

# Psychological Health & Traumatic Brain Injury (TBI) Historical Reference Dashboard

**DCOE History Program** 









#### **An Historical Timeline**

<u>U.S. Civil War</u>

WWI

WWII

Korean War

Vietnam War

Gulf War

<u>Operations Iraqi</u> <u>Freedom &</u> Induring Freedon

Carver Hospital, in Washington, D.C., was used to treat the sick and wounded during the Civil War. National Archives and Records Administration photo



### U.S. Civil War

Conditions during the American Civil War, in both the Confederate and Union Armies, are particularly trying for the average soldier. Infection and disease alone claim the lives of over 400,000 men. Harsh living conditions and the undeveloped state of battlefield medicine exact a heavy physical and mental toll. Fatality rates from penetrating head wounds are 70 percent.

On June 18, 1861, President Abraham Lincoln signs a bill establishing the U.S. Sanitary Commission. The women volunteers who made up the Commission raised money for the Union Army, worked as nurses, made clothes and food, and performed a number of related functions to improve the lives of soldiers.

1861-1864

Medical discharges for mental reasons are exceedingly rare throughout the war. The total discharge rate for the Union Army is a little more than 6 per thousand per annum. The <u>Manual of Instruction for Enlisting and Discharging Soldiers</u> is issued to all Union army medical officers. Among the disorders attributed to psychological illness and exhaustion during the war are "insanity," "irritable or trotting heart," "nostalgia and homesickness," and "sunstroke." Most soldiers suffering from mental anguish never reach a hospital or receive treatment. The U.S. Army creates an "Invalid Corps" as an alternative to discharge.



An 1862 photograph of a Union Army Ambulance crew demonstrating collection of the wounded. Library of Congress photo



There are over 300,000 deserters from the Union Army alone. Many men dealt with as disciplinary problems exhibit symptoms of mental stress and injury.

Dr. Silas Weir Mitchell, a Philadelphia based neurologist and novelist, co-authors the book *Gunshot Wounds and Other Injuries of Nerves*, an influential early text on nerve injuries. Eight years later Mitchell publishes a more comprehensive study entitled *Injuries of Nerves and Their Consequences*. Many of Mitchell's conclusions are drawn from his observations as an Army surgeon during the Civil War. Considered together, his two works represent some of the most important early writings on the subject of neurology published in the United States. Mitchell is often referred to as the "Father of Neurology."



Dr. Silas Weir Mitchell. National Library of Medicine photo

1867

The British surgeon and teacher John Erichsen publishes the first known medical examination of mental trauma with his description of "railway spine" in *On Railway and Other Injuries of the Nervous System*. Erichsen identifies a variety of symptoms in several cases of railway accident victims. The possible symptoms include loss of memory, mental capacity, and energy level, as well as an increased sensitivity to sounds, a dramatic change in personality, difficulty performing routine tasks, and even death. Erichsen notes that, for some patients, symptoms appear only after many weeks or months. He speculates that spinal lesions contributed to the condition of his patients. With the exception of postmortem examination, Erichsen can neither locate nor explain how such invisible physical injuries translate into specific symptoms.

1869

Dramatic post-war reductions in the size of the U.S. military and cuts in the military budget reduce the numbers of medical officers. In 1869, Congress passes legislation freezing promotions and appointments for medical officers. At the time, there are 161 medical officers to care for a total of a little over 32,000 troops. Civilian contract physicians are used to fill the gaps in coverage.

1871

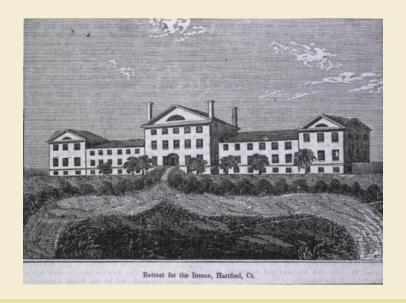
Philadelphia-based surgeon and teacher Jacob Mendez Da Costa publishes the first study of Civil War era soldiers who experienced unexplained mental and physical symptoms, including shortness of breath, chest pain, fatigue, and a severe form of "homesickness." Da Costa labeled the disorder "irritable heart," but it would also become known as "Da Costa's Syndrome," "soldier's heart," the "effect syndrome," and "neurocirculatory asthenia." Da Costa attributes his patients suffering to a variety of factors related to the difficult living conditions experienced by soldiers, including infectious disease (48 percent) and strenuous activity (35 percent). He reports treating his patients with a combination of drugs, including opium, cannabis indica, and strychnine. However, mostly, he prescribed rest and reports that many of his patients, almost 40 percent, did eventually return to active duty.



Dr. Jacob Mendez Da Costa. National Library of Medicine photo

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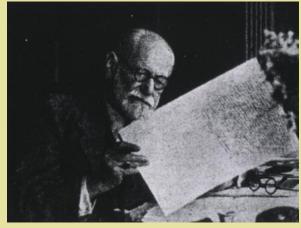
The U.S. Bureau of the Census cites the use of seven categories of mental illness by mental hospitals in the United States, including mania, melancholia, monomania, paresis, dementia, dipsomania and epilepsy.



Left: After the war, some soldiers who developed chronic neurological and stress symptoms as a result of their military service received Civil War pensions. The most severe cases were cared for by family members or sought treatment at state facilities such as the one pictured to the left. Retreat for the Insane, Hartford, Conn., 1869-1880. National Library of Medicine photo

1895

Sigmund Freud and his colleague Josef Breuer publish *Studien über Hysterie* (*Studies on Hysteria*), in which they theorize the cause of symptoms arising in patients suffering from "hysteria." Freud attributes hysterical symptoms to a repression of often painful memories or experiences from a patient's past. The resulting anxiety produced by pushing unpleasant thoughts into the subconscious could, according to Freud, lead to a variety of physical symptoms. An English version of the manuscript follows fourteen years later in 1909.



Dr. Sigmund Freud. National Library of Medicine photo



#### **An Historical Timeline**

U.S. troops on the move in France. National Archives and Records Administration photo



### World War I

### 1915-1916

British Army officer and specialist in psychological medicine Captain C.S. Meyers publishes an article in the medical journal Lancet, identifying "shell shock" as a medical condition for the first time. Meyers 's observations lead to a flood of articles published in journals in the United States and Great Britain documenting the symptomatology of "shell shock."

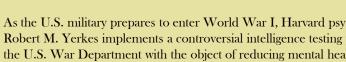
"Shell Shock" is initially believed to be the result of damages inflicted on the nervous system from exposure to concussive blasts. By 1916, members of the British medical officers corps increasingly question this explanation, as many soldiers with "shell shock" symptoms never entered combat. C.S. Meyers and others begin to favor a psychogenic explanation.

