

Craig Hospital Research Summary – 2022

Mission Statement:

“To conduct high-quality research to promote optimal health, independence, and life quality for people affected by spinal cord injury and traumatic brain injury.”

Core Values:

- Advance the state of the science of disability and rehabilitation research.
- Adhere to ethical and legal principles governing research activities.
- Conduct research and dissemination that is meaningful to our constituents.
- Involve individuals with disabilities and their families, the interdisciplinary treatment team, other professionals and community members, in the research and dissemination process.
- Integrate research in clinical practice, education and evaluation.
- Foster a research culture throughout Craig Hospital.
- Promote scientific enquiry that will contribute to evidence-based practice.
- Lead and participate in spinal cord injury and traumatic brain injury collaborative research.
- Participate in setting the national disability research agenda.

Introduction:

The Craig Hospital Research Department currently has a staff of 31 with an annual budget of \$4.3 million in federal, state, and foundation-sponsored grants, devoted to conducting a wide variety of applied spinal cord injury (SCI) and traumatic brain injury (TBI) rehabilitation research. In addition, funds raised from the annual PUSH Dinner support clinical research.

The Research Department was established in 1974 when Craig Hospital was first awarded a Spinal Cord Injury Model System grant from the US Department of Health and Human Services, National Institute on Disability, Independent Living and Rehabilitation Research (NIDILRR). In 1998, Craig’s brain injury program received a similar designation when it was first named a TBI Model System. Each Model System project consists of a three-pronged research effort: contributing to a national longitudinal database, conducting local research projects that are of interest and importance to Craig, and collaborating with other Model Systems in research of common interest.

In 2006, Craig was named the TBI Model Systems National Data and Statistical Center, managing the TBI National Database and coordinating research among all TBI Model Systems. Perhaps the greatest benefit of the Model Systems programs is the research climate they have spawned here at Craig Hospital, giving us the expertise to successfully compete for and obtain funding from other sources.

Craig currently receives research funding not only from NIDILRR, but also from, the Department of Defense, the Craig H. Neilsen Foundation and other research organizations via subcontracts, and foundations. As research has become more important to the mission and reputation of Craig, the Research Department has increased collaboration with other institutions by leading and participating in multi-center research and becoming a national data coordinating center. Below is a list of Craig Hospital’s currently funded research projects.

GENERAL CLINICAL RESEARCH FUNDS		
Craig Hospital Foundation/PUSH dinner proceeds		2013 - ongoing
		\$371,276 currently funded
The purpose of Craig Hospital's Clinical Research Fund is to provide funding for clinical research projects. This includes startup funding to cover the clinician's time to design research projects, equipment if necessary, consultations, and costs to conduct the actual studies.		
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BIDETS FOR INDEPENDENCE AND QUALITY OF LIFE		
Craig Hospital Foundation		2019 - 2022
	PI(s): Severe	\$13,018
The purpose of this study is to determine if utilization of a bidet could reduce the time to complete a bowel program, improve hygiene, decrease caregiver burden, and improve satisfaction/quality of life related to bowel routines. Additionally, bidet use may allow some individuals with spinal cord injury to achieve independence with their bowel program when, without the bidet, they have needed some caregiver assistance.		
Contact:	<i>Susan Charlifue</i>	<i>susie@craighospital.org</i>

TRANSCUTANEOUS SPINAL CORD STIMULATION IN COMBINATION WITH MASSED PRACTICE TRAINING IN SPINAL CORD INJURY		
Craig Hospital Foundation		2018 - 2022
	PI(s): Tefertiller	\$44,300
The primary objective of this study is to determine the feasibility and safety of using transcutaneous electrical stimulation in a clinical setting to promote neurological recovery in individuals with SCI. Our secondary objective is to collect pilot data assessing neurological and/or functional recovery due to transcutaneous electrical stimulation in individuals with chronic SCI.		
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VIRTUAL REALITY AND TREADMILL TRAINING AFTER TRAUMATIC BRAIN INJURY		
Craig Hospital Foundation/Alea Dye TBI Fund		2019 - 2022
	PI(s): Tefertiller	\$68,613
The primary goal of this study is to evaluate the safety and feasibility of using treadmill training augmented with virtual reality in a sample of individuals with chronic TBI and to provide data to support a fully powered randomized controlled trial in the future that would evaluate the efficacy of this intervention in TBI		
Contact:	<i>Candy Tefertiller</i>	<i>ctefertiller@craighospital.org</i>

