TBI Model System Updates

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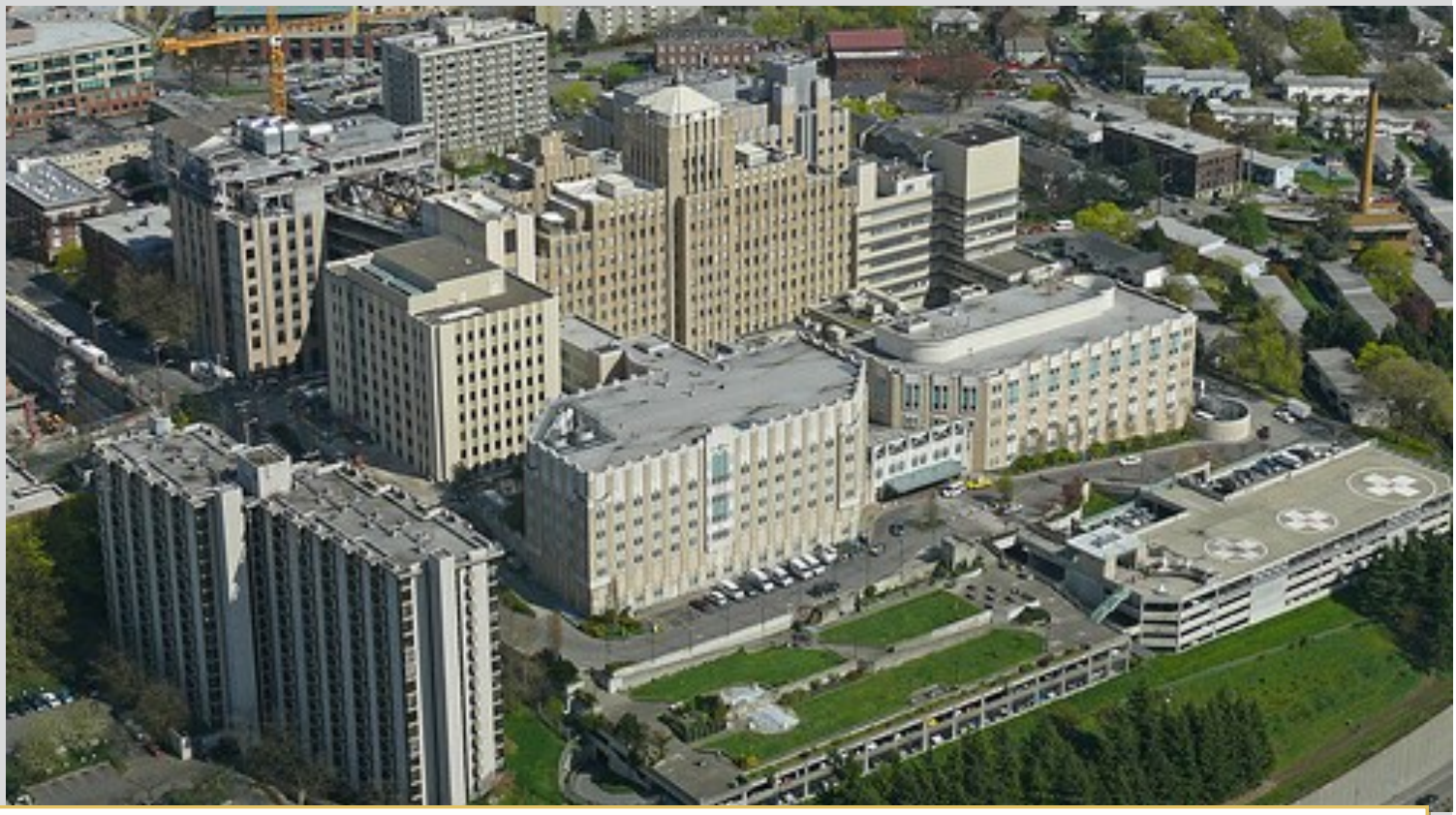
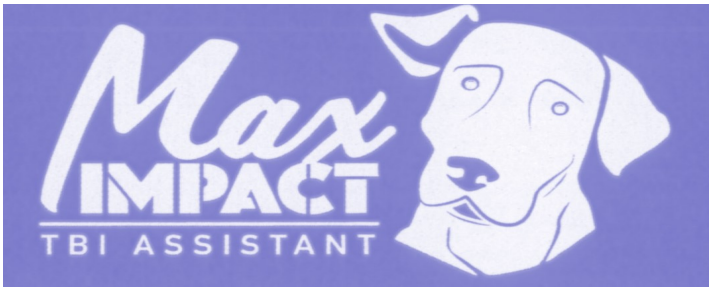


