Traumatic Brain Injury in Missouri

State Plan
2012-2017

Alternate forms of this publication for persons with disabilities may be obtained by contacting the Missouri Department of Health and Senior Services at 1.800.316.0935.

Hearing and speech impaired citizens telephone 1.800.735.2966. VOICE 1-800-735-2466.

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER
Services provided on a nondiscriminatory basis.
<table>
<thead>
<tr>
<th>Contents</th>
<th>page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants</td>
<td>ii</td>
</tr>
<tr>
<td>State Plan 2012 - 2017</td>
<td>iv</td>
</tr>
<tr>
<td>Overview</td>
<td>1</td>
</tr>
<tr>
<td>TBI Basics</td>
<td>2</td>
</tr>
<tr>
<td>Needs Assessment</td>
<td>5</td>
</tr>
<tr>
<td>State Plan</td>
<td>6</td>
</tr>
<tr>
<td>Strategic Priority 1: Prevention</td>
<td>6</td>
</tr>
<tr>
<td>Strategic Priority 2: Services, Funding, and Collaboration</td>
<td>7</td>
</tr>
<tr>
<td>Strategic Priority 3: Education and Family/Peer Supports</td>
<td>8</td>
</tr>
</tbody>
</table>

**A Collaborative Effort**

The Missouri Traumatic Brain Injury State Plan for 2012-2017 was developed by the Missouri Brain Injury Advisory Council in conjunction with its lead agency, the Missouri Department of Health and Senior Services in partnership with University of Missouri-Kansas City, Institute for Human Development. The plan represents a collaborative effort among members of the Missouri Brain Injury Advisory Council, board members of the Brain Injury Association of Missouri and other stakeholders from across the state.
Members of the Missouri Brain Injury Advisory Council

Timothy E. Imhoff, Chair
Family Member of a TBI Survivor,
Maryland Heights, MO

Andrea D. Buening, Vice Chair
TBI Survivor, Seneca, MO

Saleem Abdulrauf, M.D.
Health Professional, St. Louis, MO

Shane C. Mecham, Esq.
Professional, Kansas City, MO

Marylin Durk
Family Member of a TBI Survivor,
Jefferson City, MO

Michael A. Sparks
TBI Survivor, Arnold, MO

Richard W. Hashagen
Family Member of a TBI Survivor,
St. James, MO

State Agency Representatives Appointed to the Council

Stephen Barr, Ed.D.
Department of Elementary and Secondary
Education/Special Education Services

Greg Markway, PhD
Department of Corrections

Leanna Depue
Department of Transportation

Glenda Meachum-Cain
Department of Health and Senior Services/
Senior and Disability Services

Wayne Gillam
Department of Elementary and Secondary
Education/Vocational Rehabilitation

Robin Rust
Department of Mental Health/
Developmental Disabilities

Richard N. Gowdy, PhD
Department of Mental Health/
Alcohol and Drug Abuse and
Comprehensive Psychiatric Services

Melissa Wilding
Department of Public Safety/
MO Veterans Commission

Kimberly Johnson
Department of Social Services

Karen Zoellner
Department of Insurance, Financial
Institutions, and Professional
Registration

Brad Jones
Department of Public Safety/
MO State Highway Patrol
Additional Stakeholders Involved in Developing the State Plan

**Praveena Ambati**
Department of Health and Senior Services  
Injury and Violence Prevention

**John Bennett**
Missouri Rehabilitation Center  
Brain Injury Association of Missouri

**Doug Brewer**
SSM Rehabilitation Network  
Brain Injury Association of Missouri

**Marjorie Cole**
Department of Health and Senior Services  
School Health

**Connie Collison**
Missouri Rehabilitation Center

**Stephanie Cox**
Independent Living Resource Center

**Maureen Cunningham**
Brain Injury Association of Missouri

**Gerard Erker, M.D.**
SSM Rehabilitation Hospital

**Michelle Gibler**
Think First – UMC

**Daphne Greenlee**
SafeKids Coordinator, Injury and  
Violence Prevention Advisory Council

**Donna Gunning**
The Center for Head Injury Services

**LaDonna Henson**
The Center for Head Injury Services

**Cathy Hogan**
SafeKids Coordinator, Injury and  
Violence Prevention Advisory Council

**Kate Koch**
Missouri Protection and Advocacy Services

**Joe Krueger**
Alternative Opportunities, Inc.

**Tim Landwehr**
TBI Survivor  
Guard Rail Services

**Terrie Price, PhD.**
The Rehabilitation Institute of Kansas City  
Brain Injury Association of Missouri

** Charity Shelton**
Missouri Rehabilitation Center

**Joe Trebbe**
Ozark Neuro Rehab Center  
Brain Injury Association of Missouri

**Patti Vantuinen**
Department of Health and Senior Services  
Adolescent Health

**Staff**

**Melody Boling**
UMKC Institute for Human Development  
TBI Grant Coordinator

**Lori Brenneke**
Department of Health and Senior Services  
Adult Head Injury Unit

**Mike McCarthy**
UMKC Institute for Human Development

**Tom McVeigh**
UMKC Institute for Human Development

**Christy Miller**
UMKC Institute for Human Development
Priority Area One: Prevention
Goal One: Reduce the number of Traumatic Brain Injuries.
Goal Two: Provide best practice prevention education to key subgroups statewide.
Goal Three: Support prevention policy (create new and/or strengthen existing policy).

