



Economic toll of traumatic brain injury adds up to \$6.8 billion a year in Texas

Study commissioned by CORE Health Foundation tallies TBI costs related to deaths, ER visits, hospitalizations, disability

Each year in Texas, traumatic brain injury (TBI) causes an estimated \$6.8 billion worth of economic trauma in terms of deaths, emergency room visits, hospitalizations and disability, according to a study commissioned by the CORE Health Foundation. To put that dollar amount in perspective, it equals Coca-Cola's corporate profit for fiscal 2009.

"While this estimate appears large, it is at the low end of the range of costs expected to occur from TBIs in Texas every year," said Eric Makowski, a co-founder and trustee of the Austin-based CORE Health Foundation and immediate past president of the Brain Injury Association of Texas.

The study urges more funding for TBI rehabilitation, research, prevention and education. "Money does not cure all problems, but when money is spent with a plan and a mission, the results can be significant," said Dennis Borel, board member of the CORE Health Foundation and executive director of the Coalition of Texans with Disabilities. "A comprehensive effort to fund future rehabilitation, research, prevention and education programs can have lasting effects for TBI patients, families, medical care providers and society."

As the study notes, the percentage of injury-related productivity loss attributed to TBI (15.7 percent of all cases) is 14 times greater than that associated with spinal cord injuries.

The nonprofit CORE Health Foundation, founded in 2006, advocates for people with disabilities through research, public works projects and public awareness initiatives. The foundation's brain injury research is performed under the Resilient Mind brand.

The CORE-financed study estimates that 4,100 TBI-related deaths will occur this year in Texas, with lost earnings from those deaths adding up to nearly \$4 billion a year. The study also estimates that:

- TBI produces 119,500 emergency room visits each year in Texas, resulting in an annual cost of \$740 million.

- Costs for extensive medical treatment connected with TBI-related deaths total \$186 million a year in Texas.
- TBI prompts 22,000 hospitalizations annually in Texas, leading to a yearly cost of \$623 million.
- Nearly half of the TBI-related hospitalizations in Texas result in long-term or lifelong disabilities, resulting in \$1.3 billion worth of annual expenses.

"As we close out the first decade of the 21st century, Texas has seen significant medical advances that can increase the rate of survival for a TBI. Unfortunately, the number of cases continues to increase, which puts added strain on the financial systems supporting these injuries," said Jim Misko, Psy.D., co-founder of the CORE Health Foundation, chairman of the Academy of Certified Brain Injury Specialists and board member of the Brain Injury Association of America.

A TBI is a blow or jolt to the head or a penetrating head injury. It disrupts the function of the brain and produces a diminished or altered state of consciousness, impairment of cognitive abilities or physical functioning, or both.

The two leading causes of TBI are falls (35 percent) and traffic crashes (17 percent). Other causes include gunshot wounds, sports injuries, workplace injuries, shaken baby syndrome, child abuse, domestic violence and military action. The U.S. Centers for Disease Control and Prevention's National Center for Health Statistics estimates 1.7 million Americans sustain a TBI every year.

The CORE-financed study, *The Estimated Economic Cost of Traumatic Brain Injuries in the State of Texas*, was conducted by Austin-based Actuarial Risk Management Ltd. using a variety of federal and state statistics. To read the entire study, visit www.corehealthfoundation.org/economic-impact-of-tbi.

The study makes several recommendations aimed at reducing the incidence and costs of TBI in Texas and at improving TBI care:

- Create a statewide TBI prevention awareness program.
- Promote compliance with Brain Trauma Foundation treatment guidelines among providers of medical and rehabilitation services.



- Boost state funding for the Texas Department of Assistive and Rehabilitative Services' Comprehensive Rehabilitation Services program. The program "has a waiting list as a result of a limited budget," according to the study.
- Require that Texas join the Centers for Disease Control and Prevention's CORE State Injury Program. The program conducts TBI surveillance in 30 states, but not in Texas.
- Promote funding for research to improve TBI rehabilitation. The research should focus on such subjects as cardiovascular exercise, sleep and nutrition. Findings of the research would help insurers, the Texas Department of Assistive and Rehabilitative Services, accreditation boards and others know what to expect of TBI rehabilitation facilities.
- Revise qualification criteria for Texas state services to take into account the characteristics and long-term needs of people with TBI.
- Encourage funding for in-home interventions to educate caregivers about preventing TBI re-injury and long-term chronic complications.
- Conduct annual meetings that provide medical professionals and others with the latest research and treatment options to enhance neuroplasticity—the brain's ability to reorganize itself.

"Examining TBI as a chronic illness that has lasting effects for multiple areas of the individual and their family's lives is the best course of future action," the study concludes.