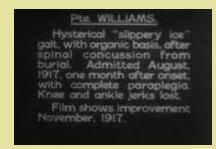


A patient undergoes electroshock therapy for psychoneuroses. National Museum of Health and Medicine photo

Neurologist Arthur Hurst, of the British Royal Army Medical Corps, records rare footage of British soldiers suffering from "shell shock," including their progression to a cure. The film, entitled War Neuroses: Netley Hospital, 1917, was followed by the publication of an article by Hurst and a colleague in the journal Lancet one year later.

As the U.S. military prepares to enter World War I, Harvard psychologist Robert M. Yerkes implements a controversial intelligence testing program for the U.S. War Department with the object of reducing mental health casualties.





War Neuroses: Netley Hospital, 1917. Click the above image to link to the film.

1917

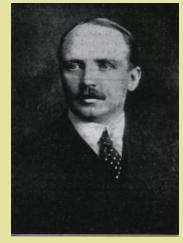


### 1917-1918

Dr. Thomas W. Salmon (Colonel, Medical Officers' Corps) surveys the British experience treating mental disorders among injured soldiers. At the time of his mission he is also Medical Director of the National Committee for Mental Hygiene (NCMH), which advocated for the reform of the mental health system in the United States. Salmon's report is published as a monograph and an article in the journal Mental Hygiene. His observations serve as the basis for the U.S. military's Advanced Neurological and Base Hospitals in Europe, the establishment of which Salmon supervises as a senior consultant in neuropsychiatry for the American Expeditionary Forces.

As Salmon submits his report, the U.S. Army establishes a Division of Neurology and Psychiatry in the Office of the Surgeon General. The division is supervised by Col. Pearce Bailey. However, at the end of the war the division is dissolved. No psychiatrist will again serve in the Surgeon General's Office until 1940.

On Nov. 11, 1918 an armistice is signed bringing an end to the First World War.



Dr. Thomas Salmon.
National Library of
Medicine photo

By 1919, "mental and nervous cases" constitute 38 percent of the total number of hospitalized U.S. military World War I veterans. One hospital, located in Cape May, N.J. is dedicated to treating veterans with head injuries. Critics complain that not enough is being done to care for these men and some call for the establishment of a national rehabilitation institute for veterans with nervous system injuries. Three years later, in 1921, Congress creates the U.S. Veterans Bureau to oversee the medical care provided to all veterans.

The first director of the bureau, Charles R. Forbes, is a personal friend of then President Warren G. Harding. In 1923, Forbes is convicted of defrauding the government in a scheme involving hospital contracts. Forbes is imprisoned and fined.

After the scandal, critics complain that the benefits provided to veterans via the Veterans Bureau are too generous, as suggested in this William A. Rogers political cartoon (right) first published in the New York Herald in 1924. Later estimates put the cost of caring for veterans with psychiatric problems between the two world wars at nearly \$1 billion or approximately \$30,000 per patient.

### 1921





The New York Herald lampoon's the system of veterans health benefits.

Library of Congress photo

The British War Office's Committee of Enquiry into Shell-Shock completes its report faulting inadequate training of civilian volunteers and draftees as the primary cause of combat breakdown during World War I. The Committee also determines that medical labels such as "shell shock" encouraged malingering. The term "shell shock" is banned from official use in the British medical corps and armed forces.



Report of the British War Office's Committee of Enquiry into Shell-Shock. Naval & Military Press photo



British Prisoners at the Battle of the Somme, 1916. Photo by Ullstein Bild, courtesy of the Granger Collection, New York



#### **An Historical Timeline**

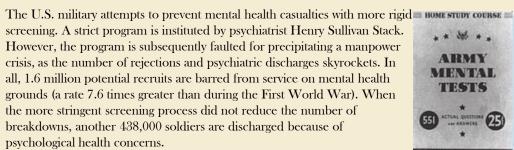
Injured American troops at Omaha Beach await evacuation. National Archives and Records Archive photo

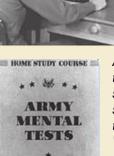


### World War II

American psychiatrist Abram Kardiner publishes The Traumatic Neuroses of War and suggests the term "physioneurosis" to describe a disorder to which he attributed both organic and psychogenic causes. Kardiner's observations were based upon his observation and treatment of over 1,000 U.S. World War I veterans as a doctor at a New York Veterans Bureau hospital. Kardiner's book and his emphasis on the environmental factors contributing to neuroses would come too late to influence U.S. policy in World War II, but would become highly influential after the war.

1940





Above: Potential air crew trainees complete one of several psychiatric screening tests used by the U.S. military during World War II.

Left: A booklet sold to help recruits prepare for the Army General Classification Test.

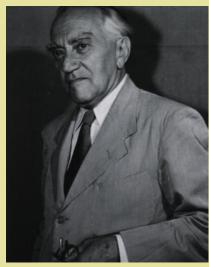


The well known German neurologist and psychiatrist Dr. Kurt Goldstein publishes the first major English language version of his work on traumatic brain injuries sustained in war. As the director of the Institute for Research into the Effects of Brain Lesions and of the Frankfurt Neurological Institute, Goldstein worked with colleagues to pioneer new treatment and rehabilitation methods for brain injury patients from the First World War. Most of these patients were German soldiers who suffered gunshot wounds and other penetrating wounds to the head. Goldstein developed a reputation as one of the foremost experts in the field of traumatic brain injury and rehabilitation. From the Frankfurt Neurological Institute, Goldstein took a position as the director of clinical neurology at Berlin Moabit Hospital, where he proceeded to build a program based upon the "holistic" approach to neurological medicine for which he was well known.

Goldstein's status as a prominent physician combined with the growing fame of his rehabilitation program at Berlin Moabit soon became a target of German antisemitism. When the Nazi's seized power in 1933, he refused to abandon his patients, despite the evident personal risk involved, and was subsequently imprisoned and tortured. Friends eventually secured his release, but only after he pledged to leave Germany forever. Goldstein fled first to Switzerland and then Holland, where he published his best known work on "holistic" neurology, titled *The Organism (Der Aufbau des Organismus*) in 1934. Goldstein's book emphasized that helping patients with brain injuries develop new adaptations was the key to successful recovery, a view that shared much in common with Abram Kardiner's approach to psychological health as expressed in *The Traumatic Neuroses of War*, published in 1940.