Priority Area Two: Services, Funding, and Collaboration
Goal One: Maintain and enhance a comprehensive array of services available to all.
Goal Two: Ensure access to services/resources for people with TBI through collaboration.

Priority Area Three: Education and Family/Peer Support
Goal One: Increase the capacity of professionals to serve those with TBI and their families.
Goal Two: Increase concussion awareness and build a multi-disciplinary, community-based system of support.
Overview

The vision of the Missouri Brain Injury Advisory Council (MBIAC) is excellence in traumatic brain injury (TBI) prevention, public awareness, and the provision of services and supports across the lifespan of people with brain injuries and their families.

To achieve this vision, the MBIAC mission is to lead in the development of a collaborative statewide system of prevention, public awareness, and provision of services and supports driven by the needs of individuals with brain injury and their families.

The Missouri Traumatic Brain Injury State Plan was developed to serve as a guide to the MBIAC, keeping the Council focused on the key priority goals and objectives. The MBIAC will determine specific activities as partnerships and resources are identified and opportunities arise. Just as collaboration with many key stakeholders was very important in the development of the State Plan, collaboration will be vital to the implementation of the plan.

The MBIAC will look to identify partnerships that can leverage outcomes consistent with those identified in the plan. The MBIAC does not have the resources to accomplish this alone, but rather identifies itself through its mission as the organization that must lead in the establishment of these collaborative partnerships.

The implementation of this state plan brings the hopes of preventing TBI, increasing public awareness of TBI, increasing knowledge/education of best practices, and increasing services and supports for TBI survivors and their families. While many TBI initiatives and programs have been established in Missouri during the past few decades, they form only a foundation. Missouri must continue to build upon that foundation to provide appropriate and accessible services to all persons who have been affected by TBI.
Traumatic Brain Injury (TBI) is defined as a blow, jolt or penetration to the head that disrupts the function of the brain. Most TBIs are caused by falls, jumps, motor vehicle traffic crashes, being struck by a person or a blunt object, and assault. Blast injuries sustained in combat are a growing cause of TBI.

According to the Missouri Information for Community Assessment (MICA) 2009 data, 15,238 Missourians were treated at an emergency department or were hospitalized due to a TBI. Many more people sustain a TBI but go undiagnosed and untreated. The MICA data does not reflect those undiagnosed, untreated, treated in a physician office, or treated by the military. The 2009 MICA data reveals that the leading causes of TBI in Missouri are falls, motor vehicle traffic crashes, and being struck by/against an object or person. Falls are the leading cause of TBI in children and for those over the age of 65. Motor vehicle crashes and struck by/against an object or person are the leading causes of TBI for those between the ages of 15 and 24.

While TBI can affect men and women of all ages, males are about one and a half times more likely than females to sustain a TBI. The three age groups at highest risk for a TBI are 0-4 years, 15-24 years and 85 years and older.
TBI can range from mild to severe, and the effects can be temporary or permanent. Many people who experience a TBI have long-term or lifelong disabilities as a result of impairments in a number of areas including:

- Thinking and reasoning
- Memory
- Speech
- Behavior
- Seeing
- Understanding words
- Attention
- Problem Solving
- Physical Activities
- Hearing

These impairments can affect a person’s physical, cognitive, behavioral and emotional well-being, which subsequently impacts self-concept, family and social relations, education, and learning performance. These secondary disabilities can cause significant long-term problems with independent living, community integration, employment and financial stability.

The short- and long-term consequences of a TBI create a significant public health burden across the country and in Missouri. Because TBIs affect different areas of the brain in different ways, no two brain injuries are alike. As a result, a range of services that can meet individual needs and change over time is necessary.

Improvements in health care and technology are helping people with TBI live longer, healthier lives, so the need for services to assist those with TBI and their family members is growing. Educating the public about TBI is vital to improving the lives of TBI survivors.

