to get some pretty good improvements, but we're still not.
really good at completely accomplishing or abolishing this asymmetry. So we thought that if we can further improve this asymmetry, maybe we can get better functional recovery.
And, and further evidence for that is that, you know, speed.
obviously differs in individuals with spinal cord injuries, but in those with spinal cord injuries, there is a negative correlation between walking speed and step length asymmetry. So people who walk faster tend to be less asymmetric or more symmetric.
Okay, so based on that, we're now trying to develop a more targeted approach to activate the weaker and the stronger limb.
Rather than just detecting movement intentions, we want to be more targeted in activating these limbs independently. So we established sort of a set of studies where we, again, individuals with incomplete spinal cord injuries, tested the activations that we get through midline
spinal stimulation. So we place the electrode at midline. This is the posterior sort of spinal cord. We send a single pulse and now we're sorting by stronger weaker leg. So we get like a much larger response in the stronger leg and a weaker response in the Weaker limb.
Not that surprising. If we move the electrode towards the stronger leg, we can get

selective activation of the stronger leg, which is good, and not activate the weaker leg, which might be something that we want to do if we want to be targeted. But if we move the electrode towards the weaker leg, you actually
don't get such good activation, but you can be selective in the activation. So that's kind of shown here. So midline stimulation, we are biased towards activating the stronger limb.
which is not something that we necessarily want to do. And even with the weaker stimulation, we have some struggles. So we need to develop methods for activating the weaker limb more optimally so that we can
minimize the asymmetry and hopefully improve function further. So to do that, we also need to develop a technique to detect.
left and right limbs using our brain-computer interface, which is easier said than done. And I'll tell you why.
So the way that we do that right now, this is again another sort of parallel ongoing study, is we record, again, brain activity over multiple trials when we show people these images of left and right limbs. And initially we want to see
how the corticospinal circuits are engaged during these different types of imagined movements. So we use a brain-computer interface to detect the activity, we detect the activity, and then we apply spinal stimulation. So this is not the intervention, this is an assessment that can tell us
How, when we imagine different movements, how we specifically activate these corticospinal projections.
So what we do is we elicit these evoked responses.
at rest. Okay, so we want to, that's kind of our baseline. Then we have, and that happens, we don't do that every single trial. We do that about 85% of the trials. Then we use a brain computer interface. We show the person the correct limb. Once they imagine the correct limb.
we get the TMS gets triggered and what we're seeing is that the corticospinal connections become facilitated.
But once we show them the unmatched limb, it doesn't become that facilitated. So we can get some level of selective activation of the corticospinal circuits in the stronger limb.
When we try that in the weak column, so far we're not seeing that much.
Selective activation.
So that's why we're developing this new decoder that can help us engage

corticospinal connections more selectively.
So to do that, once again, we record data.
And now instead of looking at only the CZ electrode, we want to look for both spatial and frequency signatures.
And not only in the single electrode, but across various different frequencies and various different sort of spatial locations across the motor cortex.
to distinguish between the left and the right lane.
And to do that, we need to sort of really look at a lot of different features of these activations, both spatial, as I said, and these oscillatory frequencies.
So that we can sort of find these signatures that can help us distinguish between the left and the right limit.
As I said, slightly easier said than done. The reason for that is that the left and the right leg are very close to this midline, and there is a lot of overlap in the activation of the left and the right leg. So when we were first detecting just
Movement initiation of the limbs, we didn't necessarily care to distinguish between the left and the right limb, was easier. But it becomes more challenging to do, especially following spinal cord injury, because also it's been shown that following spinal cord injury, these motor maps become larger.
So there is more overlap between the limbs potentially following spinal cord injury.
So that's why we need to use a novel, more advanced decoding pipeline. So to do that, we're now, again, recording data from multiple electrodes across the motor cortex and some of the other prefrontal and other areas. We pre-process the data into these different brain rhythms.
and different kind of spatial activation patterns. And then we use this novel artificial intelligence based decoder, which I'll briefly explain. It's called an EEG deformer, which we then fine tune and personalize
For each individual, because following spinal cord injury, there might be slightly different profiles of activation, so we fine-tune to each individual signature, and then we obviously try to make...
or understand which specific areas and frequencies are activated during rest, left and right leg movements, and of course, use this as a brain computer interface to detect, or I guess to control the stimulation. So once again, to do that, we need to feed a lot of data.
into the decoder. These AI-based decoders are data hungry, and the more data you provide to it, the more they can learn from it. So we decompose these data into

multiple trials. Each individual, it's a single session that they come in for, but they roughly imagine each leg.
over 100 times with breaks and things like that. So we want to give a lot of data and a lot of variability into the decoder. So this EEG deformer performs like it's a two-step sort of decoding pipeline, if I can call it. So it does this.
Initial convolution. So basically what it does, it takes this data, this very rich data set, 10 individuals, it says here 7, but we actually have 10 individuals. We just haven't finished all the analysis yet. We take all the data, we feed it into the into the into this encoder.
So this encoder, what it essentially does is it takes all the data and it looks for these EEG rhythm summaries or these brain rhythm summaries, which are called tokens. And then these tokens are then fed in through this second layer of transformation where it essentially looks for these
local and global patterns. So both over time and over space. So it kind of looks for, you know, is there like an activity here or is there like broad activity? So it kind of looks at different levels of zoom in or out.
for these signatures of cortical activations, both in space, so meaning across the motor cortex, and in their sort of frequency profiles.
And then it can make sort of a distinction between the left and the right limb by making a decision. But importantly, this also, or this EDD former, I guess, pipeline allows us to interpret the, or I guess understand the neural dynamics.
And then one of the other important aspects is that we develop this kind of for everybody, but we also have learned, and as I'll show you in the results in a second, that there is no one true fit all approach. We cannot just have an exact same decoder for every single individual, but that if we personalize it to each individual's
sort of specific cortical activations, we can get much better decoding, as I'll tell you. So we have this personalization and fine-tuning of each individual token so that we can accomplish better decoding and activation. And I'll tell you that in a second. So these are the results so far of the decoder. So we've shown, and now
the decoding problem is different, right? Like we're not just doing rest active, we're doing rest left right. So if we first try to do rest active, we have very good decoding accuracy. So we have like 92% decoding accuracy.
just rest active if we group the left and the right leg together. But if we distinguish between the left and the right leg, we get 89.1% decoding accuracy. And we're very happy with this because with simpler decoders, we're unable to accomplish this.