Hello from the University of Washington Traumatic Brain Injury Model System. First and foremost, we send out a message of good health. In this time of *COVID-19*, our communities are being asked to have physical distance from one another, but this does not mean we need to have social distance. Toward this goal, we are focusing this issue of *TBI Updates* on some technology that may help us to stay **socially connected**. Our first article will discuss the TBI Smartphone Application called *Max Impact* – with Dan Overton, the TBI Program Specialist for the Washington Department of Veterans Affairs. In another, we explore the new state-of-the-art *ConnectAbility* Lab at Harborview Medical Center with occupational therapist Leslie Fox.

INSIDE THIS ISSUE

Max Impact: TBI Smartphone Application



Background

"Max Impact" is a mobile application designed to aid and empower Washington State Veterans and their families to self-identify and self-manage symptoms of traumatic brain injury (TBI), while also providing current resources to assist them. The app is also available to civilians with TBI. The app is named MAX to act as a *virtual service dog* designed to make an impact for individuals who have experienced a TBI. In the app, people can use a screening tool to determine whether symptoms may be related to a TBI, learn how to manage symptoms to better relax, and Veterans can be connected with area providers and to connect with other Veterans who have had TBIs all in the safety of their own home.

We spoke with Dan Overton, MC, MHP, the TBI Program Specialist for the Washington Department of Veterans Affairs (WVDA), and administrator of the app.

In his prior position, Dan had worked with Veterans with TBI and realized that many of his patients didn't fully understand how their TBI was impacting their recovery and how simple behavioral changes might improve their symptoms. When Dan started at the WDVA the TBI Council had begun brainstorming about an app to help TBI survivors and he was happy to join the effort.

Dan said "It was important to bring in people that could speak to the needs that the app should address and have their voices heard." As a result, a task force was formed made up of Veterans and civilians who had had TBI and their family members. The task force then worked closely with the app programmers to explain the seemingly small changes that make a big difference. The goal was to keep the app as simple as possible while maintaining enough functionality.

I found the app pretty simple and straightforward. What are some of those (seemingly small) changes the task force had to make it simple?

The color palette is specific to help prevent people from feeling overstimulated while using the app, the buttons are large and easy. The task force also helped implement a 'check-in' feature that leads the user to suggestions of resources that they might not be aware that they might need.

I saw the TBI screener in the app to help someone better understand whether they have had a TBI, have people found that helpful?

My demographic (Veterans) is the one that often doesn't know that they have a brain injury. They may not seek explicit TBI treatment because they may not meet the criteria of a moderate or severe head injury. But the moderate/severe label doesn't speak to the severity of the symptoms; it speaks to the severity of the injury. So the symptoms can still be pretty dramatic.

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Max Impact: TBI Smartphone Application, Continued

I know the app was created for Veterans and their families, but what about people who are not Veterans looking for information, is the also app available for them to use?

