USAMRMC
STRATEGIC COMMUNICATION PLAN

U.S. ARMY MEDICAL RESEARCH AND MATERIEL COMMAND

Combat Casualty Care Research Program (CCCRP)

Mission: The Combat Casualty Care Research Program's mission is to reduce the mortality and morbidity resulting from injuries on the battlefield through the development of new lifesaving strategies, new surgical techniques, biological and mechanical products, and the timely use of advanced physiological monitoring across the acute care continuum.

Background

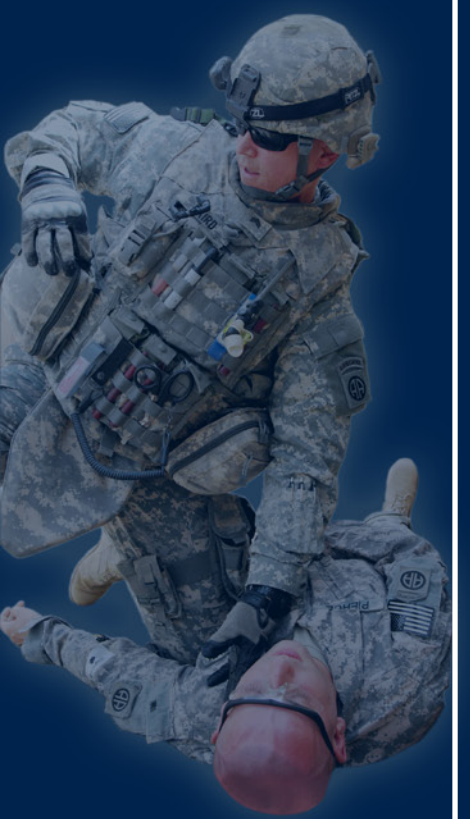
Soldiers face many threats in hostile fire arenas, whether conducting large-scale mechanized warfare, low-intensity conflicts, or stability operations. Although great strides have been made in Combat Casualty Care in the last century, much more can be done to save lives and reduce disabling medical conditions.

Military casualties often wait hours for definitive health care while initial treatment and subsequent evacuation occur in austere surroundings complicated by limited diagnostic tools, medical supplies, and life-support equipment. Acute and critical care in these conditions is labor intensive and frequently provided by nonmedical personnel. Combat deaths result from a myriad of causes and are complicated by a multitude of threats to the Warfighter. The CCCRP's primary challenge is to overcome these limitations.

The CCCRP is devoted to improving combat casualty care with the primary aim of reducing battlefield mortality through evidence-based research. The CCCRP addresses all aspects of casualty care from the moment that an injury occurs through evacuation, damage control resuscitation and surgery, aeromedical evacuation, and ultimately hospitalization. The CCCRP's aim is to increase the ease and efficiency of combat casualty care, as it is vitally important to ensure that the Warfighter survives any injuries sustained on the battlefield. The program looks at the landscape of the deployment zone and attempts to modify existing tactics and technologies. If they do not exist, the researchers work to develop new and innovative strategies and tools that will overcome the limitations of medicine and treatment on the battlefield.

Key Themes & Messages

- The CCCRP aims to further the development of products and devices that can improve treatment throughout the casualty care time line from injury to evacuation to hospitalization.
- The CCCRP accomplishes its mission by leveraging the nation's vast medical research program with a dynamic in-house research program and investment in key military specific research areas.
- The CCCRP's primary challenge is to overcome the medical limitations that Soldiers face on the battlefield. Treatment of casualties can be delayed by tactical considerations, long evacuation routes, limited supplies, and life support equipment. By developing technologies to overcome these limitations, the CCCRP hopes to ultimately reduce the number of combat deaths.



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Q & A

Q: Has the CCCRP's research led to any breakthroughs in lifesaving strategies, surgical techniques, or novel products/technologies?

A: Research performed by CCCRP scientists has played a role in the fielding of tourniquets and improved dressings to stop bleeding as well as changes in clinical practices used to resuscitate patients suffering from shock and those requiring massive blood transfusions (more than 10 units of blood).

Q: The CCCRP is striving to reduce the number of preventable deaths during combat. What strategies is it employing to decrease the numbers of those who die?

A: Research is under way to find ways to stop noncompressible hemorrhage (bleeding that can't be controlled by applying pressure to the wound). Devices resembling "C" clamps, pellets that can be injected into deep wounds, clotting factors; and injectable drugs are being studied. Additionally, monitors that can detect internal bleeding and predict the need for interventions are being developed.