Obviously, we're comparing this against trans level, and this is considerably above trans level for all individuals.
But as we kind of do that, we want to understand how we can further improve this and how we can personalize the decoding. So we're looking at these sort of tokens and specifically we're looking at the spatial. So where across.
the motor cortex and the prefrontal cortex, is this activation happening and which specific rhythms are most contributing to the decoding of these movements? So what I can tell you, CZ is sort of the midline, is that we do have some contralateral activation. But I told you that these areas are kind of overlapped. But we're able to sense some activity in the C2. C2 is up. This is actually supposed to be for the right leg. We're getting activation in the C1.
area, which is the contralateral motor cortex to the right leg. So it's on the left side. So it's a little about that. And then we are getting some activation in the contralateral area corresponding to the left leg, even though the left leg is tougher to decode. And we think that that might be because that's the
weaker limb, which is something that we're investigating right now as well.
So then we applied using this, this personalized approach. So where we kind of fine tune these features or these descriptors of the brain activity profiles, and we can see that we can further improve.
prove the decoding accuracy if we fine tune for each individual. So kind of no one truth at all, but we can, we can, you know, for each, make a customized, personalized sort of decoding architecture for each individual, which can then help us accomplish better accuracy, both for the move rest.
as well as for the left-right decoding.
And again, just to kind of give you a breakdown of all.
10 individuals that we have here. So we can see that most people have, you know, sort of activation in this low beta, high alpha kind of activity, which is something that we've seen from a single electrode, but not every single individual has these exact same profiles. So this is a kind of rank.
So you can see that the red for subject number one is the most important one, but for subject number four, it's the least important one, feature-wise. So we do need to personalize to get better decoding accuracy. And then looking at the spatial,
kind of activation profiles, we can see that most of the clusters of activity are close to the motor cortex and the prefrontal area, which is sort of not that unexpected. So we're activating the motor cortex, which is what we want to do. But not everybody is

the same. So most people have this.
C1 activity, as you can see here. Where is the CZ? CZ is the pink. Pink is here, pink is here, pink is here. But not every single person. So for this individual, CZ wasn't that good. So we really need to again fine tune this to each person.
So, this is the final chapter, or end of the final chapter. So, we've shown that, you know, there is feasibility and efficacy of this brain controlled neuromodulation approach. We can enhance corticospinal circuit function, improve and accomplish clinically meaningful improvements in walking.
However, we're still limited by the non-selective sort of approach, and now we're developing this AI-based sort of neuromodulation approach, which can be more targeted in activating these specific circuits of the weaker and the stronger limb to drive these functional improvements more symmetrically.
which can hopefully lead to better functional recovery. So our goal is that now we can develop, based on this sort of more targeted approach, we can develop a more targeted neuromodulation approach while also understanding circuits activation and that we can
Use that to to to get better recovery of locomotor function following spike crunch.
A lot of people to thank, but most importantly, I do want to really say that we're very grateful to have the support from the state of Florida for continuing to conduct some of these studies, which are done with this amazing team of students, as well as individuals at UHealth and the Miami Project.
who have continued to be sort of collaborators and colleagues and friends and this is all definitely not possible.
without the support of everyone, including the Department of Health at the state of the Florida. So thank you very much. We're again located, our laboratory is located at the Christine Neil and Rehab Center, which is a U Health Jackson inpatient outpatient rehab hospital, which is extremely helpful for us to be able to
work and brainstorm in how we can translate these approaches into clinical settings, but also for recruitment and education and everything else. And this is my contact. I'm happy to connect if anybody has any further questions. So thank you very much.

C **CCOC4042_Conf_Rm_240P** 2:01:39
Okay. Thank you. Thank you for unmeaning. Thank you. That was an incredible presentation. And the videos that you showed, that just speaks volumes to me. I'll speak for myself. That speaks volumes on the progress that you've made, even since I

was down there last November.
That's impressive to me. So I thank you for that. Does anybody have any questions? I see Kevin has his hand raised.

Kevin Mullin 2:02:08
Yeah, I have a few questions if you don't mind.

Matija Milosevic 2:02:11
Absolutely, I'm very happy to answer.

CCOC4042_Conf_Rm_240P 2:02:11
Absolutely.

Kevin Mullin 2:02:13
Excellent. Matthias, thank you very much for an extensive PowerPoint presentation, giving us some thorough feedback of what's going on, especially with your pilot study. I'm very familiar with locomotor training, FPS, patient populations on the C5, 24 years post incomplete quads. So
I used to actually run a neural recovery rehabilitation and strength training center in Palm Beach County for 13 years. So I've got a good patient population working with this as well. First and foremost, I guess one of my primary questions is, I see Asia C&D with a primary focus of Asia D scores, which shows relatively strong movement below the level of injury.
whether it being thoracic or cervical, was there a reason that we did not utilize any prognosis with ASIA A or B's, predominantly B's that still show contractions from an ASIA scale perspective, but not necessarily movement? Was there any reason why we didn't initiate ASIA A's or B's?

Matija Milosevic 2:03:15
Great question. And just like with sort of chronic versus sub-acute initial target, we, it's a two-fold answer. One, initially our inclusion-exclusion include both C and D sort of classification, partially because
they will have slightly more preserved both motor and sensory functions. So we're now trying to kind of do retrospective analysis of the responder, not responder profiles, and then based on that, sort of, that will help us sort of open up the

inclusion-exclusion criteria.
So, so this was like, I would say, an intentional, um, we we we didn't want to cast too wide a net and then realize that maybe...
let's say Asia B has less potential or is a non-responder. I'm not saying that it is, but maybe. We wanted to sort of be very focused and focus on, you know, indications, clinical scores that we are slightly more certain, have more
residual corticospinal connections, initially do a retrospective analysis of the responder, not responder profiles, and then sort of open up the inclusion exclusion because honestly it takes a lot of effort, time, money to run these trials. And if we cast too wide a net, we can then show, oh,
doesn't work overall, but it works only for some people.
Our approach was slightly different. We wanted to kind of, you know, focus on those that we think will have a slightly better chance to have this, you know, work and then progressively open up the inclusion-exclusion based on what we learned so far. So it was just a strategic kind of...
first step decision so that we can we can learn and sort of open up the inclusion as we go based on what we've learned.

KM **Kevin Mullin** 2:05:17
Excellent. And then on the chronic scenarios from date of injury to where you're at, I saw 16 years, three years, two years. So I see it's pretty broad scaping on that area, which is great. Was there any inclination during the preliminary trials or the application process to take in pharmaceutical protocols of each patient population? The reason why I'm asking Matthia is because when we look at science, especially from a pure play perspective, I don't always believe that the US, especially ones that are funded by the NIH, are going for peer review with the NIH, taking pharmaceutical protocols. More than 90% of traumatic spinal cord injuries come out with some type of
nerve inhibitor or blocker, specific medications that I'm talking about are gabapentin, baclofen, so on and so forth. And even worse, was that ever taken into consideration when we're looking at the patient population during the application process? Because that would be strong inhibitors against what you're trying to quantify.

MM **Matija Milosevic** 2:06:05
Yep.

Yep.
Again, really excellent, important question. And we, I don't yet have this data analyzed, but we do very extensive kind of intake forms where we screen and sort of track medication, both at baseline.
as well as during the intervention, so that we can understand whether potentially any of those pharmacological, such as baclofen and things like that, which you know can potentially inhibit responses might sort of play a co-founding role. We don't necessarily exclude anybody that is on baclofen and other indications, because that's sort of a reality. There is a bit of pragmatism that we have to

Kevin Mullin 2:07:01
Thank you.