PREDICTIVE MODELING OF AMBULATORY OUTCOMES AFTER SPINAL CORD INJURY USING MACHINE LEARNING		
Craig Hospital Foundation SCI Research Fund		2020 - 2022
	PI(s): Berliner	\$20,000
To use a machine learning algorithm to determine which 5-10 demographic and neurologic variables are the strongest predictors of future function, using a database of Craig Hospital patient encounters to predict ambulatory status among patients with AIS B/C SCI.		
Contact:	<i>Jeffrey Berliner</i>	<i>jberliner@craighospital.org</i>

INCIDENCE/TIMING OF DIAGNOSIS OF VENOTHROMBOEMBOLISM IN THE TBI AND SCI POPULATIONS		
Craig Hospital Foundation		2017 - ongoing
	PI(s): Berliner	\$22,199
To assess the incidence of VTE in all patients admitted to Craig Hospital.		
Contact:	<i>Jeffrey Berliner</i>	<i>jberliner@craighospital.org</i>

PET PROJECT		
Craig Hospital Foundation		2020 - 2022
	PI(s): MacIntyre, Welch, Charlifue	\$19,532
This project is a qualitative exploration of pet ownership among individuals with SCI. The goal of this project is to better understand the rate of pet ownership in individuals with spinal cord injury (SCI), the rewards and burdens of pet ownership following SCI, and how pet ownership impacts quality of life.		
Contact:	<i>Bria MacIntyre</i> <i>Abby Welch</i>	<i>bmacintyre@craighospital.org</i> <i>awelch@craighospital.org</i>

THE SUPPORTED DISCHARGE PROGRAM		
Craig Hospital Foundation		2021 - 2022
	PI(s): Tefertiller	\$11,000
The purpose of this project is to analyze the impact(s) of the Supported Discharge program on patient and caregiver health and well-being and to provide evidence for further program development/improvement.		
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EXPLORING AUTOIMMUNITY AFTER TRAUMATIC SPINAL CORD INJURY – A PILOT STUDY		
Craig Hospital Foundation		2021 - 2022
	PI(s): Park, Coker	\$27,000
The purpose of this proposal is to collect preliminary data on whether individuals living with SCI have meaningful increases in a wide spectrum of autoantibodies compared to matched controls. Secondly, we aim to explore the association between autoantibodies levels and serum BAFF levels, a potential mechanism for autoimmunity in traumatic SCI.		
Contact:	<i>Andrew Park</i> <i>Jennifer Coker</i>	<i>apark@craighospital.org</i> <i>jcoker@craighospital.org</i>

ASSOCIATION OF SPINAL CORD INJURY COMPLETENESS AND NEUROLOGICAL LEVEL OF INJURY TO BAFF AND TESTOSTERONE		
Craig Hospital Foundation		2021 - 2022
	PI(s): Park	\$9,870
The purpose of this proposal is to explore the association between serum BAFF levels and its association with sympathetic nervous system dysfunction (dependent on level and completeness of injury) after controlling for testosterone levels among those living with chronic SCI. We will assess 128 individuals living with chronic SCI for serum BAFF and total testosterone levels in the setting of injury specific variables.		
Contact:	<i>Andrew Park</i>	<i>apark@craighospital.org</i>

EFFECTS OF EMST-75 VS THE BREATHER ON COUGH OUTCOMES IN SCI		
Craig Hospital Foundation		2021 - 2022
	PI(s): Frieler	\$16,373
The purpose of this project is to investigate the impact of a pressure threshold expiratory muscle strength training device (EMST-75) as compared to a resistive flow respiratory muscle strength training device (The Breather) on the cough strength of people who have sustained a spinal cord injury and are experiencing dystussia. Determining feasibility and safety of this tool in an inpatient rehab setting are additional goals.		
Contact:	<i>Vanessa Frieler</i>	<i>vfrieler@craighospital.org</i>