The following year Goldstein made his way to the United States, where he would spend the rest of his career. In 1942, an English language collection of his research from the last two decades was published as *Aftereffects of Brain Injuries In War: Their Evaluation and Treatment.* The book contained Goldstein's observation of some two thousand patients, a group of whom he had chanced to observe and treat continually for almost two decades.

Goldstein later wrote of his work between the First and Second World Wars that, "[m]y idea was to build an institution which offered the opportunity to observe the patients' everyday behavior [sic] and to study them in all respects." With this goal in mind, he "organized [...] a hospital which consisted of a ward for medical and orthopedic [sic] treatment, a physiological and psychological laboratory for special examination of the patients and theoretical interpretation of the observed phenomena, a school for retraining on the basis of the results of this research, and finally workshops in which the patient's aptitude for special occupations was tested and [the patient] was taught an occupation suited to his ability."



The German born neuropsychologist Dr. Kurt Goldstein. National Library of Medicine photo





The December 7<sup>th</sup> attack at Pearl Harbor and the U.S. declaration of war that follows adds a new sense of urgency to military recruitment and enlistment efforts. The change in focus leads eventually to the dismissal of Dr. Harry Sullivan Stack as the psychiatric consultant in charge of the military's mental screening programs for new recruits. However, changes in screening and evaluation practices are slow to take effect.



The USS Shaw exploding during the December 7<sup>th</sup> attack on Pearl Harbor. National Archives and Records Administration photo

### 1943

The possibility of a significant manpower shortage in the U.S. Army deepens as psychiatric discharges exceed the total number of new enlistees for the year, even as the demand for more recruits intensifies.

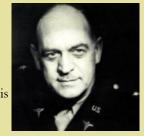
In November, newspapers in the United States report on an incident in which U.S. Army General George Patton slapped a "shell shocked" soldier, leading to an investigation by military authorities. Some historians point out that Patton's actions may have been precipitated by his frustration with the ongoing manpower shortage, which many within the military traced back to the large numbers of neuropsychiatric discharges.

General George Marshall issues a memorandum in Dec. 1943 criticizing the performance of military psychiatrists and blaming them for causing a manpower shortage. Marshall's critique of military psychiatry leads to a change in policy and to the deployment of trained psychiatrists to the frontlines of the war in Europe and the Pacific.

The U.S. Army Office of the Surgeon General reestablishes a separate neuropsychiatry branch under the supervision of Dr. Will Menniger. The neuropsychiatry branch is subsequently renamed the neuropsychiatry consultants division. Menniger would serve as the head of the consultants division until June 1946 and would be instrumental in pushing for federal legislation supporting improved mental health care in the United States. His advocacy helped lead to the passage of the National Mental Health Act in 1946.



General George Patton pictured in the first row, second from the left. Library of Congress photo



Left: Brig. Gen. Will Menniger, director of the neuropsychiatry consultants Division within the Office of the Surgeon General, 1943 to 30 June 1946. Army Medical Department photo



R.R. Grinker and J.P. Spiegel publish their account of treating U.S. infantry soldiers for psychiatric conditions during the Tunisia campaign (1943) in *War Neuroses*. Grinker and Spiegel quickly follow up their account with a more extended study of combat flyers in *Men Under Stress*. Together, the two studies represent the first attempt to systematically evaluate the sources and effect of combat stress in the U.S. military. Grinker and Spiegel cite the benefits of a free and permissive climate for the expression of anxiety in combat training and operations. Their work also pioneers a new chemical abreaction method, utilizing the drug Pentothal, which they label "nacrosynthesis." Although highly influential, many military medical personnel remain skeptical of so-called "truth drugs," such as Pentothal and sodium amytal, and continue to explore more traditional methods such as hypnosis.

On May 7 Germany signs an unconditional surrender bringing an end to war in Europe.

On Sept. 2 Japan signs formal documents of surrender aboard the *USS Missouri*.



A soldier undergoing pentothal treatment during World War II. Army Medical Department photo

### 1946

The U.S. National Mental Health Act (NMHA) is passed by Congress and signed into law by President Harry S. Truman on July 3, providing federal funding for mental health research and training for the first time in history. The NMHA helped usher in a new era of community based care and would lead in 1949 to the creation of the National Institute for Mental Health.

1947



S.L.A. Marshall publishes a landmark study of U.S. combat troops in World War II entitled *Men Against Fire*, in which he articulates his "ratio of fire" thesis. Employed as a historian by the Army historical division during the war, Marshall famously claims that the majority of American troops in combat situations during World War II never fired their weapons. Marshall's conclusions were controversial in 1947. Since that time, some scholars have cast doubt on his methods, particularly his assertion to have obtained evidence for his conclusions from interviews with over 400 different infantry companies in the European and Pacific theaters of operations. Nevertheless, Marshall's work and his focus on life "in the trenches" marked a dramatic change in thinking about combat motivation and breakdown, from a view that soldiers could be separated into groups of weak and strong (based largely upon hereditary factors) to one in which "every man has his breaking point." By the time of his death in 1977, Marshall had written and contributed to dozens of books on U.S. military history.



The prolific military historian, Brigadier General S.L.A. Marshall. Archives at St. Bonaventure University photo

The War Department and the U.S. Army made a series of films in the 1940s about combat stress. Hollywood director John Huston's "Let There Be Light" was among those produced. Unlike many of the training films from the same period, Huston's documentary depicts the treatment of actual U.S. soldiers at Mason General Hospital on Long Island, NY. None of the individuals appearing in the film are actors. The treatments utilized by psychiatrists in the film include hypnosis as well as sodium pentothal.

1947



Still images from the 1947 film. Click the images above to watch the 60 minute documentary.





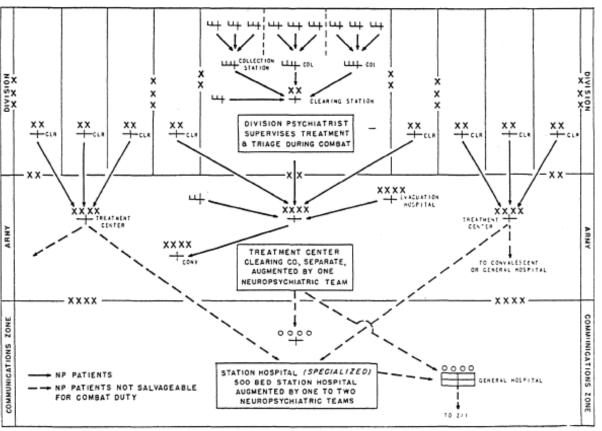


Figure 1. Schema of treatment and evacuation of neuropsychiatric patients in a theater of operations.