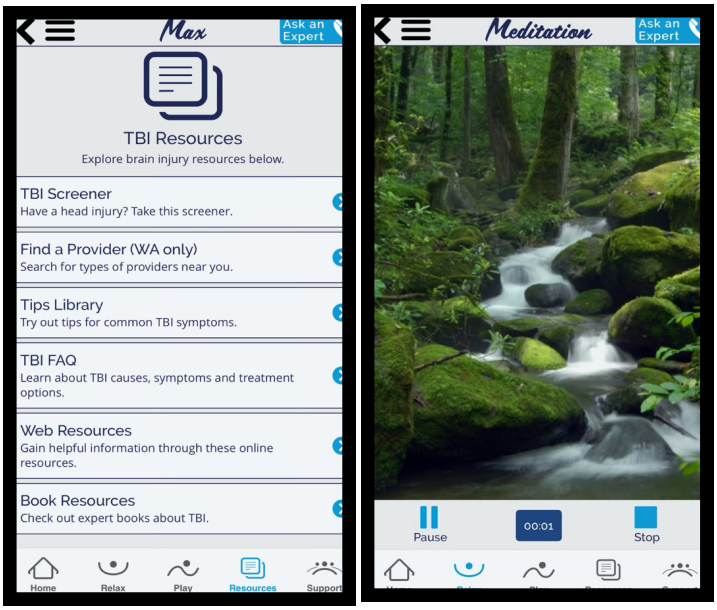
Oh absolutely, we get many people who fill out a screener or call us and ask, "Is it okay that we contact you?" because even if we can't help them directly, we may be able to refer them. We are happy to see that people have tried the app and find it useful, and from those who have filled out the demographic information, there is about a 50/50 split between Veterans and civilians. The only thing that is fully Veteran-related on the app is 'provider finder'. Most of the content on there is useful to anyone with the emphasis being Veteran-friendly.

Have you received feedback about the app?

Yes, and its been very good and helpful. Much of the constructive feedback we receive is for things we wish we had the resources to do, such as expanding the technology and adding built-in reminders or sensor stimulation tests, but we ran out of money.

How do you keep the app up to date?

We have been able to figure out how to pinch pennies and keep things simple. The main thing we need to update is our provider finder. We are planning an update that will connect the app to our website. On the site, there will be a forum with different topics so that people can have discussions. So if you wanted to see what people are saying about various treatments and read reviews or other suggestions, you can find all of that there.



Above: An example of the many resources the app contains.

What a great resource for people! I appreciate all the work it took to create and continues to go in to this app.

We can be a whole lot more creative together than we can apart.

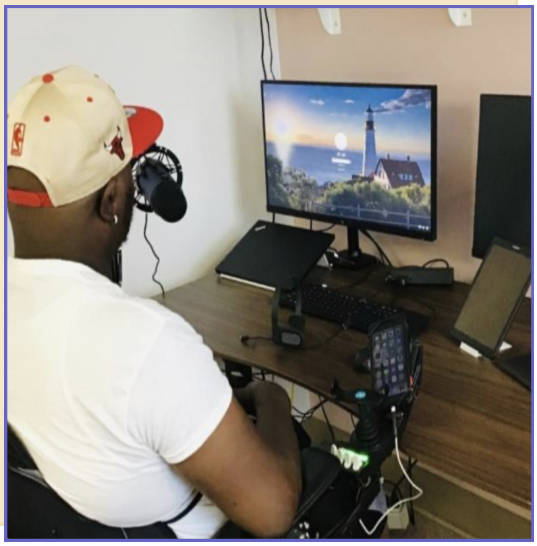
Many thanks to the Washington State Department of Veterans Affairs and to Dan Overton for his time. The Max Impact app was made possible through a grant from the Traumatic Brain Injury Advisory Council at DSHS.

The *Max IMPACT* app is available to download for free at iTunes and the Google Play Store.

iTunes:https://itunes.apple.com/us/app/max-impact/id1266331417?ls=1&mt=8
Google Play:https://play.google.com/store/apps/details?id=gov.wa.dva.maximpact
Or search for it on iTunes and/or Google Play store as just one word, "MaxImpact"

The *ConnectAbility* Lab at HMC

The world of technology is impressive, no doubt. There is always something new and exciting out there. After TBI some people experience difficulties with their physical function including limited use of hands or arms or speech difficulties. For someone who has restrictions with their arms, legs or muscle function, accessing technology can be challenging. It can also be intimidating to learn something new or frustrating when a device does not work out as hoped. Accessibility features are not standard in consumer technology, and if included, some features aren't appropriate for every user.



Above: A user testing out the lab's technology.

With funding from the Craig H. Neilson Foundation, a team led by Dr. Deborah Crane and made up of spinal cord injury specialists at Harborview Medical Center set out to overcome barriers to using technology for people who have limited mobility, hence the creation of the *ConnectAbility* Lab, which houses cutting-edge technology for that can be used to train people with limited function. The team developed an advisory board comprised of healthcare professionals, people with SCI, and technology experts from local tech companies. The advisory board helped open the door to collaborations with big tech companies that are helping to shed light on barriers to accessibility with their devices and programs.