DOES STANDARDIZING PATIENT EDUCATION FOR INTERMITTENT CATHETERIZATION DECREASE SYMPTOMATIC URINARY TRACT INFECTIONS IN SCI PATIENTS?		
Craig Hospital Foundation		2021 - 2022
	PI(s): Mason, Nash	\$15,024
The purpose of this project is to create and evaluate a standardized IC education policy and process to decrease the rate of SUTIs in patients with SCI who are utilizing IC as their primary bladder management method.		
Contact:	<i>Rachel Mason</i> <i>Crystal Nash</i>	<i>rmason@craighospital.org</i> <i>cnash@craighospital.org</i>

INFLUENCE OF TRAUMATIC SCI ON VASCULAR FUNCTION AFTER INJURY		
Craig Hospital Foundation		2021 - 2022
	PI(s): Park	\$15,406
The purpose of this study is to explore whether pathological processes of vascular disease which are predictors of future vascular events are present in individuals with recent traumatic spinal cord injuries.		
Contact:	<i>Andrew Park</i>	<i>apark@craighospital.org</i>

CHARACTERIZING SMOKING/TOBACCO USE RATES AMONG SCI ENROLLEES AND THE IMPACTS OF SMOKING/TOBACCO USE ON THEIR HEALTH		
Craig Hospital Foundation		2021 - 2022
	PI(s): Froehlich-Grobe	\$6,037
The purpose of this project is to obtain an estimate of smoking prevalence among a large SCI sample as well as to identify demographic factors that may be related to smoking and examine whether smoking is related to poorer self-reported health. The findings will be used to inform a federal grant submission as evidence to support proposing an evidence-based intervention to assist individuals with SCI in quitting tobacco use.		
Contact:	<i>Katherine Froehlich-Grobe</i>	<i>kfroehlich-grobe@craighospital.org</i>

LANGUAGE DISORDERS IN TRAUMATIC BRAIN INJURY		
Craig Hospital Foundation		2019 - 2021
	PI(s): Frey	\$16,315
The purpose of this study is to retrospectively investigate the incidence of aphasia in traumatic brain injury as well as the relationship between impaired language and orientation testing scores.		
Contact:	<i>Kim Frey</i>	<i>kfrey@craighospital.org</i>

ARE PRO RE NATA PSYCHIATRIC MEDICATIONS ADMINISTERED MORE OFTEN DURING WEEKEND DAYS COMPARED to the WEEKDAYS IN TBI PATIENTS?

Craig Hospital Foundation		2021 - 2022
	PI(s): Wackernah	\$6,000
The purpose of this project is to determine whether differences exist between the administrations of PRN psychiatric medications to people with traumatic brain injury on weekends versus weekdays.		
Contact:	<i>Stephanie Agtarap</i>	<i>sagtarap@craighospital.org</i>

ASSESSING FAMILY CAREGIVER READINESS AND CAPACITY FOR MODERATE-SEVERE TBI DURING INPATIENT REHABILITATION

Craig Hospital Foundation		2021-2022
	PI(s): Agtarap	\$17,164
The purpose of this study is to assess caregiver readiness at discharge from inpatient rehabilitation, and to predict future functioning and well-being in family caregivers of people with moderate-severe TBI		
Contact:	<i>Stephanie Agtarap</i>	<i>sagtarap@craighospital.org</i>

EXPLORING GROWTH, CHANGE, AND IDENTITY AMONG INDIVIDUALS WITH TBI

Craig Hospital Foundation		2021 - 2022
	PI(s): Agtarap	\$17,340
The purpose of the project is to evaluate the extent that individuals with traumatic brain injury experience Post Traumatic Growth (PTG) and related changes following their injury.		
Contact:	<i>Stephanie Agtarap</i>	<i>sagtarap@craighospital.org</i>

RETROSPECTIVE ANALYSIS OF NEUROBEHAVIORAL DATA IN ACUTE REHABILITATION

Craig Hospital Foundation		2021 - 2022
	PI(s): Reindeau, Fouts, Goates, White, Civic	\$10,991
The purpose of this research is to review and summarize the introduction and effectiveness of a systematic behavior management program to an inpatient brain injury rehabilitation setting that serves patients with moderate-to-severe acquired brain injury, compared to methods prior to the program's establishment in February 2020.		
Contact:	<i>Arielle Reindeau</i>	<i>areindeau@craighospital.org</i>