Because prevention is the only real cure for TBI, efforts to promote the use of seatbelts, child safety seats, and helmets and to reduce the occurrence of child abuse, domestic violence, and other non-accidental injury are vital to reducing the number of lives impacted by a TBI. Many states, including Missouri, have recently passed legislation aimed at preventing long-term harm to student athletes who sustain concussions. Prevention measures are essential to reducing the social and economic burden caused by TBI.
The 2011 Missouri TBI Needs Assessment was conducted to help determine the needs of the TBI survivors and their families in Missouri. The needs assessment was conducted by dissemination of surveys to survivors/family members and professionals across the state.

263 survivors and families and 629 professionals responded to the surveys. The survey questions consisted of three main topics:

- **Continuum of Care:**
  Needs and experiences of TBI survivors and families, from the first medical care received to ongoing community services and supports.

- **TBI Survivors Living in Nursing Homes:**
  Their needs, why they moved there, whether they would like to leave, and barriers to leaving.

- **Professionals and the Public:**
  Training, information, and resource needs of professionals, community groups, and the public.

The survey found that the continuum of care in Missouri is affected by lack of funding for services, lack of TBI training for professionals, lack of an easy way to learn about and connect to all available services, and scarcity of certain services, especially in rural areas.

Overall, TBI survivors and family members, like professionals, felt strongly that access to information, education and services needs to be improved. This includes information about the range of services that may be necessary, but just as importantly, it includes emotional/peer support for both family members and survivors. It is clear that gaps in the continuum of care contribute to the isolation and frustration experienced by many, as well as impacting outcomes for survivors. But the data also provides direction about what works to alleviate and prevent these problems.

A full copy of the 2011 TBI Needs Assessment Report can be found at http://health.mo.gov/living/healthcondiseases/tbi/whatcanyoudo.php. The results of the needs assessment provided important information to the leaders and stakeholders in Missouri who came together to formulate the following state plan.
Priority Area One: Prevention

Goal One:
Reduce the number of Traumatic Brain Injuries.
- Increase public awareness surrounding the causes and prevention of TBI, including causes that have not received adequate attention.

Goal Two:
Provide best practice prevention education to key subgroups statewide.
- Increase education among professional and community groups who can assist with prevention strategies and public education.

Goal Three:
Support prevention policy (create new and/or strengthen existing policy).
- Promote traffic safety legislation.
- Promote recreational safety legislation.
- Promote strong violence prevention laws in areas such as domestic violence, anti-bullying, child abuse, and firearms.
Goal One:
Maintain and enhance a comprehensive array of services available to all.
- Increase revenues to the Brain Injury Fund.
- Maintain current services available through the Adult Brain Injury Program and eliminate the waiting list for these services.
- Create a waiver that enhances the array of available services without compromising existing services.
- Reinstate or add services to the Medicaid state plan, including physical therapy, occupational therapy, speech therapy, cognitive therapy, comprehensive day rehabilitation, neuropsychology services and other services related to brain injury.
- Explore funding streams for long-term supports for individuals injured over the age of twenty-two.

Goal Two:
Ensure access to services/resources for people with TBI through collaboration.
- Increase awareness of local, state and federal resources.
- Strengthen the capacity of systems and organizations that focus on housing, employment, transportation and education in order to better meet the needs of people with TBI.
Goal One:
Increase the capacity of professionals to serve those with TBI and their families.

- Improve education/awareness of First Responders regarding TBI. Education should focus on areas such as:
  - Recognition and immediacy of treatment.
  - Recognition of individuals who may be brain injury survivors.
- Improve education/awareness of physicians regarding TBI. Education should focus on areas such as:
  - Recognition and immediacy of treatment.
  - Communication with patient and family.
  - Knowledge of resources.
- Educate hospital and rehabilitation discharge planners about the needs of TBI survivors and families. Education should focus on areas such as:
  - Resources available and how to access them.
  - Providing information to individuals and families in easy to use and understandable formats.
  - The need for providing initial and follow up information.
  - Effective communication with the individual and family.
Goal Two:
Increase concussion awareness and build a multi-disciplinary, community-based system of support.
• Continue to build concussion awareness among school personnel, coaches, referees, parents, youth and the general public. Awareness activities should focus on:
  • Addressing school policies around suspected brain injury.
  • Improving accommodations for students with concussion.
  • Promoting awareness of the dangers of repeat injury.

Goal Three:
Increase Access to Peer and Family Support.
• Promote opportunities for self-advocacy training.
• Promote educational opportunities and resources for individuals and their families living with brain injury.
• Increase the availability of support group services especially in underserved areas of the state.
• Promote opportunities to strengthen the capacity of support group facilitators.
More information about traumatic brain injury can be found at:
http://health.mo.gov/living/healthcondiseases/tbi/index.php

For additional copies of this report visit:

Missouri Department of Health and Senior Services
PO Box 570, Jefferson City, MO 65102
http://www.health.mo.gov