We recently had the opportunity to tour the new *ConnectAbility* Lab at Harborview Medical Center with Leslie Fox, an Occupational Therapist in the outpatient clinic at Harborview. Leslie and the rehabilitation medicine clinical team involved have used their passion for individuals with limited hand and arm function to create more opportunities to access technology for improved quality of life and independence.

Q: Leslie, first tell me about yourself and how you came to be involved in this project?

A: *I am an occupational therapist and have been at HMC for just over nine years. I have a real passion for patients who had a SCI to help improve their independence. I've had the rewarding opportunity to work with the team to secure funding to create new resources for our community.*

Q: What kinds of technology does the *ConnectAbility* Lab have?

A: *The lab features specialized assistive technology as well as products used by the general public. We primarily focus on computer and phone/tablet access, smart home technology, adaptive gaming, and communication devices. Patients in the lab can learn ways to control their lights, thermostat, or TV hands-free. They can learn how to manage their phone, tablet, or computer through the controls on their wheelchair or by using their voice or eye control devices. We have the technology to 3D print adaptive tools or accessories for the wheelchair, computer, or game controllers to make them easier to use. We are also using VR (virtual reality) on the inpatient unit to help with strength and balance.*

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ConnectAbility Lab, *continued...*

Q: What is different about this Assistive Technology Lab?

A: *Being a "tech" town has some advantages. Having big tech companies, such as Microsoft, Google, and Amazon, involved through the advisory board and within proximity, we have the opportunity to collaborate in new ways. For example, the Chief Operating Officer (CEO) of MXTReality, a Virtual Reality/ Augmented Reality company based in West Seattle, is on the advisory board and has been working on ways to make virtual reality more accessible for people with limited arm or head movements. The X-box Adaptive team from Microsoft has donated time and resources, including regular participation in our monthly adaptive game nights. Game developers from Forza, Halo, and Minecraft have joined game nights to learn how to make their games more accessible for users. During Microsoft's October Giving Campaign, our Microsoft board members helped raise nearly $30K for the ConnectAbility Lab. Google donated hundreds of smart home speakers for one of our events last spring. Collaborating on the advisory board has been exciting and continues to be a unique aspect of our Lab.*

Q: Does the Lab also have resources for people who have had a TBI?

- *Yes, the lab offers resources for individuals with limited arm and hand function or communication barriers. People who are having speech difficulties may use the lab as part of therapy to assist with alternative computer, tablet, or phone access; helping with Smart Home solutions; adaptive gaming; dragon voice recognition training, and augmentative/alternate communication systems. We hope in the future to have more equipment that can assist with cognitive impairments that can occur after a TBI.*

Q: How do people get a referral to the Lab? And who can get it?

A: *Referrals to the Lab for occupational or speech therapy to address assistive technology needs can be obtained through your physician. For additional information, you can email: HMCAT@UW.edu*

Q: So what is next for future of the Lab?

A: As technology rapidly evolves in today's world, it's our responsibility to stay up to date and understand what resources are available for our clients. We are excited to continue working with our advisory board, connecting with community organizations, and getting the word out about our program.

Thank you to all those involved in the creation and ongoing support of the Lab!
We look forward to seeing you soon.

Deborah Crane, MD (Medical Director)
Leslie Fox, OTR/L (Occupational Therapist)
Kristin Kaupang, PT (Physical Therapist)
Victor Moses, MSR, CCC-SLP (Manager, Comprehensive Outpatient Rehabilitation Program)
Amy Noonan, OTR/L, CSRS (Occupational Therapist)
Celina Smith, SLP (Speech Language Pathologist)
Harborview's Assistive Technology Committee

The TBI Care Study

Interested in participating in research?

We are looking for volunteers to participate in a study called TBI Care. This study compares a treatment for pain using an approach called collaborative care with the usual care approach. Collaborative care includes a care manager who works directly with a patient as well as their physician and an expert team of providers to coordinate medical care and deliver behavioral interventions that are personalized for each patient. This approach not only focuses on treatment of pain, but also addresses some of the common co-occurring problems that often happen when people have pain including difficulties with mood, anxiety and sleep.

Study participation lasts for six months and can take place by phone, video calls, or in person.