IMPACT OF SMITH SOMATIC PAIN MEDICATION ALGORITHM FOR NURSES (SSPAN) ON MARKERS FOR EFFECTIVE PAIN CONTROL AND SAFETY

Craig Hospital Foundation		2021 - 2022
	PI(s): Smith, Goldstein	\$15,094
The purpose of this study is to understand differences in pain control before and after SSPAN implementation and demonstrate the impact of SSPAN on pain management efficacy and safety. Our goal is to publish the findings and establish Craig Hospital's ownership of this novel algorithm for future distribution.		
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Spinal Cord Injury (SCI) Research

ROCKY MOUNTAIN REGIONAL SPINAL INJURY SYSTEM (SCI MODEL SYSTEM)		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2021 - 2026
Grant #: 90SIMS0005	PI(s): Charlifue, Coker, Tefertiller	\$2,450,000

Improving Upper Extremity Function and Trunk Stability after Cervical SCI: A Randomized Controlled Trial of Three Interventions		
<p>The objectives of this study are to conduct a site-specific randomized controlled trial to investigate the efficacy of three approaches (functional task specific practice [FTP] alone, conventional functional electrical stimulation [FES] plus FTP, and wide pulse/high frequency FES plus FTP), to improve upper extremity (UE) function and trunk stability in people with SCI. Anticipated outcomes include yielding robust evidence regarding UE treatment approaches to improve UE function and trunk stability after cervical SCI to inform clinicians and consumers about the most efficacious intervention being delivered to promote UE and trunk recovery.</p>		
Contact:	<i>Candy Tefertiller</i>	<i>ctefertiller@craighospital.org</i>

LEAD Module Project: The Status of Oral Health in People with Spinal Cord Injury in the United States		
<p>To evaluate the oral health status among a US SCI sample; contribute at least 30 new Form I and 50 new Registry cases annually to the SCIMS National Database and continue contributing high numbers of follow up data that meet high quality standards; and maintain a successful system of care. Anticipated outcomes include obtaining evidence about the oral health status of people with SCI in the United States that can support providers to deliver better services and sets the stage for developing targeted interventions to help people with SCI improve their oral health</p>		
Contact:	<i>Jennifer Coker</i>	<i>jcoker@craighospital.org</i>

Module Project: Evaluating the Utility of Spasticity and Brain-Derived Neurotrophic Factor (BDNF) in Predicting Neurologic and Functioning Recovery After SCI		
<p>This collaborative module, led by the Midwest Regional SCI Care System (Shirley Ryan Ability Lab), will determine if spasticity and BDNF levels are useful biomarkers for predicting neurologic and functional recovery after SCI. Biomarkers that clinicians can obtain swiftly and with minimal patient discomfort and risk will allow improved prediction of neurologic recovery with immediate clinical and research applications.</p>		
Contact:	<i>Candy Tefertiller, Andrew Park</i>	<i>ctefertiller@craighospital.org apark@craighospital.org</i>

Module Project: Prediction of Risk of Unintentional Injuries in the First Year After SCI		
<p>This collaborative module, led by the Southeastern Regional SCIMS (Shepherd Center), will 1) Characterize the prevalence of fall-related and other types of non-fall related unintentional injuries between discharge from inpatient rehabilitation to the end of the first year after SCI onset and the circumstances and settings in which they occur. 2) Identify variables, including functional status and discharge outcomes, from inpatient rehabilitation hospitalization predictive of unintentional injuries during the first year post injury? 3) Characterize the relationship of unintentional injuries with other outcomes at one-year post injury?</p>		
Contact:	<i>Jennifer Coker</i>	<i>jcoker@craighospital.org</i>

Module Project: Who Benefits? Understanding the Formal and Informal Financial Assistance Used to Cope with the Economic Impact of SCI

This collaborative module, led by the Northern New Jersey SCI System (Kessler), will determine 1) What proportion of people with SCI have received and are using formal and informal financial assistance post-injury, 2) What are the reasons for use, non-use, and discontinuation of assistance, 3) Are there differences in health, functioning, community participation, and employment outcomes by receipt of financial assistance after injury?

Contact: *Susan Charlifue* | susie@craighospital.org

Module Project: Accelerating Racial and Ethnic Equity in SCI Rehabilitation Outcomes

This collaborative module, led by the Virginia Consortium for SCI Care (Virginia Commonwealth University), will 1) Examine racial/ethnic differences in racial/ethnic-, disability-, and gender role-identities among people with SCI, 2) Analyze identity-based experiences of marginalization including healthcare experiences and, 3) Evaluate the extent that these variables account for racial/ethnic disparities in SCI rehabilitation outcomes.