Matija Milosevic 2:07:02
that we have to incorporate into this. We can't have somebody like, you know, not sort of, you know, use a clinically prescribed, you know, spasticity medication to be enrolled in a trial. But we are tracking to see and whether there are any changes, but also hope

Kevin Mullin 2:07:12
Yeah.

Matija Milosevic 2:07:21
Fully.
to make sure that the medication sort of stays consistent during the intervention so that it's not necessarily playing a co-founding effect in the results that we're getting. But I don't have that data analyzed yet, although we are tracking in these functional kind of, in these functional tests. For the short-term kind of mechanistic studies,

Kevin Mullin 2:07:40
Okay.

Matija Milosevic 2:07:42
they're done kind of within a relatively small window. And we always sort of make sure that if somebody's routine, like we always schedule time of day so that it's

similar between the different studies so that, you know, like let's say we don't do one in the morning right after they take the Baclofen, but we do it kind of in the afternoon for the other session and then we.
We, we have, like, we essentially, we don't want the hive life of these medications to play a role, so we're very, I guess...

HB **HIGDON, BRIAN** 2:08:03
See.

KM **Kevin Mullin** 2:08:06
Yeah.

MM **Matija Milosevic** 2:08:11
attentive to scheduling so that we try to do it at the same time of day so that we have like minimal effects of these other co-founding, you know, medications and things like that. But you're right, that's very important and something that I maybe need to add into the presentation that we're considering.

KM **Kevin Mullin** 2:08:27
Okay, and then I have one last question that just came to mind as you were presenting as well. I know, again, a fair amount about FES.
With patient population, especially with traumatic spinal injuries, you know, we look at FES, and again, correct me if I'm wrong, at least it was in the old school, you measure it in three different ways. It's by pulse width, of course, which is duration, amplitude, of course, which is the intensity, and then the frequency, if I remember correctly, is the pulse rate.
How did you find a fundamental baseline on the FES that you're using right now with your just your 10 or so applicants? Because like I said, with my best years of utilizing FES with patient populations of a couple 1000 patients worldwide that we got to work with it on from a neuro recovery standpoint.
it was really almost inclined to utilize different FES amplitude or durations per patient. So it's really hard to always from an FES study that I've ever, even all the studies that I've read that have been peer reviewed, it's very hard to find a baseline FES for a large patient population. How did you find that fundamental ground?
to work from or that baseline, so to speak.

Matija Milosevic 2:09:43
Yeah. Again, you are very well informed, I think, on everything. So I appreciate these questions. Really good and important question. And partially why at some point during my presentation, I got somewhat sidetracking kind of mentioning that it's extremely important and that there is no sort of easy way to just slap on the electrodes, press the on button.

Kevin Mullin 2:10:01
The.

Matija Milosevic 2:10:05
and then have it do magic. There is no magic.
Silver bullet. I hate to use that word, but so essentially what we do, we spend a lot of time developing kind of programming protocols. We record a lot of data so that we can then describe this in our in our in our kind of reports so that we can kind of work backwards to find.

Kevin Mullin 2:10:10
Right.

Matija Milosevic 2:10:28
clinically translatable sort of.
prescriptions of how the stimulation can be implemented meaningfully. But what I'm trying to say is what we do and the way that we set the stimulation intensities is we use EMG. So we don't just kind of eyeball it. We put EMG, we apply the stimulation, we increase the
intensity until we start seeing the responses, which tells us that we're engaging these sort of spinal circuits. Then we decrease to be just below or just around the motor threshold intensity so that we can have direct evidence that we are indeed activating these circuits, but we're not necessarily eliciting motor
responses, but rather just amplifying them. And then again, like we're trying to use the other thing that we asked the participants to report on is paresthesias. So once they see paresthesias, we mark those levels down. We mark some enabling effects. So we do kind of an.

enabling we, and that's why I showed you that, like when the participant was walking, so we looked to see, you know, sort of which intensity is needed to get these functional enabling effects, and then we tried to work backwards to kind of describe and to have some kind of...
protocol that wouldn't require all the fancy equipment and the EMGs and things like that, because that's not necessarily feasible clinically, but we are sort of collecting lots of data in research so that we can see what sticks so that we can hopefully have these more clinically translatable, I guess, protocols for setting the intensities. But you're right.
There is no easy way to set the intensities. You can just slap on the electro, press the on button. You do have to spend a bit of time understanding how the technology works and playing around with the intensity so that you get the activation that you're desiring. I've spent a lot of time working with FES. My whole PhD was on functional electrical stimulation.
Typically with FES, just to answer your question directly, you are intending to kind of, again, like get some motor activation. Typically, we set the intensity of the functional electrical stimulation, even for these neuromodulation applications, at 1.2 times the motor threshold. So we kind of look for twitches.

KM **Kevin Mullin** 2:12:48
Okay.

MM **Matija Milosevic** 2:12:50
you palpate, you put the, you put your kind of like fingers close to the muscle that you're trying to activate. Once you see the twitch or you feel the twitch, that's kind of your motor threshold, go up and down. And then you set it to 1.2 times the motor threshold, which typically accomplishes both the motor and importantly, the sensory kind of activation.

KM **Kevin Mullin** 2:13:12
Okay, and then one more question. I don't want to take up too much time with you, and again, this is all great. The supine position that you're putting the patient population in from neuroplasticity and to activate for locomotor, why wouldn't you want to do a weight-bearing activity like utilizing the Hacoma Locomat or additional exoskeletons that even Jill brought up previously during this type of study,

because the body usually has a necessary better response when you have weight-bearing activities. And it gets back to some of the, basically the neuron finding that muscle memory, so to speak, from previous before injury.

Matija Milosevic 2:13:43
Yep.
Yeah, and again, a great question. The effect, so there is multiple, multiple reasons. One, and movements also modulate spinal and corticospinal excitability. So we wanted to also kind of almost control or almost get rid of movements. We didn't want movements

Kevin Mullin 2:14:06
Yeah.

Matija Milosevic 2:14:13
Or weight bearing to potentially.
have an effect on the short-term changes in these circuits that we're seeing. So we thought we want to have somebody sort of like in a non-ambulatory position without any weight bearing and attempt to minimize movement so that we're not having like...

Kevin Mullin 2:14:23
Sure.

Matija Milosevic 2:14:35
noise kind of play a role in the effect that we're seeing, because we're looking at only short-term effects. But then the second part of that is also the intensities of the stimulation also differ. So if there is like some, if you're weight-bearing standing, there is different thresholds will be required.
to activate these same circuits. So, initially, we wanted to have a more controlled kind of experimental, you know, setting, so we had individuals in the spine position in this. Well, in this sort of more functional feasibility trial, we always set the intensities during standing position. So during weight bearing and the thresholds are different.

Kevin Mullin 2:15:19
Okay.

HIGDON, BRIAN 2:15:21
Still.

Kevin Mullin 2:15:25
Excellent. Okay.

Matija Milosevic 2:15:25
So, so we're just doing it in different ways, in different, you know, more functional, more mechanistic studies, just to kind of understand what differences are, but also to control for some of the other effects.

Kevin Mullin 2:15:37
Great. Okay, thank you very much. I really appreciate it.