Q: What private and public entities partner with the CCCRP?

A: We currently have relationships with the other services, the Defense Advanced Research Projects Agency; the National Heart, Lung, and Blood Institute; the National Institute of Neurological Disorders and Stroke; numerous colleges and universities; and several commercial enterprises, all working to find better ways to treat combat casualties.

Q: How are the NIH partnerships with the CCCRP structured?

A: Formal written agreements spell out the roles of each party in funding and conducting research on problems relevant to military casualty care.

Q: How does the CCCRP measure its effect?

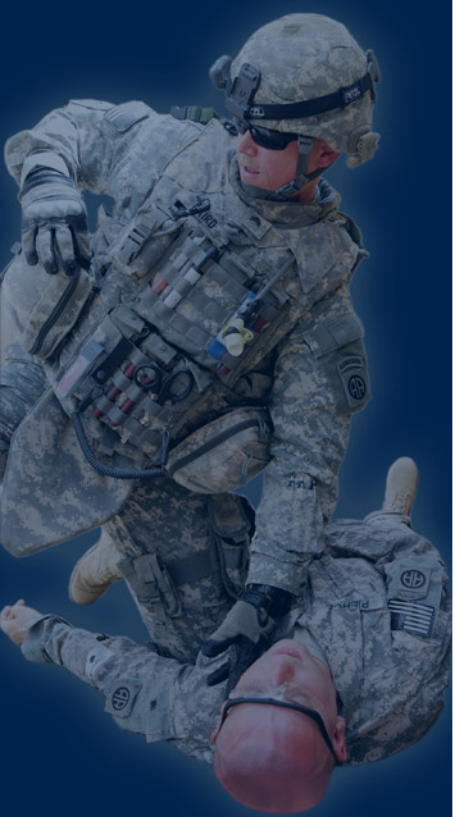
A: Where funding is available, follow-up studies with patients who were treated with new therapies are conducted. We receive continual feedback from providers on the effectiveness of new treatments. One indicator of the collective effectiveness of improved personal protection and medical care is the survival rate for those wounded in combat, now at historically high levels.

Q: How does the CCCRP work with medical researchers? How does the partnership operate?

A: The CCCRP and the associated Joint Program Committee depend on both civilian and military medical researchers to advance medical care. They are invited to participate in proposal review panels, strategic planning meetings, information exchange meetings such as the Advanced Technology Applications for Combat Casualty Care conference, and various steering committees and working groups within the program structure. Additionally, the CCCRP provides funding for extramural investigators to pursue solutions to militarily relevant problems.

Q: What is meant by the medical footprint? Why is it important to keep this as small as possible, and what is the CCCRP doing to ensure this?

A: Medical footprint refers to the size of the medical assets from a logistics point of view. The amount of space required for a mobile hospital, the combined weight of medical supplies be it tons for a hospital or ounces for a medic, and the volume of shipping cases being transported by air are examples of the medical footprint.



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Because every component of medical care must be delivered to the battlefield and subsequently be moved around it is essential that the weight and volume of every piece of equipment be minimized to the maximum extent possible. Miniaturization is a prime concern in the development of new devices and is a parameter continuously stressed with developers.

Q: What are the topics that the CCCRP is looking to address in the future?

A: There are several broad topics that are being addressed. Care for wounded Soldiers before they reach the hospital (pre-hospital) and as they are moved between hospitals (out of hospital) is becoming a major thrust for the program. We continue to seek ways to stop internal bleeding. Improved treatments to accelerate soft tissue wound healing is being emphasized. The diagnosis and treatment of traumatic brain injury (TBI) continue to receive emphasis. Smarter monitors that provide information to assist in making decisions on care rather than just numerical displays are becoming a reality.

Q: How can medical researchers/developers work with the CCCRP?

A: USAMRMC continually strives to advance medical products and technologies to support our Armed Forces by participating in collaborations with researchers, businesses, and other organizations through cooperative research and development agreements and extramural funding programs. For additional information on submitting research proposals or to submit a new product idea, visit http://www.usamraa.army.mil.

Q: Does the CCCRP provide any medical training to Army or civilian personnel?

A: Not directly. Information gleaned from research is made available to the Army Medical Department Center and School where training experts develop the curricula and lesson plans and conduct training of care providers.

Q: What is the CCCRP doing to diagnose and treat traumatic brain injury to the Warfighter?