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Susan Charlifue | susie@craighospital.org

Module Project: Equity and Quality in Assistive Technology (EQUATE)

This collaborative module, led by the University of Pittsburgh Model Center for SCI, will 1) Collect descriptive data on AT used by individuals with SCI including smart home technologies and wheeled mobility. This continues and expands upon the longitudinal data collection from our module which allows us to track changes over time and new waves in use of AT. 2) Investigate barriers and facilitators to AT use for individuals with SCI. 3) Investigate the influence of individual characteristics such as financial strain, educational quality, health literacy, and geographic location on differences in AT access and quality and other health- and participation-related outcomes for individuals with SCI.

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Module Project: Development and Assessment of SCIMS cUTI Consensus Guidelines (Phase 3)

This collaborative module, led by the National Capital SCIMS (MedStar National Rehab, will focus on these aims: 1. Focus Groups of clinicians will develop and validate the SCIMS cUTI Consensus Guidelines, separately for people with SCI who use intermittent catheterization, indwelling catheterization, or who void. 2. Online survey to clinicians to provide validity evidence for the Guidelines. NC-SCIMS will collect qualitative data in phase 1. 3. NS-SCIMS will develop new consumer and clinician-targeted education materials on urinary symptom decision making, on the Guidelines, and diagnosis of cUTI. Consumer materials from ongoing projects will be adapted and extended. Collaborators will be invited to improve training materials, and recruit clinicians and consumers to complete 30-minute online training, and to complete already-drafted surveys. 4. Determine the effect of this training on antibiotic seeking and use at consumer level by administering an impact online survey online 12 months after training. Determine the effect of this education on antibiotic prescription habits by clinicians (uptake) through online surveys administered online immediately and 12 months after training.

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Andrew Park | apark@craighospital.org
Jennifer Coker | jcoker@craighospital.org

MULTI-SITE COLLABORATIVE RESEARCH PROJECT		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2017 – 2022
Grant #: 90DPHF0002-01-00	PI(s): Charlifue, Coker	\$2,500,000
Reinventing Yourself after SCI: A multi-site randomized controlled trial of an intervention to improve outcomes after spinal cord injury. Craig Hospital is the lead site in collaboration with Kessler and the University of Michigan aimed at increasing SCI-specific and general self-efficacy beliefs, enhancing emotional well-being, improving participation in society for people with SCI living in the community, and increasing resilience.		
Contact:	<i>Susan Charlifue</i>	<i>susie@craighospital.org</i>

EFFECTS OF EKSO-ASSISTED GAIT TRAINING ON BONE HEALTH AND QUALITY OF LIFE: A RANDOMIZED CLINICAL TRIAL		
Department of Defense		2017 - 2022
Grant #: W81XWH-15-2-0078	Site PI(s): Tefertiller	\$2,364,955
The purpose of this study is to determine whether exoskeleton-assisted gait training increases bone strength in the paralyzed lower extremity and improves quality of life after SCI. Secondly, to determine whether gait training improves the following related outcomes and mediators of quality of life: mood, pain, and cortical activity of related emotional networks in the brain.		
Contact:	<i>Candy Tefertiller</i>	<i>ctefertiller@craighospital.org</i>

DEVELOPMENT AND VALIDATION OF AN ABBREVIATED COGNITIVE SCREENING BATTERY FOR INDIVIDUALS WITH SCI		
New Jersey State Department of Health/Spinal Cord Research		2019 – 2022
Grant #: CSCR19IRG021	PI(s): Coker	\$150,679
The purpose of this project is to validate the use of a brief, abbreviated cognitive screening battery, developed from established, common, motor-free neuropsychological tests that are sensitive to SCI-related cognitive impairment.		
Contact:	<i>Jenn Coker</i>	<i>jcoker@craighospital.org</i>

BRIVARACETAM TO REDUCE NEUROPATHIC PAIN IN CHRONIC SCI: A PILOT CLINICAL TRIAL		
Neilsen Foundation/Craig Foundation SCI Research Fund		2021 - 2022
	PI(s): Falci	
The Briviaracetam study is a pilot drug trial to see if Brivact (FDA approved drug for seizures) can effectively treat severe neuropathic pain in people with spinal cord injury.		
Contact:	<i>Abby Welch</i>	<i>awelch@craighospital.org</i>