(During World War II there were no "psychiatric teams"; psychiatrists were attached to special installations on temporary duty.)



From the bulletin "Combat Psychiatry," published by the U.S. Army Medical Department (1949). Click the image above to link to the bulletin on the U.S. Army Medical Department Office of Medical History website.

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<u>U.S. Civil War</u>

World War I

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Freedom &

Enduring Freedom

USS Missouri in October 1950. National Archives and Records Administration photo



# Korean War

On June 25, 1950 North Korean communist military forces cross the 38<sup>th</sup> parallel that had divided the Korean peninsula since the end of World War II. The North Korean invasion marks the beginning of the Korean War. At the time, the U.S. Far East Command had a total of nine neurologists and psychiatrists on staff to manage all American casualties in Korea. During the first months of heavy fighting, the rate of psychiatric casualties sky rockets to 250 per thousand per annum and coincides with a total battle casualty rate of 450 per thousand per annum.

1950

During the first six months of the conflict, establishment of forward psychiatry units at the divisional level faces many obstacles, including a lack of planning and resources. As a result, most psychiatric casualties are evacuated to Japan.

In October 1950, Col. Albert J. Glass arrives in Korea to act as the Chief Neuropsychiatric Consultant for the Far East Command. A veteran of the military's neuropsychiatric team during World War II, Glass had served as chief psychiatrist to the 85<sup>th</sup> Infantry Division. He immediately begins to implement a forward psychiatry treatment and care regime modeled after the plan developed during World War II, using the Army Medical Department publication "Combat Psychiatry" as the foundation of the program.



U.S. Navy Hospital ship the USS Consolation off the coast of Korea, 1951. U.S. Navy Historical Center photo, courtesy of Mrs. Joel T. Boone



By the fall of 1951, the war has resulted in a stalemate and U.S. battle casualty rates have begun to abate. For the next two years, Col. Glass's program of forward psychiatry achieves a return to duty rate of between 65 and 80 percent among psychiatric casualties.



The 3rd Platoon, Company A, 1st Battalion, 5th Marines during the Invasion of Ichon, September 1950. Naval Historical Center photo

1952

In 1952, the American Psychiatric Association (APA) publishes the first edition of *The Diagnostic and Statistical Manual of Mental Disorders* also known as *DSM-I*. Many of the terms included in the manual are based upon the diagnostic labels utilized by the U.S. military during World War II. This first edition of the manual referenced "gross stress reaction" to describe a temporary condition believed to afflict otherwise healthy soldiers in combat.

An armistice is signed July 27, 1953, effectively bringing an end to the Korean War and instituting a lasting, but tenuous peace on the Korean peninsula. The success of Glass's forward psychiatry program during the war assured that military psychiatry would become a distinctive and permanent branch of military medicine in the U.S. Army.

1953



Left: General W. K. Harrison, Jr. signs the armistice ending the three-year Korean conflict. General Harrison, left table, and North Korean General Nam II, right table, sign documents, July 23, 1953. National Archives and Records Administration photo

Right: 38<sup>th</sup> parallel dividing North and South Korea. Map provided by the Truman Presidential Library





#### **An Historical Timeline**

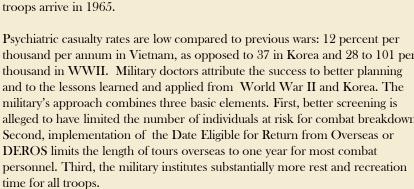
A Marine helicopter transports the wounded. Vietnam. 1966. National Library of Medicine photo by Ben Eiseman



# Vietnam War

1950-1967

Psychiatric casualty rates are low compared to previous wars: 12 percent per thousand per annum in Vietnam, as opposed to 37 in Korea and 28 to 101 per thousand in WWII. Military doctors attribute the success to better planning and to the lessons learned and applied from World War II and Korea. The military's approach combines three basic elements. First, better screening is alleged to have limited the number of individuals at risk for combat breakdown. Second, implementation of the Date Eligible for Return from Overseas or DEROS limits the length of tours overseas to one year for most combat personnel. Third, the military institutes substantially more rest and recreation



U.S. military advisors are on the ground in Vietnam by the mid-1950s, followed by an increased U.S. military presence in the early 1960s. The first U.S. combat



Private First Class Russell R. Widdifield in Vietnam, 1969. National Archives and Records Administration photo



The year of the Tet Offensive and the high point of U.S. escalation and participation. Over 500,000 U.S. troops are on the ground in Vietnam.

Public opinion turns increasingly against the war, as Vietnam veterans join growing ranks of protesters and critics of continued U.S. military involvement. The protest group Vietnam Veterans Against the War (VVAW) is formed.

Claims of success limiting psychiatric casualties are questioned as it is revealed that large numbers of soldiers with "character disorders" have been routinely discharged outside the military medical system and therefore were not included in the statistics for combat stress and related problems.

The term "gross stress reaction" is excised from the second edition of *The* Diagnostic and Statistical Manual of Mental Disorders (DSM II), published by the American Psychiatric Association. There is no longer any diagnosis included in the DSM for any specific combat-related mental disorders.

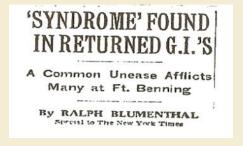


Marines from the 2d Battalion, 9th Marines carry a wounded comrade to a MEDEVAC helicopter. National Archives and Records Administration photo

1970

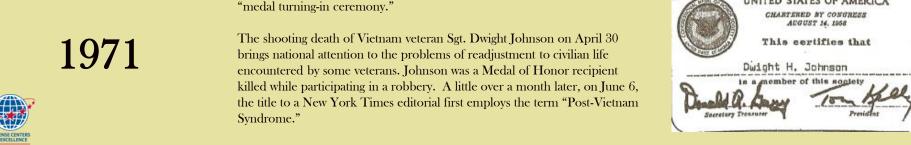
Army Chaplain Maj. David Hoh is credited with coining the phrase "Vietnam Syndrome" for the first time in an article by New York Times reporter Ralph Blumenthal.

The VVAW organizes a Washington, D.C. demonstration in the form of a



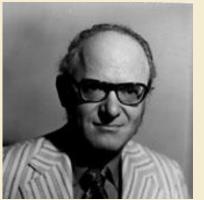
CONGRESSIONAL MEDAL OF HONOR SOCIETY

UNITED STATES OF AMERICA





New York University psychiatrist Chaim Shatan publishes an article in the New York Times describing a new condition prevalent among returning Vietnam veterans. He labels the illness "Post-Vietnam Syndrome." Dr. Shatan along with his colleague Robert Lifton, a Korean war veteran and former army psychiatrist, worked with the VVAW to organize psychiatrists and veterans into "rap groups" that discussed the problems Vietnam veterans were having readjusting to civilian life.