Matija Milosevic 2:15:41
No, I appreciate all the questions. Very nice chatting with you.

CCOC4042_Conf_Rm_240P 2:15:51
Any other questions?

HIGDON, BRIAN 2:15:59
Thank you.

CCOC4042_Conf_Rm_240P 2:16:01
All right. Well, thank you so much. I really appreciate you taking the time to present to the council today. It was fantastic.

Matija Milosevic 2:16:08
I really appreciate the opportunity and thank you so much for all the wonderful questions and again this time to present to everybody.

Kevin Mullin 2:16:18
Thanks.

CCOC4042_Conf_Rm_240P 2:16:20
All right, so Dr. Higbee, do you want to take over the meeting from here? Jill got us up to, we're at new business now.

HIGDON, BRIAN 2:16:30
Okay, it's a little hazardous jumping in like this, but I apologize for being late. I had a problem with Outlook and not realizing I was double booked until this morning. The, I guess on the agenda, the next is to review the quarterly report.

CCOC4042_Conf_Rm_240P 2:16:34
Yeah.

HIGDON, BRIAN 2:16:52
I saw the individual Excel files in the documents. Did we have one report that compiled them all or are we looking at each one in individually?

CCOC4042_Conf_Rm_240P 2:17:04
These are the reports that the council requested, and so I sent them out in advance so that you all would have an opportunity to look at them, and we can pull up whatever report it is that you want to look at or further discuss.

HIGDON, BRIAN 2:17:20
You're talking about the Excel files?

CCOC4042_Conf_Rm_240P 2:17:23
Yes.

HIGDON, BRIAN 2:17:24
Okay, all right. Yeah, I mean, be great to look at each one. We can just start alphabetically with the with the acute care referral ratio report. Do we have like any statistical analysis that's been generated from this?

CCOC4042_Conf_Rm_240P 2:17:42
Only what's in the pivot tables.

HIGDON, BRIAN 2:17:45
Right, could you walk us through the findings with that?

CCOC4042_Conf_Rm_240P 2:17:51
Yeah, Amanda's pulling it up for us.
Thank you, K.
Ohh, there's first one.
There we go. I'm trying to open it on my computer so I can look at it. I can navigate it. So go to the go to the legend. The legend explains the report first.
So this is a summary of acute care referrals that were grouped by agency facilities and injury types displaying the ratio between rehab facilities and trauma facilities. the master list of all acute care referrals with injury types and details. So then if you go to the summary, you have a summary and a summary pivot.
I got a shrink point. You want to use where? No, I have to. I have to report online. So this is a breakdown from July 1st of 2018 to March 31st of 2026. So we updated this since you looked at it last and it's given and it's broke down by year.
And then if you click on the year, it will break it down by quarters and by months. So you can see how many applicants, according to injury type, were referred.
And it also shows you the total number of clients that were actually enrolled from applicant status.
And so in 2018, is the tab I have open for quarter three, it looks like there was a ratio of 10% between applicants and clients that were enrolled.
Across all injury types, go to summary, go to the summary tab.

HIGDON, BRIAN 2:19:50
There is a, I see like 4%, yeah.

CCOC4042_Conf_Rm_240P 2:19:51
Do I just?
So I just opened 2018. This is where I started to explain what it's looking at. But if you

want to go down to a more current year, we can. So it's split between rehabs and trauma centers.

HIGDON, BRIAN 2:19:57
Mhm.
Mhm.

CCOC4042_Conf_Rm_240P 2:20:13
When you open the quarters, the ratios are offset. This is something Raj was trying to fix that you guys had requested from the last meeting, and we can't get it to.
To roll with it.

HIGDON, BRIAN 2:20:33
Right.
With this, have, I mean, the general trend has been, you know, back in, you know, I don't know if the pandemic has anything to do with this, but pre-pandemic, you know, the numbers were 10, 11, you know, 13, well, that's all within 18. But then it seems like the, yeah, it's increased some since then.
Have we been able to identify, you know, which trauma centers may be having lower, lower referral rates and then that are getting picked up more by rehab hospitals?

CCOC4042_Conf_Rm_240P 2:21:08
I can, I can always run the referral report. I don't know if it's one of these reports that we added to tell you that. I don't know that we have that here, but if you also go to go to the Summit Pivot tab, please.
Down at the bottom, down at the bottom.
This gives you the break of your ratio between how many referrals come in from rehabs versus trauma. I believe this was an overall, and then you can break it down.
This is only 2018. Yeah, it's like, yeah, I want this is all.
All is at the bottom there.
Right, I just changed it to all.

Jill Olinick 2:21:56
Can you select 2026 just so that we can see if it's...

CCOC4042_Conf_Rm_240P 2:22:02
Go back to summer camp. Oh.

Jill Olinick 2:22:05
Yeah, on that, that's...

CCOC4042_Conf_Rm_240P 2:22:07
On this one or the other one?

Jill Olinick 2:22:10
Either one is fine. I was, I just...

CCOC4042_Conf_Rm_240P 2:22:12
Okay.
So this is a summary of rehabs, and then if you scroll down there, there'll be a different summary of trauma centers.

HIGDON, BRIAN 2:22:31
In the context of this meeting, you know, this would be a good thing to analyze and then bring back for the next meeting. But it seems like for 2026, the numbers are not in yet.
For that, would you would you agree or that? OK.

CCOC4042_Conf_Rm_240P 2:22:47
Not fully. Not fully, because this isn't including the fourth quarter. We haven't closed out the fourth quarter. This only goes to March. This report only goes to March 31st.

HIGDON, BRIAN 2:22:59
Okay.
Because, I mean, suddenly in 2026 it's 3%, but I imagine that's just a scissor school anomaly, but be wonderful it was, but...

CCOC4042_Conf_Rm_240P 2:23:19
Is there something else you want to look at specifically on this report?

HIGDON, BRIAN 2:23:19

Ah.

Yeah, I think those are generally my typical questions is knowing, knowing, you know, using this to drive change with improving that number. And part of that is going to be now is identifying, you know, which are those trauma hospitals that are having more inconsistent referral rates that are than, you know, clinical leaking to rehab hospitals.

Jill Olinick 2:23:32

Mhm.

CCOC4042_Conf_Rm_240P 2:23:43

Yes.

So, we have had...

a slowdown, I'll say, of referrals for a period of time in the Region 2 office, and it had a lot to do with changeover in staff there. And so I could tell you that facility, I know for sure. We're trying to get in there to get with the new staff.

to better educate them on referrals to the program, what qualifies, how to send the referrals. We've had some rehabs where we're trying to get in and do some in-services, which we're having difficulties with. So we may reach out to some council members that are involved.

with those centers to see if they can help us get in there and get in front of the case managers so that we can have better consistency with communication between facilities and the skip staff.

HIGDON, BRIAN 2:24:48

Yeah.

CCOC4042_Conf_Rm_240P 2:24:49

I can also tell you that our self-referrals just went through the roof this year. Last statistics, I looked at self-referrals the year before, there were like 44. And the last time I looked at self-referrals, there were 122 this year. So there's been a huge increase in self-referrals.