MRI AND MACHINE LEARNING TO IMPROVE EARLY PROGNOSIS AND CLINICAL MANAGEMENT AFTER SPINAL CORD INJURY		
Regis University – Subaward		2019 - 2021
	PI(s): Berliner/Charlifue	\$13,565
Craig Hospital investigators are responsible for organizing and de-identifying the clinical data and consultation on data collection, data analysis, mentorship, and drafting of all abstracts and manuscripts.		
Contact:	<i>Jeffrey Berliner</i>	<i>jberliner@craighospital.org</i>

ANTECEDENTS, CONSEQUENCES AND INTERVENTIONS FOR TRAVEL PARTICIPATION AFTER SCI		
Neilsen Foundation		2020 - 2023
	PI(s): Charlifue	\$100,000
This project aims to develop and test scales that measure travel participation of people with SCI, their satisfaction with autonomy, competence and relatedness through travel (Self-Determination Theory based scale development).		
Contact:	<i>Susan Charlifue</i>	<i>susie@craighospital.org</i>

BIOFEEDBACK FOR TREATMENT OF ANXIETY ASSOCIATED WITH CHRONIC SPINAL CORD INJURY		
Neilsen Foundation		2019 - 2022
	PI(s): Monden	\$200,000
<p>The proposed pilot study is designed to find a signal of a treatment effect that would support a larger study and to examine the feasibility of conducting a larger study biofeedback intervention to treat anxiety in individuals with SCI. Biofeedback training monitors a person's breathing and heart rates and teaches them to slow their breathing to better match their heart rate. This type of training has been shown to strengthen a person's psychological resilience.</p>		
Contact:	<i>Bria MacIntyre</i>	<i>bmacintyre@craighospital.org</i>

CRAIG CAREGIVER ASSESSMENT OF REWARDS AND EFFORT (C²ARE) – VALIDATION OF A NEW TOOL TO ASSESS CAREGIVER DISTRESS AND BENEFIT		
Neilsen Foundation		2019 - 2023
	PI(s): Charlifue	\$400,000
<p>The aim of the project is to validate C²ARE for assessing SCI caregiver distress and benefit. Validation will include extensive psychometric analysis of C²ARE data collected in a new large sample of SCI caregivers to fully evaluate its validity and test-retest reliability. Having a valid and reliable measurement tool specifically designed for use in SCI has the potential to be useful both in the clinical and research settings. Such an assessment can help clinicians and service providers better target their interventions to family caregivers, and will add to the resources that can be used by researchers to determine if caregiver intervention studies are effective.</p>		
Contact:	<i>Susan Charlifue</i>	<i>susie@craighospital.org</i>

UPLIFT		
ONWARD Medical		2021 – to completion
	PI(s): Tefertiller	\$170,000
<p>Clinical Assessment of Upper extremity performance in individuals with spinal cord injury using the LIFT System to deliver non invasive electrical spinal stimulation (ARC Therapy)</p>		
Contact:	<i>Candy Tefertiller</i>	<i>ctefertiller@craighospital.org</i>

SCALE UP TRIAL OF PROJECT WOWii TO INCREASE EXERCISE AMONG PEOPLE WITH SCI		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2021 - 2023
	PI(s): Froehlich-Grobe	\$600,000
<p>The purpose of this study is to investigate the feasibility, fidelity, and effectiveness of scaling up an evidence- and theory-based, virtually delivered physical activity intervention for individuals living with chronic SCI for delivery in other rehabilitation settings.</p>		
Contact:	<i>Katherine Froehlich-Grobe</i>	<i>kfroehlich-grobe@craighospital.org</i>

BUILDING AN EVIDENCE BASE FOR WEIGHT LOSS STRATEGIES AMONG THOSE WITH CHRONIC SCI		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2022
	PI(s): Froehlich-Grobe	\$29,142
Contact:	<i>Katherine Froehlich-Grobe</i>	<i>kfroehlich-grobe@craighospital.org</i>