Dr. Chaim Shatan

1973

U.S. military involvement in the Vietnam War ends. Two years later, in April 1975, the Vietnam War ends with the capture of the South Vietnamese capital of Saigon by North Vietnamese forces.

1974

New York City radio station WBAI stages 24 continuous hours of programming about Vietnam veterans. Vietnam vets camp out in the station lobby and the broadcast draws callers from throughout the New England area.

The National Institutes of Health (NIH) begin Phase I of a Vietnam Head Injury Study examining the progress of 700 Vietnam veterans recovering from penetrating head trauma.

1976

Psychiatrist Mardi J. Horowitz publishes his book *Stress Response Syndromes* which linked "war neuroses" to the stress responses of civilians exposed to trauma.

1977-1978



With the issuance of Executive Order No. 11973, on Feb. 17, 1977, President Jimmy Carter creates the Commission on Mental Health to examine the mental health needs in the United States. Rosalyn Carter is named Honorary Chairman. The commission submits its final report, a four volume collection of findings and recommendations, a year later. Among those findings, the Commission concludes that resources and support for Vietnam veterans is inadequate and failing to meet current levels of need.

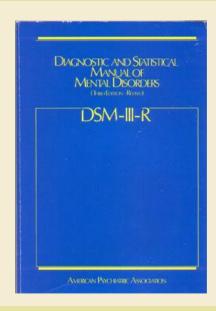


Congress passes legislation authorizing the creation of a general program of community-based Vet Centers to assist returning veterans with the transition back to civilian life. Dubbed Operation Outreach, the program is conducted via the VA Readjustment Counseling Service.



1980-1989

The American Psychiatric Association recognizes Post Traumatic Stress Disorder (PTSD) for the first time in its updated nosology, DSM-III. Formal recognition by the APA leads to the creation of an official classification for PTSD symptoms. It also codifies a wider move within the field of psychiatry toward increasingly standardized, experimentally-based treatment.





The National Vietnam Veterans Readjustment Study (NVVRS) is initiated with a congressional mandate. The NVVRS is the most comprehensive study of the psychological and postwar adjustment problems confronted by Vietnam veterans. While the NVVRS found that the majority of Vietnam veterans successfully adjusted to life after the war, researchers also found that a substantial minority (15.2 percent of men and 8.5 percent of women) experience psychological and life-adjustment problems. In all, the NVVRS concludes that at the time of the study roughly 830,000 veterans (26 percent) experienced PTSD symptoms. Subsequent studies and analysis of the NVVRS data have suggested that the rates of chronic PTSD were even higher.



Left: Vietnam Veterans Memorial, Washington, D.C. Corbis photo by Stege Raymer

1985

The International Society for Traumatic Stress is formed.

1987

The Center for the Study of Traumatic Stress (CSTS) is created within the Department of Defense to address concerns about the long-term effects of traumatic stress. The Center's research and publications focus "on the psychological, social and behavioral manifestations of exposure to traumatic events," particularly for military Service members.



1988

The inaugural volume of the Journal of Traumatic Stress is published.



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U.S. Civil War

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<mark>Vietnam War</mark>

Gulf War

Freedom &
Enduring Freedom

Right: M3 Bradley fighting vehicle. Saudi Arabia, Dec. 1990. XVIII Airborne Corps photo by Sgt. Randall M. Yackiel



# Gulf War

On Aug. 2, 1990 the Iraqi national army invades the country of Kuwait marking the beginning of the Persian Gulf War.

On Jan. 17, 1991 the U.S. military's Operation Desert Storm and the First Gulf War begin.

On Feb. 27, 1991 President George Bush declares an end to the First Gulf War.

1990-1991



General Norman Schwarzkopf with coalition forces. Defense Intelligence Agency photo



UH-60A Blackhawk air ambulance. Saudi Arabia, February 1991. XVIII Airborne Corps History Office photograph by SGT Randall M. Yackiel



Soldiers who served in the Gulf War begin to report unusual, unexplained symptoms including chronic fatigue, memory loss, joint and muscle pain, rashes, and rapid hair loss.

An initial survey of 10,600 veterans conducted by the Department of Veteran Affairs finds that Gulf War veterans have a higher incidence of PTSD and alcohol dependence than peers who did not serve in the Persian Gulf region.

The Defense and Veterans Head Injury Program (DVHIP) is established by Congress to respond to the need for standardized traumatic brain injury treatment and rehabilitative services among military service members and veterans. Later renamed the Defense and Veterans Brain Injury Center (DVBIC), the DVHIP is designed as a collaborative effort between the Department of Defense and the Department of Veterans Affairs.



1996

Congress passes the Traumatic Brain Injury Act of 1996 "to amend the Public Health Service Act to provide for the conduct of expanded studies and the establishment of innovative programs with respect to traumatic brain injury."

1997

Princeton Professor and influential literary critic Elaine Showalter publishes an article, "First Casualty of the Gulf War," followed by her book *Hystories*. Both the article and the book allege that Gulf War Syndrome (GWS) is a "hysterical epidemic." Showalter's psychological interpretation of GWS and Chronic Fatigue Syndrome proved highly controversial, as many patients and doctors continued to seek an organic cause(s).



Openlibrary.org photo

laine Showalte



Left: The House Government Reform Subcommittee hears testimony regarding the implementation of the Persian Gulf War Veterans Act of 1998. Click the image to view the hearing on the C-SPAN website.

1998

Congress passes the Persian Gulf War Veterans Act and the Veterans Programs Enhancement Act requiring a review of medical science regarding the health impact of exposure to toxic substances in the Gulf War. The review is conducted by the National Academy of Sciences via the Institute of Medicine (IOM) and published in multiple volumes, including two focused specifically on psychological health and traumatic brain injury. The IOM forms the Committee on Health Effects Associated with Exposures During the Gulf War to manage and carry out the review.

NIH convenes the Consensus Development Conference on Rehabilitation of Persons with Traumatic Brain Injury, resulting in a Consensus Statement on TBI Rehabilitation. Among the conclusions reached by a 16 member panel of specialist examining the available data is recognition of the increasing numbers of TBI cases across the country. The increase is largely attributed to better emergency care. The panel also notes that there is a need for more studies and research to evaluate rehabilitation therapy.