HIGDON, BRIAN 2:24:50
Yeah, I...
The.

CCOC4042_Conf_Rm_240P 2:25:10
Not that they all qualify for our program. I have to add that as a disclaimer. I think I brought this up before.

HIGDON, BRIAN 2:25:15
Yeah.
Yeah, I have some information. I got like a sort of a marketing email from someone that was, you know, saying that they would be helping people access BSkip services. Do you feel like any of these referrals are being driven by like a third party that's facilitating referrals that are not?
necessarily going to be candidates.

CCOC4042_Conf_Rm_240P 2:25:44
There are some, there is a facility where we get some, I'll call self-referrals, where they are referring clients to our program that really are not clients that will qualify. And so we're trying to work with them to better educate them on the type of clients that

HIGDON, BRIAN 2:25:59
Okay.

CCOC4042_Conf_Rm_240P 2:26:05
Of.
would be better suited for our services.

HIGDON, BRIAN 2:26:09
Mhm.
Yeah.

CCOC4042_Conf_Rm_240P 2:26:12
And Delray, that's another facility I know that we had a big increase in from Delray.

Jill Olinick 2:26:13
Bye.

CCOC4042_Conf_Rm_240P 2:26:20
And Beth, what's the one over, or John, what's the facility that Joan?
has over, is it Lee Memorial? Lee Memorial, I think is the, yeah, is another facility where we've seen a huge influx and Miami is always.

Wanecski, John M 2:26:28
It's Lee Memorial, yes.

CCOC4042_Conf_Rm_240P 2:26:36
Boring out referrals down there, so...

HIGDON, BRIAN 2:26:40
Yeah.

CCOC4042_Conf_Rm_240P 2:26:41
No.

HIGDON, BRIAN 2:26:42
Yeah.

Jill Olinick 2:26:42
I hope also that the self-referrals maybe is a reflection of all the efforts for the website and the outreach, which was, you know, our goal for a couple of years.

HIGDON, BRIAN 2:26:53
Yeah.

CCOC4042_Conf_Rm_240P 2:26:54
Correct. Yes, the portal has, the portal has really increased the self-referrals. And so we're working on a solution to better filter self-referrals because a lot of what we get are not folks that are suited for this program. So we've been strategizing.

HIGDON, BRIAN 2:26:55
Yeah.
Mm.

CCOC4042_Conf_Rm_240P 2:27:13
on how to better set up the central registry portal for specifically for the self-referrals to better filter them. And when they don't meet our eligibility, like we've discussed before, they're automatically

HIGDON, BRIAN 2:27:24
Yeah.

CCOC4042_Conf_Rm_240P 2:27:31
pushed over to the Resource Center.

HIGDON, BRIAN 2:27:36
Yeah, I love having all this data available, but to some degree, it's a little bit overwhelming to analyze it and kind of know the story behind it, especially because it's kind of rolling, rolling data that we know the most current data is not really, cannot be meaningfully analyzed. So yeah, the more that you can help me and the other council members understand what we're looking at,
the more be appreciated.

CCOC4042_Conf_Rm_240P 2:28:01
So maybe we need to reduce the number of years you're looking at.
Instead of going all the way back to 8 to 18, do you want to reduce the number of years?

HIGDON, BRIAN 2:28:09
I mean, having the, having the historic data, I'm talking about, I'm talking about like an actual like analysis of, okay, here's the data that we have from the last six months or so. You know, this is what we're, this is the trend that we're seeing. These are like, like the other, like the other question I was asking, you know, what are the hospitals that are the weak?

kind of the weak links, what are the drivers of these, and really kind of have helping with that analysis part.

CCOC4042_Conf_Rm_240P 2:28:37
So the referral report would be better suited for that information and not necessarily this, the actual referral report.

HIGDON, BRIAN 2:28:38
Not that.
Well, but in context of this metric, in context of this metric of following the, of trying to encourage referrals early on in the individual's clinical experience.

CCOC4042_Conf_Rm_240P 2:29:04
Okay.
Work on that.

HIGDON, BRIAN 2:29:09
Yep.

CCOC4042_Conf_Rm_240P 2:29:10
Thank you.

HIGDON, BRIAN 2:29:11
But again, I appreciate having this information available. This is, I'm just overwhelmed.
Yeah.

CCOC4042_Conf_Rm_240P 2:29:20
Oh, I can appreciate that.

HIGDON, BRIAN 2:29:24
Yeah, same, but yeah.
Right, and then the average service duration, was that a metric we were following? You might need to remind me.

CCOC4042_Conf_Rm_240P 2:29:39
The average service duration, this.

HIGDON, BRIAN 2:29:41
I'm just going alphabetically for convenience.

CCOC4042_Conf_Rm_240P 2:29:43
Yeah, here it is right here. I'm trying to open it on my laptop here, so...

HIGDON, BRIAN 2:29:49
Was that one of the one of the key metrics we were following? I, I mean...

CCOC4042_Conf_Rm_240P 2:29:52
Yeah, these were these were specific to specific fee codes which were for assist.

Jill Olinick 2:29:52
Yeah.

HIGDON, BRIAN 2:29:56
Oh, this is the equipment. This is equipment. Yeah, okay, gotcha, gotcha. I thought it was the case duration. Yeah.

CCOC4042_Conf_Rm_240P 2:29:59
Yeah, yeah.
No, this is equipment and this was specific to three different fee codes, which was for bath shower chairs, transfer boards or devices and wheelchairs.

HIGDON, BRIAN 2:30:04
Yeah.
Mhm.
Mhm.

CCOC4042_Conf_Rm_240P 2:30:17
So, you were asking the average number of days it takes to get to the to the client?

HIGDON, BRIAN 2:30:19

Yeah, this, yeah.

Yeah, sorry. I was just going off the title. Yeah, I mean, this speaks for itself. Much more simple. Yeah.

CCOC4042_Conf_Rm_240P 2:30:35

Okay.

The next one would be the client case closure report.

HIGDON, BRIAN 2:30:41

Mm-hmm.

CCOC4042_Conf_Rm_240P 2:30:43

And this one, you wanted more information specific to different closure types?

HIGDON, BRIAN 2:30:49

Yes.

CCOC4042_Conf_Rm_240P 2:30:52

Go to open the pivot, open now, open 2026.

That one is open.

So, we wanted to see the detail of...

the closures and what they were. So you have to go over to your pivot table and add to it. Oh, okay.

You have to add your sub-status.

Your status and sub-status.

Yes, you all were concerned about the unable to locate.

failure to cooperate.

The program ineligible, that is a category that also included VR, which we talked about referrals to VR and clients and at what time they get referred to VR and so forth.

HIGDON, BRIAN 2:31:50

If...

CCOC4042_Conf_Rm_240P 2:31:51

So this data goes from July 1st, 2018 to March 1st of 2026.

And so we're looking at this data because you want to further look into, are there things that BSCIP can do regarding declined services? One of the questions that council asked about was when a client declined services,

Ohh.

Why are they declining? Are they not understanding what the services were? Do they have insurance that covers services and they don't want them? What was the reasoning behind declined services?