Who CORE Serves: Demographics and Outcomes

When an individual is considering admission to CORE, the individual and his/her family often ask a predictable and excellent set of questions to determine whether we have expertise in their area of need, have other individuals in the program with whom s/he can relate, and whether or not we have achieved positive outcomes with those individuals. To help make this information available to current and prospective CORE clients, their families, and other stakeholders, this article will present statistics from the prior year (August 1, 2009 to July 1, 2010).

At CORE, we pride ourselves on "thinking outside the box" and constructing a customized treatment plan for every individual who seeks our help, rather than delivering a canned program that may or may not be relevant. However, for the purposes of presenting this information, the individuals we serve have been categorized as either post-acute rehabilitation or long-term clients.

Rehabilitation

In the past year, 69 individuals (48 men, 21 women) were admitted for post-acute rehabilitation. The mean age of these individuals was 37 years, with a range from 19 to 80 years old. Fifty-one of these individuals were being treated for a traumatic brain injury, 16 presented with an acquired brain injury not of a traumatic origin, and two individuals' primary difficulties were psychiatric in nature. Of the 69 individuals who admitted to CORE during this time, 49 discharged and 20 were still admitted at the time of this newsletter. The average length of stay for those who discharged was 172 days (with a range of 39 to 647 days). Of the 49 individuals who discharged, 38 discharged home to the care of their families or an independent living environment, four were admitted to a nursing home, three admitted to another type of supervised care setting, two required acute hospital care, one admitted to a substance abuse facility, and one individual expired.

Long Term Care

CORE Health Care served 28 long-term residents in the past year (19 men, 9 women). The average age of the residents was 49 years, with a range from 20 to 80 years old. The average length of time these residents have been with us is 10.8 years (ranging from three weeks to over 26 years). Eleven individuals have a primary psychiatric diagnosis, ten have traumatic brain injury, five have an acquired brain injury not of a traumatic origin, and two individuals have developmental diagnoses. Six long-term individuals discharged in the past year. Four residents discharged home to the care of their families, and two individuals expired.

Diversity and Longevity

The data on CORE Health Care residents nicely illustrates the diversity of individuals who are served, both in terms of age and diagnosis. As you can see, the majority of individuals in the rehabilitation program discharge back home with their families or an independent setting. Some of our long-term residents have been with us as long as we have existed as a company. An individual admitting to CORE will find a treatment team with extensive expertise in their particular challenges, and fellow residents with similar challenges with whom to share information and support. We have seen these types of relationships allow for positive peer interaction and coaching.



In the next installment of this newsletter, we will present specific information about the outcomes individuals in both programs have achieved.

Draper Residents Provide Carnival Fun

On July 29 our Draper residents held a carnival for all of CORE as a way to utilize their executive functioning, organizational and vocational skills. They planned all aspects of the day for 5 weeks prior to the event. The residents were involved in running Bingo games, bean bag lawn darts, water balloon darts, a staff dumping booth, water balloon basketball, pie throwing (at staff) booth, face painting and tattoos. Additionally residents were in charge of snacks and goodie bags for all participants. Residents, Chily and Terrell, won the king and queen of the carnival. These awards were based on participation and enthusiasm. Therapists and staff received pies in the face and had water dumped on them as clients threw footballs through a tire. Residents and staff look forward to next year's activities.

Novel Bert P. Brown Campus Activities

As an effort to boost neuroplasticity in our residents who live on our long-term campus, the therapists and staff have developed a "Novelty" group. This group encourages trying new foods, languages, outings in the community, and activities on campus including wearing pedometers to encourage more cardiovascular exercise. Additionally residents have been working hard in the garden to provide fresh produce for the entire campus.

CORE Recognizes Community Supporters

The following businesses were recently recognized with plaques for their support of our residents through donations of supplies, time and offering volunteer and vocational opportunities:

- Dog Camp
- Dripping Springs Chamber of Commerce
- Andrea McCarthy at Dripping Springs ISD
- Eye Care Associates
- HEB
- Hill Country Care
- Home Depot
- Oak Creek Café
- Show Stoppers Video
- Solstice
- Lisa Gilliam at Sophie's Garden
- Springs YMCA
- Super S Grocery
- Texas Hearing and Service Dogs
- Lucy Gibbs at Texas Osteopathic Medical Association

Fall Festival

October 16, 2010

6 pm – 9 pm

Perfect Fall weather is upon us.

Families of our
Brown campus residents
please join us
for a Fall celebration
and reunion.

We will have
music, games and catering
by Pok-e-Jo's Bar-B-Que
all on the grounds
of our Brown campus.