Traumatic Brain Injury (TBI) Research

THE ROCKY MOUNTAIN REGIONAL BRAIN INJURY SYSTEM (TBI MODEL SYSTEM)		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2017 - 2022
Grant #: 90DPTB0007-01-00	PI(s): Harrison-Felix, Mellick, Tefertiller	\$2,295,000

Self-Advocacy for Independent Life (SAIL) after TBI		
PI(s): Hawley, Harrison-Felix		
This study will evaluate the efficacy of an intervention to empower people with TBI to improve their lives by gaining the skills to advocate for needed services and resources.		
Contact:	<i>Lenny Hawley</i>	<i>lhawley@craighospital.org</i>

LEAD Module Project: Development and Assessment of Crosswalks in the TBIMS Database		
Using data from the National TBI Model System Database we intend to evaluate various procedures for creating crosswalks between the FIM™ and the Continuity Assessment Record and Evaluation (CARE) Item Set, as well as evaluate the existing crosswalk between the Patient Health Questionnaire (PHQ-9) and the Traumatic Brain Injury Quality-of-Life (TBI-QOL) Depression Short Form and between the Generalized Anxiety Disorder 7-item (GAD-7) scale and the TBI-QOL Anxiety Short Form.		
Contact:	<i>Dave Mellick</i>	<i>dmellick@craighospital.org</i>

Module Project: Caregiver Resilience: A Longitudinal Investigation		
This collaborative TBI module led by Virginia Commonwealth University TBIMS focusing on resilience offers a promising opportunity to better understand and conceptualize caregivers' experiences after TBI and will allow us to gain a new and better understanding of how caregiver attributes, namely resilience, relate to survivor outcomes and caregiver burden and needs.		
Contact:	<i>Candy Tefertiller</i>	<i>ctefertiller@craighospital.org</i>

Module Project: Return to Driving after Moderate-Severe TBI: Who, When, Where and How Safe?		
This collaborative TBI module led by the University of Alabama-Birmingham TBIMS intends to expand knowledge concerning driving behaviors for persons with a TBI and establish predictors of return to driving and safe driving.		
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THE TRAUMATIC BRAIN INJURY MODEL SYSTEMS (TBIMS) NATIONAL DATA AND STATISTICAL CENTER (NDSC)		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2021 – 2026
Grant #: 90DPTB0018	PI(s): Harrison-Felix, Mellick	\$3,462,500
The TBIMS NDSC manages the TBI Model Systems National Database and provides technical assistance, training, and methodological consultation to 16 centers and 3 follow-up sites as they collect and analyze longitudinal data from people with TBI in their communities, and as they conduct research toward evidence-based TBI rehabilitation interventions.		
Contact:	<i>Dave Mellick</i>	<i>dmellick@craighospital.org</i>

TRAUMATIC BRAIN INJURY MODEL SYSTEMS (TBIMS) MULTI-SITE COLLABORATIVE RESEARCH PROJECT		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2018 – 2023
Grant #: 90DPTB0017-01-00	PI(s): Harrison-Felix, Richardson, Hoffman	\$3,127,000
<p>Characterization and Treatment of Chronic Pain after Moderate to Severe TBI. Craig Hospital is the Lead site collaborating with 14 TBI Model Systems (TBIMS) Centers, one TBIMS Follow-up Center, and one VA TBIMS Center to examine chronic pain and pain treatment after TBI to improve the health and function through improved patient stratification and treatment guidelines. Outcomes from this study will include educational materials on chronic pain and pain treatment to benefit patients, family members, clinicians, and policymakers. A grant supplement was awarded in FY18-19 for \$127,000 to improve the understanding of opioid use and pain management after moderate to severe TBI.</p>		
Contact:	<i>Cindy Harrison-Felix</i>	<i>charrison-felix@craighospital.org</i>