1999

The National Centers for Injury Prevention and Control, a division of the Center for Disease Control, issues its first report to Congress on mild traumatic brain injury or mTBI in the U.S.

#### **An Historical Timeline**

U.S. Civil War

<u>World War I</u>

World War I

Korean War

<u>Vietnam War</u>

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Right: 1st Lt. Casmaer from 4/64 Armor Medical Detachment assigned to provide humanitarian assistance Habbaniyah, Iraq, July 8, 2003. Army photo by Spc. Robert Liddy



# Operations Iraqi Freedom & Enduring Freedom

2001

On Sept. 11 individuals affiliated with the Al Qaeda terrorist network successfully carry out coordinated attacks on the United States. The official death toll resulting from the attacks is 2,976.

The U.S. military launches Operation Enduring Freedom in Afghanistan.

The Department of Defense initiates the Millennium Cohort Study to research the long-term health consequences of deployment on U.S. military service members. It is the largest military health study ever conducted in the United States.

The number of new diagnosed cases of PTSD among deployed and non-deployed Service members is 1,703. The incident diagnoses of TBI is 11,830 for the year.



The New York City skyline filled with smoke from the attack on the World Trade Center, Sept. 11, 2001. Library of Congress photo

The U.S. military launches Operation Iraqi Freedom with the invasion of Iraq.

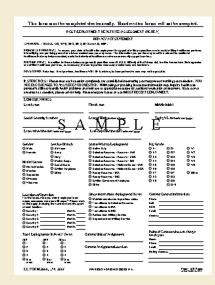
2003

The number of new diagnosed cases of PTSD among deployed and non-deployed Service members is 2,693. The incident diagnoses of TBI is 12,886 for the year.

The National Centers for Injury Prevention and Control, a division of the Center for Disease Control, issues a second report to Congress on mTBI in the U.S.

The Assistant Secretary of Defense (Health Affairs) mandates the Post-Deployment Health Reassessment (PDHRA) requiring a second mental health assessment three to six months after return from deployment. The PDHRA uses DD Form 2900 to track health concerns, assessments, and referrals for all active duty service members, National Guard and Reserve members. The DD Form 2900 has since been updated to better screen for a variety of mental health conditions as well as TBI.

The number of new diagnosed cases of PTSD among deployed and non-deployed Service members is 8,436. The incident diagnoses of TBI is 12,025 for the year.



DD Form 2900



2006

The <u>Center for Deployment Psychology (CDP)</u> is created with a mandate from Congress.

DoD Task Force on Mental Health created via Section 723 of the National Defense Authorization Act FY 2006.

DVBIC develops the Military Acute Concussion Evaluation (MACE), a screening tool allowing front line providers to quickly measure cognitive functions in four key areas: orientation, immediate memory, concentration, and memory recall. This information can be combined with other clinical data to make determinations about treatment and care.





# 2007 and Beyond . . .



For Psychological Health & Traumatic Brain Injury













#### **An Historical Timeline**

2007

U.S. Civil War World War I World War II Koreau War Vietnam War Gulf Wa

**Feb. 18-24:** The <u>Washington Post</u> publishes a series of articles on problems with the quality of care received by soldiers recovering at Walter Reed Army Medical Center (WRAMC). Secretary of Defense Robert Gates orders an immediate review.

**March 1:** U.S. Army Surgeon General Kevin Kiley fires Walter Reed chief, Maj. Gen. George Weightman.

**March 5:** A series of public inquiries delving into the situation at Walter Reed begins with the <u>House Oversight and Reform Subcommittee</u>.

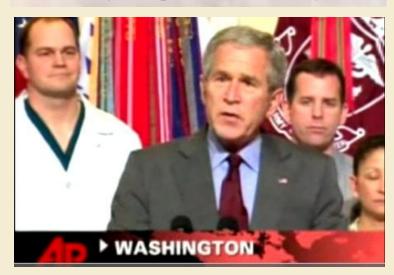
**March 6:** President George W. Bush forms the Commission on Care for America's Returning Wounded Warriors (Dole-Shalala Commission) and a Presidential Task Force on Returning Global War on Terror Heroes. Senate and House committees hold hearings about conditions at WRAMC.

**March 20:** <u>President George W. Bush</u> speaks at WRAMC, praising the medical staff but promising to fix bureaucratic problems that have diminished the quality of care for some soldiers.

**April 19:** The Presidential Task Force on Returning Global War on Terror Heroes releases its official, <u>final report</u>. The report includes 25 recommendations for changes in the system of care and health services throughout the military health system, especially the need for better collaboration between the Department of Defense and the Department of Veterans Affairs.

#### **February 18, 2007**

"Soldiers Face Neglect, Frustration at Army's Top Medical Facility"



President George W. Bush speaks at Walter Reed Army Medical Center on March 20,2007. Click the image above to listen to or read a copy of the speech on the Washington Post website.

#### **An Historical Timeline**

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Korean War

<u>Vietnam War</u>

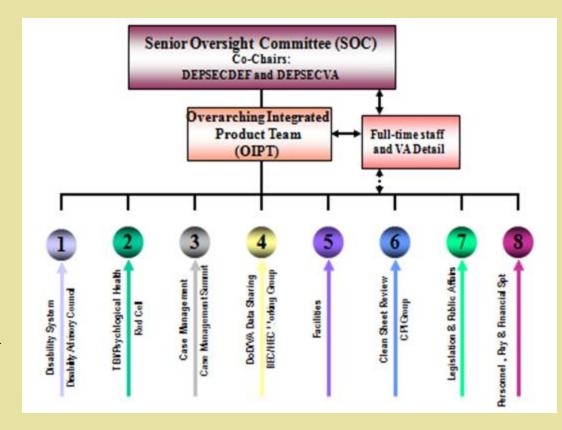
<u>Gulf War</u>

Freedom & Endu

2007

April: An Independent Review Group appointed by Defense Secretary Robert Gates issues its report on rehabilitative care and administrative processes at WRAMC entitled "Rebuilding the Trust." The report draws several conclusions about the circumstances that led to problems and makes recommendations about how to improve the quality of care.

May 2: Secretary of Defense Robert Gates testifies to Congress and rededicates the Department of Defense (DOD) to improving quality throughout the military health care system. The Wounded, Ill, and Injured Senior Oversight Committee (WII SOC) is formed by Secretary Gates and the Secretary of the Department of Veterans Affairs to take charge



of integration, implementation, coordination, and resourcing of various task force and commission recommendations. The WII SOC organizes activities into eight Lines of Action (LOAs), the second of which focuses specifically on psychological health and traumatic brain injury (TBI). The WII SOC is co-chaired by the Deputy Assistant Secretary of Defense for Force Health Protection & Readiness and by the Department of Veterans Affairs Deputy Assistant Secretary for Rehabilitative Services.