You may be eligible to participate if you:

- Have had a mild-to-severe TBI more than 6 months ago
- Experience pain (including headache and/or other kinds of pain) in the past 6 months
- Receive your care from a TBI physician at either Harborview or UW Medical Center Rehabilitation Clinics

Participants are randomly assigned (like a coin toss) to either the treatment group or the group receiving usual care. There is a compensation of $50.

For more information contact
Laurie Peabody by phone at 206-744-3607 or lpeabody@uw.edu

ClinicalTrials.gov Identifier: NCT03523923

All studies are voluntary and will not affect the care you receive at the University of Washington.

In the Community...

Deborah Crawley, Executive Director of BIAWA, and Allison Mollner, the current President of the Board of Directors, shared what BIAWA is doing to keep the entire community connected and coping during this time of the coronavirus outbreak. BIAWA offers helpful information and resources as well as comfort and strategies to get through the this time of isolation and uncertainty. The BIAWA also has a **Resource Line** Monday thru Friday where you can connect with staff.

BIAWA Resource Line 877-982-4292

Brain Injury Alliance WASHINGTON

New PODCAST from BIAWA!

Brain Injury Today

- **Ep. 1:** ***Keeping the brain injury community connected during the coronavirus outbreak.*** **LISTEN HERE**
- **Ep. 2:** ***Staying connected in self-quarantine, support group leader Michele Kauffman.*** **LISTEN HERE**

We will get through this together!

Synapse at the University of Washington

Brain Injury Support Group

Synapse is a national nonprofit organization dedicated to combating the isolation individuals with brain injury often face through the creation of a powerful social support network. At their chapter at the University of Washington, they hold regular peer-support groups, monthly socials, and trainings for undergraduate students on ethics and other workshops designed to empower one another and people living with brain injury. They also match interested community members who have brain injuries with students through their Buddy Program, which seeks to foster more social friendships. Buddy pairings are meant to foster a close friendship that helps reduce the barriers of social isolation often faced long-term post-injury for people who have had a TBI.

Want to learn about upcoming events?

For more information please contact Synapse at brainuw@uw.edu

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Adler Endowed Fund for TBI Research

Congratulations to Dr. John Williams whose proposal "Examination of traumatic axonal lesions on CT and MRI following severe TBI for prognostication of outcome" was chosen to receive the 2019 Adler Giersch Law Firm Endowed Fund for TBI Research. Dr. Williams is Chief Resident of Neurosurgery at UW. Initially intent on pursuing a career in public health and primary care, outstanding mentorship in neurosurgery inspired his decision to train in Seattle under Dr. Richard Ellenbogen.

Dr. Williams plans to use the research grant award to look at early CT and MRI images in people who had a severe TBI. A better understanding of early injury could guide how clinicians advise families about TBI recovery. This award was created by Richard H. Adler Attorney at Law and the Adler Giersch Law firm in 2018 to support research in TBI. The fund is intended to provide funding for innovative, collaborative, interdisciplinary, and novel research with the potential to create leaps in knowledge to further the evaluation and treatment of traumatic brain injuries. The grant is awarded for a one year period.

Who's Who ?

Kayla Cayton joined our team in October 2019 as a research assistant working to recruit patients from the Inpatient Rehabilitation Units at Harborview and the University of Washington Medical Centers. She also works on a spinal cord injury research project with Chuck Bombardier, PhD. Kayla is a University of Washington graduate. Previously she worked as a research assistant at Fred Hutchinson Cancer Research Center and interned with UW Health and Safety. During these experiences, she developed a keen interest and appreciation for clinical research.

Kayla was born and raised in Washington, but before joining our team, Kayla spent a year in Taipei, Taiwan studying Mandarin. She has studied Portuguese and enjoys practicing both languages. Outside of work, Kayla explores the Seattle food scene, spending time with friends and family, and traveling. Please join us in welcoming Kayla to the UW TBIMS.

The Washington Traumatic Brain Injury Resource Center

BIAWA is first and foremost a source of support for those affected by Brain Injury, of which the Resource Center is a critical part.

Brain Injury Alliance of Washington: www.biawa.org/

BIAWA Support Center: www.biawa.org/getsupport.php

TBIMS Updates

Volume 18, Issue: 1, 2020

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