And these are your statistics for that.

Thank you, Kevin.

Kevin Mullin 2:32:45

Thanks.

Jill Olinick 2:32:52

So for the decline services, did we get the insight?

I think that was one of the things we really wanted to understand, if it was that fear that they weren't going to receive other services if they accepted services from here or, you know, early on and they just, it was overwhelming and they couldn't process it.

CCOC4042_Conf_Rm_240P 2:33:00

Go over.

Go to the.

Go to.

Go to the pivot table. That's where I'm at. I know, but go over to records for reason.

See if reason is in there.

But we said yes.

So.

You just let it in the search, ohh, uh.

Yeah, there you go.

Do that.

These were the reasons. So go down to decline services. These were the reasons why

they declined services.
Where did you go? You went up, you're up your line.
Yeah, where you see the client services, so scroll down.
Okay, here we go.
Bear with me, guys. So there are reasons where they did not want government related services, litigations pending, no need for B-skip services. I can't tell you specifically what other is without going into the detail. Services needed to support reintegration not available.
And blank, that blank is nothing. But if you click on, Amanda, if you click on the number 57 there for other resources available, 57. Yeah, click on line 28.
Go all the way to the right and click on number 57.
That should give you more detail.
Not opening.
Oh, there it is. All right, so if we scroll to the right, other resources available. They declined services because other resources were available. And these were all applicants.
Scroll, scroll to the right, I think that's it.
So these are clients that were in applicant status that were closed as to client services because they had other resources available.
Scroll back to the left.
There you go, right there.
You can see some more pediatric and some more adult.
So, when we send these reports out...
If you play with the pivot table, we can change the pivot table to whatever it wants and have it available for you. Or you can go to the pivot table and change the options to look deeper into what it is you're looking for.
We're putting it at high level, and then we could drill down from there.

HB **HIGDON, BRIAN** 2:36:01
Yeah, I mean, I think the general questions that I'd want to know and I'd love to hear the opinion of the other council members. But, you know, the very similar kind of questions as far as or comparisons that for the acute care referrals is, you know, what are the trends? What are the regional differences?

CCOC4042_Conf_Rm_240P 2:36:02
Okay.

HIGDON, BRIAN 2:36:21
What are the?
You know, what are the, you know, any insights as to why those trends are the way they are over time and between regions?
This one probably is less dependent on the facilities, although, you know, the individual case managers can have a great influence on whether they enroll. I advocate for all my patients, if possible, to enroll in B-Skip services, as they're always in addition to that. So I think there can be some facility differences.

CCOC4042_Conf_Rm_240P 2:36:47
Okay.

HIGDON, BRIAN 2:36:59
But, you know, that's the sort of analysis that, or the sort of information that I'd really value knowing about to help us understand these numbers.
and try to improve these numbers is really the overall goal. As I've said before, my concern is that some of these ones that are listed as other resources available, or I think, what's the other category?
Back up the or failure to cooperate. You know, I think some of those, not all of those, but I think some of those is a is a failure of salesmanship. You know, we don't expect our sales salespeople to to hit 100, but I think there's opportunities there.
to increase enrollment.

CCOC4042_Conf_Rm_240P 2:37:56
So what I'll do is I'll ask Raj to add regions to this report so we can break it down per region.
I can't break it down to.

HIGDON, BRIAN 2:38:08
Region and time, region and time is another one.

CCOC4042_Conf_Rm_240P 2:38:16
When you say time, are you talking year?

HIGDON, BRIAN 2:38:19
Yeah.

CCOC4042_Conf_Rm_240P 2:38:22
Okay, so I think, don't we have year on here? Do you have year on here? We do have year. And then up here.

HIGDON, BRIAN 2:38:28
So what's the trend with the year?

CCOC4042_Conf_Rm_240P 2:38:32
Oh.
We would have to do a comparison differently in order to tell you across the board.

HIGDON, BRIAN 2:38:37
Yeah, that's why I'm asking is to assist with that with that comparison. So, so that each council member doesn't have to do that by hand with our limited technical expertise with pivot tables right here.

CCOC4042_Conf_Rm_240P 2:38:54
I told you I'd teach you.

HIGDON, BRIAN 2:38:56
Uh, the the the uh that that sounds lovely, but uh, except for the time.

CCOC4042_Conf_Rm_240P 2:38:59
Teacher.

HIGDON, BRIAN 2:39:03
Yeah.

CCOC4042_Conf_Rm_240P 2:39:05

So...

Oh, I just lost my train of thought on this one. So we want to add regions to this pivot table. We also have years. What we can't pull from data, like for these declined services, where it says other resources.

We can't pull into a report what their resources were.

HIGDON, BRIAN 2:39:27

Sure.

CCOC4042_Conf_Rm_240P 2:39:28

We can't pull. There's certain stuff we cannot pull.

HIGDON, BRIAN 2:39:28

Yeah, and...

Yeah, and that's why, you know, looking from a big perspective, we don't...

That's why looking at these comparisons and trends is like, you don't, that's like, that's your case control is comparing against yourself two years ago or region to region.

I mean, there.

CCOC4042_Conf_Rm_240P 2:39:53

Okay.

HIGDON, BRIAN 2:39:54

Yeah.

CCOC4042_Conf_Rm_240P 2:39:59

Okay.

The next one is client cases closed. Let's see what this says. Client cases closed. Waiting for it to open up without services. I'm sorry. Client case is closed without services. So these would be applicants.

HIGDON, BRIAN 2:40:16
I think I was maybe a breakdown of the other one.

CCOC4042_Conf_Rm_240P 2:40:19
So this is probably more on what you're looking for in the last one, except for this is closed.
So this is similar to the last one, but this one is giving you a better breakdown, a more specific identification on reason.
It gives you obviously the program types, but I don't see regions in here. So I think this report, let me scroll over and make sure I don't see region.
Until now.
There's no, there's not region in here. I think this is the report that you're looking for.
And if we add regions to it and put it across years, if we combine the two to Amanda, this one and the other one with years and add regions and break it down and then do a trend.
So I think combining these two.
Would satisfy the council.
Do you all agree?
Oh, yeah, oh yeah, you have it open.

HIGDON, BRIAN 2:41:35
Yes.

Jill Olinick 2:41:36
Yes.

CCOC4042_Conf_Rm_240P 2:41:39
Okay.
Okay.

HIGDON, BRIAN 2:41:50
And the last one is the VR control.

CCOC4042_Conf_Rm_240P 2:41:51

Combine.
And region.
VR referrals. These are referrals from July 2024.

HIGDON, BRIAN 2:42:07
You guys seen one, one from this calendar year.
Or no, maybe I didn't show it the right way. Oh, I don't think I saw it the right way.

CCOC4042_Conf_Rm_240P 2:42:13
No, there's a...

HIGDON, BRIAN 2:42:27
Okay, I'm just looking.

CCOC4042_Conf_Rm_240P 2:42:33
So this is the injury, the referral date, when it was closed, when the referral was sent to VR, or when the client was referred to VR, their age.