# Psychological Health and Traumatic Brain Injury in the U.S. Military: An Historical Timeline

### |2007|

**May:** The Army TBI Task Force issues its <u>final report</u> to the Surgeon General. The request for the report originated in January 2007 and was made by then Army Surgeon General Lt. General Kevin Kiley. On March 12, 2007, <u>Kiley resigned</u> from his position as Surgeon General and retired from the military amidst intensified scrutiny of his leadership as the former head of the Walter Reed Army Medical Center.

**June 8:** Co-Chairs of the psychological health-TBI LOA bring in subject matter experts to create the Health Affairs tiger team known as the "Red Cell." Its sphere encompasses five actionable areas—access to care, quality of care, resilience, surveillance, and transition and care coordination. The DoD Task Force on Mental Health (TFMH) issues its final report.

**June 21-22:** Psychological Health Summit convenes to review the 95 recommendations of the DOD TFMH and to generate a set of "action initiatives" for referral to the Red Cell. The TFMH issued recommendations in four main areas, including: building a culture of support for psychological health, providing a full continuum of care, resources, and empowering leadership.

**July 30:** The President's Commission on Care For America's Returning Wounded Warriors (also known as the Dole-Shalala Commission) releases its <u>report</u> entitled, "Serve, Support, Simplify."

**Sept. 14:** The Red Cell hosts an operational psychological health joint planning group to address the recommendation regarding embedding mental health providers in operational units from the Task Force on Mental Health.



July 2007 Final public meeting of the President's Commission on Care For America's Returning Wounded Warriors. Click the image to view video of the meeting on the C-SPAN website.

#### **An Historical Timeline**

2007

**Oct. 2-3:** A Neuropsychology and Neurocognitive Assessment Panel convenes to review as well as recommend changes and updates to the <u>Army Automated Neuropsychological Assessment Metric (ANAM)</u>.

**Oct. 19:** The Red Cell conducts a recruitment and retention conference for armed services and mental health providers.

**Oct. 22:** The Department of Defense and Department of Veterans Affairs form the Strategic Working Group on the Psychological Health of Women Service Members and Veterans.

**Nov. 30:** Deputy Assistant Secretary of Defense for Force Health Protection and Readiness (DASD FHP & R), Ms. Ellen Embrey, signs a memorandum establishing the Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury (DCoE).

**Dec. 3:** The Red Cell holds a meeting to examine how DCoE can affect resilience training.

**Dec. 6:** Brigadier General Loree K. Sutton is officially appointed as <u>Director</u> of DCoE.

The number of new diagnosed cases of PTSD among deployed and non-deployed Service members is 13,729. The incident diagnoses of TBI is 23,002 for the year.



DCoE's first Director, Brigadier General Loree Sutton

#### **An Historical Timeline**

### 2008

**January:** A revised version of <u>Post Deployment Health Reassessment</u> (<u>PDHRA</u>) is issued to include screening for possible TBIs using DD form 2900.

As the chair of the <u>Suicide Prevention and Risk Reduction Committee</u> (<u>SPARRC</u>) DCoE collaborates with the National Center for Telehealth and Technology and the Services to create the DoD Suicide Event Report (DoDSER). The DoDSER leads to the creation of a centralized, standardized DoD Suicide Database.

**Jan. 28:** Final passage of the NDAA (FY 2008) provides a congressional mandate for the creation of DCoE (Subtitle B, Section 1621-24). A DoD establishment memo had been issued seven days prior. Also included in the NDAA is a provision updating standards for TBI classification and diagnosis (Section 1664) to "ensure that traumatic brain injury victims receive a medical designation concomitant with their injury rather than a medical designation that assigns a generic classification, such as 'organic psychiatric disorder.'"

**February:** The Health Affairs Red Cell stands down, turning over its functions to other DoD stakeholders. DCoE assumes many of the supervisory responsibilities and integration functions formerly executed by the Red Cell team.

**April:** DCoE's collaboration with the Sesame Workshop creates "<u>Talk Listen, Connect</u>," a resource for military families.



DD Form 2900 Primer provided by the Deployment Health Clinical Center. Click the image above for additional information.



Click the image above for additional information about DCoE's collaboration with the Sesame Workshop.



Left: Click the image to link to the SPARRC website.

#### **An Historical Timeline**

### 2008

U.S. Civil War World War I World War II Korean War Vietnam War

"Many of the sweeping changes proposed in the recommendations from the various commissions will take months, and some, years to complete."

-From the Health Affairs Red Cell Transition Brief

**June:** An Acting Deputy Director (VA) for DCoE is named, Dr. Sonya Batten.

**June:** A groundbreaking ceremony is held to begin construction on a new facility to house the National Intrepid Center of Excellence (NICoE) in Bethesda, Md.

**July:** DCoE <u>www.dcoe.health.mil</u> goes live on the world wide web.

**August:** T2 launches <u>www.afterdeployment.org</u> to provide resources for service members, veterans and their families online.

The U.S. Army launches the first in-theater TBI consult service at <a href="mailto:tbi.consult@us.army.mil">tbi.consult@us.army.mil</a>.



afterdeployment.org provides wellness resources for the military community.

#### **An Historical Timeline**

U.S. Civil War

 $\operatorname{World}\operatorname{War}\mathbf{I}$ 

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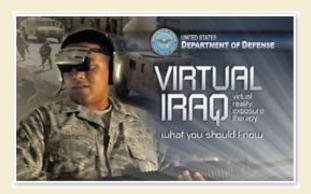
Vietnam War

Gulf War

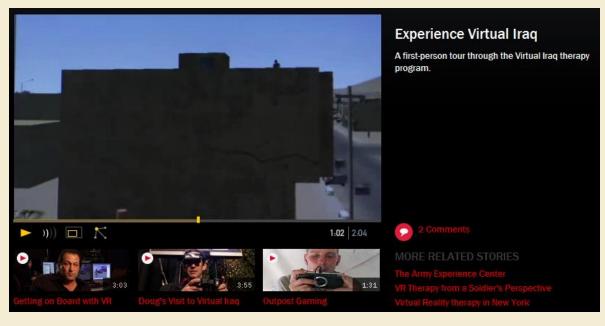
Freedom & Rodu

### 2008

**October:** T2 conducts the first clinical training workshop for DoD/VA providers on virtual reality exposure therapy (VRET) for PTSD.