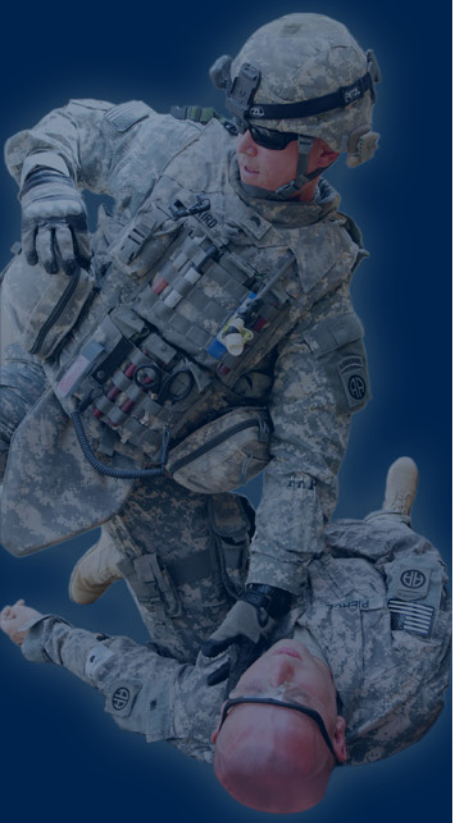
A: Major efforts in the development of assays of blood samples to detect proteins specific to brain injury called biomarkers are showing promise as a pathway toward a definitive diagnosis of TBI. A drug for the treatment of TBI is currently being studied in human clinical trials with favorable preliminary results.

Q: Do the CCCRP clinical trials include tests conducted on animals?

A: Clinical trials is a term that typically refers to studies in humans. All such studies are carefully performed under the scrutiny of the U.S. Food and Drug Administration (FDA). Prior to trials in humans, treatments, devices, etc. are tested on animals. All such animal research is conducted in accordance with procedures described in the *Guide for the Care and Use of Laboratory Animals*. The facilities are fully accredited by the American Association for Accreditation of Laboratory Animal Care International.

Q: How does the CCCRP field-test products?

A: Because the Army is not exempt from the regulatory requirements of the FDA, testing of products follows the FDA protocols for obtaining either an Investigational New Drug or Investigational Device Exemption classification from the FDA.



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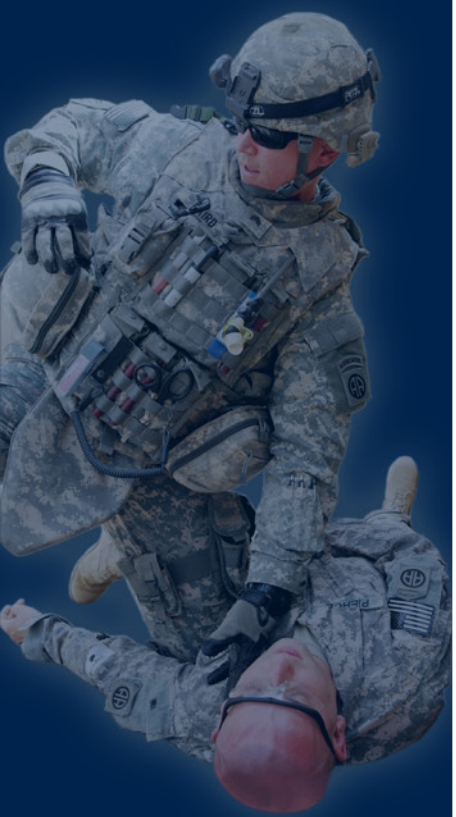
Q: How much money is spent annually on combat casualty care research? Where does this funding come from?

A: The Army budget for the CCCRP is approximately $35 million. The Defense Health Program contributes $60 million a year. Additionally, there have been significant amounts for casualty care included in several supplemental appropriations in the recent past.

Q: What are potential threats that a Soldier might face in the combat environment that the CCCRP hopes to address?

A: The greatest threat to Soldiers who are wounded continues to be shock from the loss of blood. We have made great strides in controlling external bleeding with bandages and tourniquets and are working on solutions for internal bleeding. In either case, blood is lost resulting in problems with oxygenation of tissue, lowering of blood pressure, and the ability to form clots. Bleeding remains the highest percentage of so-called preventable deaths among wounded Soldiers and as such is the focus of substantial efforts in terms of time and money spent within the program.



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