HIGDON, BRIAN 2:42:41
Gotcha.
Yeah, it wasn't sorted by close date. I just assumed that, but yeah, looks hand by hand. Yeah, there's four. Yeah, I think this is a this is gonna be a really easy target to improve, given how low it is, but...

CCOC4042_Conf_Rm_240P 2:42:45
Yeah.

HIGDON, BRIAN 2:43:02
What have been the efforts to increase this referral rate?

CCOC4042_Conf_Rm_240P 2:43:08
So you missed part of that conversation that we had in the PQI meeting, I think last time. So VR referrals, we start those referrals. We introduce VR to the clients at the beginning of their cases and let them know it's an available resource. If they're

HIGDON, BRIAN 2:43:10
Good.

CCOC4042_Conf_Rm_240P 2:43:29
a candidate for VR. Not all of our clients are candidates for VR. So we introduce VR at the beginning of the case. About 3 months before we're going to close that case, we will make sure that they're aware of VR services again. It is the client's choice if they want to go to VR. If they do, we will refer them. And the reason we refer them sooner than when the case is closed, because statute says they cannot be in VR and in B-Skip. But what we have found is by the time we refer the client and the time they get enrolled, there's at least a 90-day window that it takes for VR to enroll that client. Once we send that referral over to VR and we close the case, we no longer have a say in whether that client continues with their involvement with VR. And what we have found out is a lot of times the clients don't return calls to VR.
They do get dropped from VR, but once we close them and they're closed, this community reintegrate.
So I understand that you say there's not very many referred to VR.

HIGDON, BRIAN 2:44:47
Yeah, I mean only four.

CCOC4042_Conf_Rm_240P 2:44:47
But that's really, that's out of our control because we're doing what we can to refer the clients that qualify to VR.
Over, but we can't make them enroll.

HIGDON, BRIAN 2:45:00
No, of course you can't make them, but only four that you've been able to talk them into referring to VR. I mean, even, I want to say this like four or six weeks ago, but I had a patient who's a client of BSkip and they're about to finish and I was like, oh, you know, have you heard about VR? And they,
They had very little knowledge of VR. They were very excited to hear about VR when I was talking to them about it. And I told them, like, hey, call your PSkip case around

your back, ask for them to send your file over. So I have personal experience that, you know, this isn't, maybe there was a conversation with this patient, but it didn't.

CCOC4042_Conf_Rm_240P 2:45:26
Yeah.

HIGDON, BRIAN 2:45:42
didn't pass into their memory regarding this. So I'm having personal anecdotes where these conversations are not taking place thoroughly enough. And it's hard for me to believe that only four.
you know, of how many patients we have that are working age and were previously providing for the families. Four is incredibly low for this far into the year.

CCOC4042_Conf_Rm_240P 2:46:24
I don't know what to tell you because I know what I get back from my regional managers and my case managers and we are doing our due diligence. So if you're hearing differently from your clients, that's where if you can let me know who those people are, then if there's an issue in communication, then I can address that.

HIGDON, BRIAN 2:46:44
Yeah, I mean, I'd like you to work internally. This is our role as an advisory council to advise you guys on, you know, what what are what are areas of focus that could be improved upon, and this is what we're advising you.

CCOC4042_Conf_Rm_240P 2:46:51
What?
Well, that's what we do do. We do take your advice.

HIGDON, BRIAN 2:47:00
You're saying, oh, we've done our job. We've, we, we, we've only gone 4.

CCOC4042_Conf_Rm_240P 2:47:03
No, I said we are. I said we are due diligent in doing our job and providing information to the clients at the beginning of their case and at the end of their case about VR services and clients that are interested, we refer them over to VR.

once we close their case and they've been referred to VR, we don't have anything more to do with that because VR won't even talk to us about clients that we've referred to them. So you're telling me that you've talked to clients who said they never heard about VR. And what I'm saying is if you come across that circumstance, If you can just let me know who that client was, I can look into their case to see if there was an issue with them being referred to VR. And we can address it that way. But I do know, and I stand strongly behind my team, that we are doing our due diligence to refer the clients that are eligible for those services.
To VR.

HB **HIGDON, BRIAN** 2:48:03
Okay, so you seem to have identified a gap between what we've sent and what they what they've registered. Do we know how big that gap is?

C **CCOC4042_Conf_Rm_240P** 2:48:14
What do you mean?

HB **HIGDON, BRIAN** 2:48:14
Where, where you seem to be saying that VR is not picking up what you're dropping off. Um, yeah, do do do we have a number on on how big that gap is?

C **CCOC4042_Conf_Rm_240P** 2:48:20
That's correct. Not always. And it's it.
No. So what I'm saying is the amount of time it takes ER to enroll a client is about 90 days. So B-Skip changed their policy. Let me make a point of that, that we now refer them sooner rather than at the time of closure.

HB **HIGDON, BRIAN** 2:48:38
Yes.
Okay.

C **CCOC4042_Conf_Rm_240P** 2:48:44
to allow that gap, to encourage that client to keep talking with their VR case manager, to allow the time for the VR to do what they need to do to enroll that

person so that when we close them, hopefully they are enrolled in VR or they are close to being enrolled in VR.

Jill Olinick 2:49:06
So I wonder if if it's an option on the within the software to just indicate that, you know, referred client to VR or some indication that discussed, you know, we I totally understand that it's on them and of course VR for making the final connection, but

HIGDON, BRIAN 2:49:06
Yeah.

Jill Olinick 2:49:27
That would give us the data for the gap, I guess, if you will.

CCOC4042_Conf_Rm_240P 2:49:31
So we do have that already implemented. So that's under the category of program ineligible.
There's a program, when we close them because they have been referred to VR, they are specifically closed as program ineligible with a sub-status of referred to VR.

Jill Olinick 2:49:48
Got it.
Okay, so that's where we just need to compare. That'll give us the...

CCOC4042_Conf_Rm_240P 2:49:55
Well, that's what we're giving you here.

Jill Olinick 2:49:57
Oh, the four?

CCOC4042_Conf_Rm_240P 2:49:59
That's what this report is. It's the clients that were closed as programming eligible and referred to VR. That's what this report is.

Jill Olinick 2:50:11
Okay.

CCOC4042_Conf_Rm_240P 2:50:11
That's how it was, that's how it was based.

Jill Olinick 2:50:17
Si.
Apologize if I, if I didn't hear the whole thing, so...

HIGDON, BRIAN 2:50:20
Yes.

CCOC4042_Conf_Rm_240P 2:50:21
No problem.

Jill Olinick 2:50:25
And how many patients is this, or how many clients is this then? Sorry if I missed the number.

CCOC4042_Conf_Rm_240P 2:50:32
So for 2026, I believe there's been 4. I don't have this sorted by date, but it's a total of what, 24 clients since, what's the beginning of this one, July 2024? Is that the beginning?

Jill Olinick 2:50:38
Okay.

HIGDON, BRIAN 2:50:50
Yeah.

CCOC4042_Conf_Rm_240P 2:50:50
Clients and 2024 to 2026.
Twenty-one clients.