Virtual Iraq is an exposure therapy simulation designed to treat veterans suffering from PTSD.



Click the image above to take a video tour of the Virtual Iraq program conducted by the PBS program Frontline.

#### **An Historical Timeline**

### 2008

U.S. Civil War World War I World War II Korean War Vietnam War

**November:** CSTS presents the first PTSD <u>biomarker studies</u>, indicating that increased levels of a protein and its associated gene, known as p11, could be tied to PTSD symptoms. Knowledge of this potential correlation could lead to more accurate diagnoses.

**December:** DHCC completes the roll out of <u>RESPECT-Mil</u> to expand screening and treatment options for PTSD. At the same time, DHCC initiates clinical trials of DISTRESS-PC, a web-based cognitive behavioral self-management tool.

The number of new diagnosed cases of PTSD among deployed and non-deployed Service members is 16,554. The incident diagnoses of TBI is 28,557 for the year.



RESPECT-Mil stands for Re-Engineering Systems of Primary Care Treatment in the Military and focuses on enhancing primary care for PTSD and depression in the military using the Three Component Model (3CM) of care. Please click the image above to access additional information and to enter the RESPECT.Mil website.

#### **An Historical Timeline**

2009

**January:** DCoE launches a <u>Outreach 24/7 Call Center</u> staffed by health resources professionals

**March 23-24:** Common Data Elements for Research in Psychological Health and TBI Workshop (co-sponsored by DCoE) is held in Silver Spring, MD.

**April:** DVBIC releases Clinical Practice Guidelines for mTBI in deployed settings. DCoE and DVBIC convene a Cognitive Rehabilitation Consensus Conference on 27-28 April 2009. The DoD and the VA release the "Management of Concussion/mild Traumatic Brain Injury Clinical Practice Guidelines."

**May 21:** DCoE launches the <u>Real Warriors Campaign</u> to alleviate stigma associated with seeking help for psychological health problems and traumatic brain injury.

**July:** The DCoE-Sesame Workshop collaboration yields the launch of the Family Connections website.





Left: The Real Warriors Campaign website contains downloadable program materials, video profiles and links to additional information. Click the images to the left to access the Real Warriors website.

#### **An Historical Timeline**

### 2009

**August:** DVBIC launches a new TBI website brainline.org and begins a remote care neuropsychological evaluation program.

**September:** The first <u>DoDSER</u> report is compiled.

**October:** DCoE releases Cognitive Rehabilitation After Mild TBI Clinical Practice Guidelines

Nov. 24: DCoE awards a contract to OxyHealth to conduct hyperbaric oxygen therapy research: "Hyperbaric Oxygen Applied Late after Mild to Moderate Traumatic Brain Injury: A Prospective Multi-center Double-blind Randomized Controlled Trial."

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For additional information and a brief presentation about the 2009 DoDSER Report please click the image above.

The number of new diagnosed cases of PTSD among deployed and non-deployed service members is 16,027. The incident diagnoses of TBI is 27,862 for the year.



The brainline.org website, funded by the Defense and Veterans Brain Injury Center, is a multimedia project providing TBI information and resources.

#### **An Historical Timeline**

### 2010

**June:** The new <u>NICoE</u> facility in Bethesda, Md. officially opens.

**June 21:** Col. Robert Saum is appointed director of DCoE. The Department of Defense releases Directive Type Memorandum (DTM) 09-033 to "ensure comprehensive evaluation of service members who were exposed to potential concussive events."

**June 25:** The Institute of Medicine's study *Gulf War and Health: Volume 8* concludes that Gulf War Syndrome "cannot be reliably ascribed to any know psychiatric disorder," and that it likely "results from an interplay of genetic and environmental factors."

**Aug. 30:** DCoE and DVBIC release the *Mild Traumatic Brain Injury Pocket Guide* for primary care and other TBI health care providers.

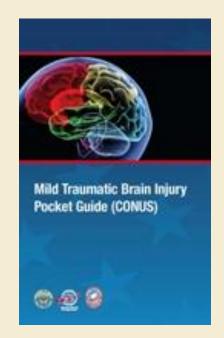




Above: The state of the art NICoE treatment and headquarters facility in Bethesda, Md.

Right: The mTBI pocket guide produced by DCoE and DVBIC. Click the image to access the pocket guide.

Left: The IMO's report on Gulf War Syndrome, Gulf War and Health: Volume 8. Click the image to access a copy of the report.



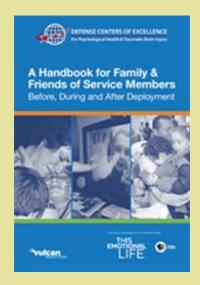
#### **An Historical Timeline**

2010

**Sept. 23:** Dr. Michael Kilpatrick is appointed interim director of DCoE.

**September:** In partnership with the VA, DCoE launches a 12-module series of webbased TBI case studies as an opportunity for health care professionals to gain additional understanding about the assessment and treatment of mild TBI. The modules are released monthly and available on the the Military Health System MHS Learn portal, as well as the VA Learning Management System.

**Dec. 31:** DCoE releases "A Handbook for Family and Friends of Service Members — Before, During and After Deployment" as an extension of the PBS documentary "This Emotional Life."



Right: 2<sup>nd</sup> Annual Suicide Prevention Conference. Click the image above to view a recording of the conference on the C-SPAN website.





Left: The MHS Learn portal. Click the image to link to the portal.

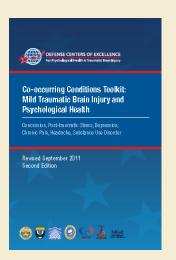
#### **An Historical Timeline**

2011

**Jan. 30:** Navy Capt. Paul Hammer begins his tenure as DCoE's fourth director. He was an original member of the Health Affairs Red Cell that preceded the creation of DCoE.

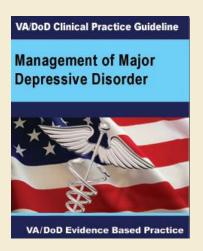
**February:** DCoE publishes the Co-occurring Conditions Toolkit. In collaboration with the Army Medical Command and VA, DCoE announces the Major Depressive Disorder Toolkit.

**March:** DCoE launches the psychological health and TBI network.



Left: DCoE's Co-occuring Conditions Toolkit. Click the image to access the toolkit.

Right: The Management of Major Depressive Disorder Clinical Practice Guideline was used to develop the MDD Toolkit. Access the toolkit at the Army Medical Command website or by clicking the image to the right.





Capt. Paul Hammer, director of the Defense Centers of Excellence for Psychological Health and TBI

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