Improving Our Residents Mobility



Physical therapists at CORE are utilizing the latest techniques to restore mobility in our residents seeking a return to independence. One non-invasive device that has become popular is the WalkAide, an FDA approved medical technology for a variety of neurorehabilitation modalities.

Neuro-prosthetics, a discipline that combines neuroscience and biomedical engineering, has become an area of intense scientific and clinical interest and rapid progress. Neuro-prosthetics is the study and development of medical devices that replace or improve the function of damaged neuromuscular organ systems and restore normal body processes, create or improve function, and/or reduce pain. Other types of widely used neuro-prosthetics are the cochlear prostheses, mechanisms for bowel and bladder control, deep brain stimulation using electrodes and respiration devices for paralyzed individuals. The WalkAide is an advanced tool that leverages functional electrical stimulation (FES) for people living with footdrop.

One resident at CORE who has benefited from this technology is Ben Karlin. Ben suffered a traumatic brain injury in a

motorcycle accident in January 2008. Prior to the injury, Ben lived independently and was a single father to his 3 year old son. He was employed as a motorcycle mechanic however current deficits with mobility and decreased use of his left arm have not allowed him to return to this vocation. He has also struggled with visual deficits and decreased attention and memory. Ben has received therapy at CORE for the past 18 months on an in-patient and outpatient basis.

Ben has utilized the WalkAide for the past year and remarked that since the injury "my equilibrium was thrown way off, it was bad enough for me to not know how or if my left leg was tracking straight when I walked. Upon receiving the WalkAide, I was quite hesitant on using it. At first I used it along with my A.F.O. in fear of the muscles in my ankle not being strong enough to tolerate the walking. Wearing the WalkAide has allowed me to walk with more certainty. With the WalkAide in place it has allowed my left foot to correctly find where straight was. So then, I could walk with my body aligned straight, as well as retraining myself to get associated to walking in "true" form. I use it especially when I mow the yard, because I have what they describe as "drop foot".

Drop Foot is a condition characterized by weakness or paralysis of the muscles involved in lifting the front part of the foot. It causes a person to either drag the foot and toes or engage in a high-stepping walk called steppage gait. The WalkAide can effectively produce dorsiflexion of the ankle, during the swing phase of the gait. The small device attaches to the leg and during the gait cycle, the WalkAide stimulates the common peroneal nerve, which innervates the tibialis anterior and other muscles that produce dorsiflexion and eversion of the ankle producing a much more natural and efficient pattern of walking, with increased stability. Further, the WalkAide may improve circulation, reduce atrophy, improve voluntary control over time and increase joint range of motion. Patients also appreciate the device because of the rapid results often allowing them to walk faster, further and with less effort.



In addition to his improvements with mobility, Ben's rehabilitation has resulted in improved speech and cognition as he utilizes a variety of compensatory strategies to assist him in his daily functioning. He has also made considerable improvements in his insightfulness to his injury and continues to remain motivated to seek ways to improve his life. He has returned to living independently, caring for his son and seeking training to be a paraeducator.

Ben continued "as a person who had a T.B.I. I really like this product. Having therapy combined with the WalkAide has been a major plus in my rehabilitation, very essential to me finding my "center." I wouldn't have retrained myself as well if I used the WalkAide by itself. One design flaw is it does not have a voice built in to tell you what you're doing incorrectly. That's where the therapist comes in. It's a lovely combo if you're able to have it."

CORE Health Foundation Events

Why Aging, Brain Injury & Mental Illness Don't Have to Limit Us Any Longer

As a very important Friend of CORE Health Care, we would like to invite you to a presentation on the latest research in the Advancement of Neuroplasticity by Jim Misko, Psy.D..

For the first time we are on the cusp of unlocking the door to actually use the word CURE when discussing a brain injury, mental illness or abnormal aging.

The CORE Health Foundation's Resilient Mind Research allows us the opportunity to give families hope based in science and make an unpredictable, difficult situation better.

Please join us for a *free* awareness luncheon
Bring friends who you believe would have an interest in helping this program succeed.

Saturday October 16, 2010 ~ 11 a.m.

or

Thursday, October 28, 2010 ~ 11:30 a.m.

AT&T Executive Conference Center • 1900 University Avenue • Austin, TX 78705

We will not be asking for donations at this event, just your guidance on the best steps to further our endeavors through networking and support opportunities!

We value your time - this event will not last more than one hour

For More Information and to R.S.V.P. please visit:

www.corehealthfoundation.org



Resilient Mind Facebook Page



The CORE
Health Foundation
has a new
Facebook group
to bring awareness
to our
Resilient Mind Research.

Please join the group
&
follow our progress!



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