HIGDON, BRIAN 2:50:59
This must be less than, I mean, how many cases have you closed in the calendar year so far? This must be less than 5% of the cases.

CCOC4042_Conf_Rm_240P 2:51:08
I'm sure that it is.

HIGDON, BRIAN 2:51:10
Yeah.
I'm just not yet convinced that this is the best that BSkip can do. I feel like BSkip can do much better than this.

CCOC4042_Conf_Rm_240P 2:51:18
Hello.
Okay, well, we're at an impasse then. We can agree to disagree.

HIGDON, BRIAN 2:51:23
Okay.

CCOC4042_Conf_Rm_240P 2:51:29
I hear what the council is saying. I'm taking the council's advice, and we're implementing what we can implement. I've made changes in the program to hopefully improve this process.

HIGDON, BRIAN 2:51:30
Yeah, I'm not sure what my role on this council. Yeah.
Okay, is there any auditing of, you know, case closures of case managers that they are having these conversations? Yeah.

CCOC4042_Conf_Rm_240P 2:51:54
Absolutely.
Every case that's closed is reviewed by the regional manager before it is approved for closure.

HIGDON, BRIAN 2:52:04
All right, in the role of having...
you know, health care providers on the council is to provide insights on our experience. And yes, I hear you. You just want to hear the names of them and fix them, and you should be doing a better job at that. But my anecdotal experience is that, you know, there's these conversations are not taking place.

CCOC4042_Conf_Rm_240P 2:52:30
But if I don't, if you can't provide me.
Who those clients are?
Then I don't know that there's a problem.

HIGDON, BRIAN 2:52:40
Okay, I'll do my best. When they come back to my clinic, I'll make sure you get their names. Yeah.

CCOC4042_Conf_Rm_240P 2:52:44
That's all I'm saying, Doctor.
If I don't know there's a problem, I can't fix it.

HIGDON, BRIAN 2:52:52
Okay.

CCOC4042_Conf_Rm_240P 2:52:52
So if you're telling me from Brooks Rehab that there's a problem, then I need to know more about what that problem is. And then I can go back to the region and we can look into that and see why there seems to be a miscommunication.

HIGDON, BRIAN 2:53:16
Um, I, I...
I'd love to hear the other council members' opinion on this.

Jill Olinick 2:53:35
I think when we talked about the data and getting the drill down, I think that was the

same discussion. And that's why I thought it was a little bit of the integrity of the tracking process that was the issue, because I think for referrals, whether they went to VR or not,
is a very low number overall for the number of clients, but I don't know where that, it could be just in the data integrity and how it's entered into the system. And that's what I was trying to clarify.
Specifically.

Collins, Valerie B 2:54:10
I, I'll jump in a little bit. I want to clarify that.
These that are closed like this are the ones that we could confirm. This is not every client that was referred to VR, but this is the ones that we could confirm were enrolled, assigned to a case manager with VR. And that's why we, because we're very close
very careful about who we closed program ineligible for any reason. And so those are the ones that are closed that way. That doesn't mean that every person we've had a discussion about VR with or every person that has been referred and did not follow through with VR. There are many people

JO

Jill Olinick 2:54:51
Yeah.

Collins, Valerie B 2:54:57
that we refer to VR and they go through the orientation and decide that's not what they want to do. So a little bit of clarification on that. And then I also just want to reiterate that not everyone that we serve is ever going to be eligible for VR and that there are

C

CCOC4042_Conf_Rm_240P 2:54:59
I.

JO

Jill Olinick 2:55:09
Perfect.
Sure.

Collins, Valerie B 2:55:17
Also, on the other end of the spectrum, we have clients that return to work that, you know, that do get to a point where they're able to return, you know, to their their previous employment or some kind of employment at their previous employers, maybe not the exact same job.

HIGDON, BRIAN 2:55:25
Yeah, we're talking VM services, yeah.

Collins, Valerie B 2:55:36
but something. So I think we get hung up on VR just a little bit, but this is specifically only for the program and eligible for VR closure status that we were able to confirm.

Jill Olinick 2:55:41
Yep.
Thanks. That's what I was thinking, Beth. That's why I was trying to make that clarification, because there's, I think that's the gap that Dr. Higdon, I think, is trying to speak to is you guys make all of these referrals, you know, but only four you could confirm. And so is there something that we can do with VR to
You know.
Are they one and done after they turn the call or the orientation or is it like 3 calls or follow-ups or what's the follow-up process for them? So that's at least my opinion.

Collins, Valerie B 2:56:28
I don't know. We don't, we don't have a lot of insight into what happens once, you know, once they start those meetings with VR. I don't know why they, you know, some people decide not to continue. I'm not sure.

Jill Olinick 2:56:42
Yeah, sure.
Sure.
Beep.
And I know we had VR speak, you know, come and talk to us about their process a little bit, but, you know, might be some feedback we can provide them.

CCOC4042_Conf_Rm_240P 2:56:58
Last meeting.

HIGDON, BRIAN 2:57:08
All right, I think our last order of business was to go over the charter. I know we're running short on time.
Sorry, um...
Should we should we move on to that?

CCOC4042_Conf_Rm_240P 2:57:26
So, this is the update.

Jill Olinick 2:57:26
Yes, and I don't know if everybody got to see it, but I would like to go ahead and make a motion to approve if...
If everybody had a chance to review, did it?

HIGDON, BRIAN 2:57:43
It.

CCOC4042_Conf_Rm_240P 2:57:44
Do we still have a quorum?
If Kevin left, do we still have a quorum? But Doctor didn't come in, so. Okay. I just have to make sure we have a quorum so we can vote.

HIGDON, BRIAN 2:58:00
Oh, second the motion.

CCOC4042_Conf_Rm_240P 2:58:05
Jill, you're muted.

Jill Olinick 2:58:09
Oh, did I not? I thought I said...

CCOC4042_Conf_Rm_240P 2:58:11
Yeah, we didn't, you kind of blanked out, but then I saw you were muted.

Jill Olinick 2:58:15
Oh, so sorry. Yes, I was just saying, I don't know if everybody got a chance to review it, but I wanted to make a motion to approve.

CCOC4042_Conf_Rm_240P 2:58:24
Yeah, and Doctor Hicken, second, OK.
Excellent.
So, I'll be sending out an email with a schedule of the...
council meetings, the biannual meetings and the PQI meetings for 26-27. I'll be sending out an email with a schedule of those dates. I kept the PQI meetings to every other month. So the next meeting would for the council would be August 6th.
which is a Thursday, and that would be a PQI meeting.

HIGDON, BRIAN 2:59:10
Again.
Any other business?
All right, I have a motion, motion to adjourn.

Chester, Don 2:59:29
Second.

HIGDON, BRIAN 2:59:34
Right.

CCOC4042_Conf_Rm_240P 2:59:37
Great. Thank you. Have an excellent day.

HIGDON, BRIAN 2:59:38
Yep, thank you. Yep, bye-bye.

WM **Wanecski, John M** 2:59:40
Thank you very much.

C **CCOC4042_Conf_Rm_240P** 2:59:41
Thank you.

◉ **Casavant, Robert** stopped transcription