BeHEALTHY- CHRONIC DISEASE MANAGEMENT FOR PEOPLE WITH TBI		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2020 - 2025
Grant #: 90DPHF0006	PI(s): Mellick, Tefertiller	\$474,710
<p>This collaborative project, led by Indiana University, leverages the substantial resources of the Traumatic Brain Injury (TBI) Model Systems and experts in collaborative care, self-management, state policy, and national consumer advocacy to develop a chronic disease management model for TBI, their caregivers, and health care providers. Craig participates as a study site and overall study Data Coordinating Center.</p>		
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TRACK-TBI		
NIH, National Institutes of Neurological Disorders and Stroke, and Department of Defense subcontracts from the University of California, San Francisco to Craig Hospital		2017 - 2022
	PI(s): Harrison-Felix, Agtarap	~ \$20,000
<p>This is a collaboration with Denver Health in a longitudinal study of TBI that enrolls participants through Level 1 Trauma Centers across the US. Participants represent the entire spectrum of age, demographics, and injury severity. The overall goal of TRACK-TBI is to improve TBI classification/taxonomy for targeted clinical treatment trials, in order to improve TBI outcome assessments, such that the size and costs of clinical trials can be reduced, identify the health and economic impact of Mild TBI patient disposition, and create a legacy database with analytic tools and resources to support TBI research.</p>		
Contact:	<i>Stephanie Agtarap</i>	<i>sagtarap@craighospital.org</i>

DISCHARGE PLANNING AFTER TBI		
A grant to the University of Washington from the Patient-Centered Outcomes Research Institute (PCORI) with a subcontract to Craig Hospital as the Data Coordinating Center		2017 - 2022
	PI(s): Mellick	\$382,823
<p>This is a multi-center randomized control trial that aims to compare the effectiveness of Standardized Discharge Care (SDC) vs. Optimized Transition Care (OTC) on improving patient-reported outcomes of (1) participation, and health-related quality of life, for individuals with moderate-to-severe TBI who are discharged from inpatient rehabilitation</p>		
Contact:	<i>Dave Mellick</i>	<i>dmellick@craighospital.org</i>

CARE4TBI		
A grant to Ohio State University from the National Institutes of Health, National Center for Medical Rehabilitation Research, with a subcontract to Craig.		2021 - 2028
	PI(s): Mellick, Tefertiller	\$2,300,000
This collaborative project, led by Ohio State University, leverages the substantial resources of the Traumatic Brain Injury (TBI) Model Systems using the infrastructure of the world's largest longitudinal study of persons with TBI, 10 years of preliminary studies, and sophisticated causal inference methods to study "real-life" rehabilitation, we will conduct the most comprehensive investigation of rehabilitation intervention effectiveness possible to date, with findings having the potential to directly and immediately impact clinical practice. Craig will participate as a clinical study site and overall study Data Coordinating Center.		
Contact:	<i>Dave Mellick</i>	<i>dmellick@craighospital.org</i>

Dual Diagnosis and Other Research

MANUAL WHEELCHAIR CONFIGURATION FOR INDIVIDUALS WITH HEMIPLEGIA EFFECTS OF FRAME TYPE ON EFFICIENCY OF PROPULSION		
Permobil		2019 - 2022
	PI(s): Tefertiller	\$16,279.21
The purpose of this industry-funded study is to address the importance of axle position and frame type on upper extremity propulsion. Understanding the effects of axle position and frame type on this propulsion technique is critical in assuring frame recommendations that maximize independence and life participation.		
Contact:	<i>Candy Tefertiller</i>	<i>ctefertiller@craighospital.org</i>

WHEELCHAIR BACKS THAT SUPPORT THE SPINAL CURVES: ASSESSING POSTURAL AND FUNCTIONAL CHANGES		
Permobil		2021 - 2022
	PI(s): Tefertiller, Dahlin, Jones	\$188,000
The goal of this industry funded clinical trial is to further investigate if using a solid backrest on manual wheelchair (MWC) will improve postural alignment, function and wheelchair mobility as compared with an upholstery backrest and to explore the impact of overall back height, seat gap, and contour when using a solid backrest.		
Contact:	<i>Candy Tefertiller</i>	<i>ctefertiller@craighospital.org</i>

REINVENTING YOURSELF AFTER MULTIPLE SCLEROSIS: AN INTERVENTION AIMED AT IMPROVING SELF-EFFICACY, COPING, PSYCHOLOGICAL WELL-BEING, AND QUALITY OF LIFE IN MS		
National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR)		2021 - 2024
	PI(s): Coker	\$61,774
This partnership with Kessler Foundation and other key stakeholders will adapt and examine the efficacy of an existing intervention in SCI which has been proven effective among individuals with SCI for use in MS.		
Contact:	<i>Jennifer Coker</i>	<i>jcoker@craighospital.org</i>