The Presidential Election and the Health Care Stakes: Where Do the Candidates Stand?

BY GINA SHAW

What will the 2012 Presidential election mean for health care in general, and for neurologists in particular? Neurology Today outlines the two candidates’ positions on various health care-related issues, and spoke with two experts about how this election might reshape the health policy landscape going forward.

The Affordable Care Act
If President Barack Obama is re-elected, this will obviously mean that all of the provisions of the Affordable Care Act (ACA), upheld by the US Supreme Court this past summer, will continue to be implemented. Some of these provisions are already in place, and others are scheduled to go into effect by 2014:

- An individual mandate to carry health insurance or face a tax penalty
- A requirement that insurers allow young people up to age 26 to remain on their parents’ health insurance
- A ban on lifetime caps for health insurance coverage
- A ban on denying coverage for pre-existing conditions, and on charging higher premiums based on things such as health status and gender

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Military Expands Brain Injury Blast Detector Pilot to More Troops

BY KURT SAMSON

A wristwatch-sized device that can measure the sudden pressure and acceleration changes caused by an explosive blast is being used with US soldiers in Afghanistan to help field medics identify soldiers who show no outward signs of brain damage but have been exposed to blasts.

Developed for the Defense Advanced Research Projects Agency (DARPA) by researchers at Rochester Institute of Technology (RIT) in New York, the Blast Gauge can help detect possible traumatic brain injury (TBI) in soldiers with no overt signs of damage.

DARPA first tested the Blast Gauge in a field trial among 900 active combat soldiers and almost 6,500 active duty personnel during its second phase. Encouraged by the results, the military is now expanding testing to between some 11,000 service members in Afghanistan.

TBIs are considered the “signature” wound among US soldiers in the Middle East, largely due to the increased use by insurgents. Milder TBI is often invisible but can cause a range of physical, cognitive, social, emotional, and...
**Blast Injury**
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**ARTICLE IN BRIEF**
The US soldiers in Afghanistan are wearing an experimental device that helps measure the form and extent of blast wave exposure and injury. The goal is to help field medics identify soldiers who show no outward signs of brain damage but have been exposed to blast waves.

**HOW THE GAUGE WORKS**

Blast gauges are attached at the neck, shoulder and the base of the skull. They measure the form of the blast wave, its duration, abrupt changes in air pressure, and head axis acceleration. In the event of an explosion, combatants or medics can depress a recessed button.

After performing an assessment, medical personnel can then detach the gauges and download information using a USB port to create a more detailed diagram of blast characteristics using an Excel spreadsheet. The data are then analyzed using a special built-in algorithm program that determines if the exposure was potentially dangerous, triggering a flashing red, yellow, or green light.

The green light means the level of exposure was not sufficient to have caused any head/brain trauma that might require medical attention. If the light is yellow or red, it signals the need for field triage. The specific data on blast wave characteristics can help neurologists better ascertain any possible harm to a combatant and signal the need for further monitoring or treatment.

‘The most important feature is that they allow for immediate triage for milder brain trauma, while at the same time providing data that can be used for scientific purposes, once larger data sets are available.’

**THE CHALLENGES OF RECOVERY FROM DEPLOYMENT-RELATED TBI**

Yelena Bogdanova, PhD, assistant professor of psychiatry, Boston University School of Medicine and the VA Boston Healthcare System, said available evidence suggests similar impairments in cognitive functioning and post-concussion symptoms associated with blast and non-blast traumatic brain injury.

The most common impairments are cognitive deficits in the domain of executive functioning (planning, goal setting, cognitive flexibility and behavioral control), complex attention, and learning and memory, she told Neurology Today.

“But there are other deployment-related factors that may complicate and extend the course of natural recovery in returning veterans with TBI, such as prolonged stress exposure and related psychiatric sequelae.”

However, post-traumatic stress disorder (PTSD) may exacerbate cognitive symptoms of TBI and compound functional difficulties, she noted, and there is ample evidence that stress adversely impacts outcomes.

“Patients under high levels of stress at the time of brain injury typically have worse recovery, and the presence of stress-related symptomatology early following mild TBI has been identified as an important predictor of poor long-term outcome,” she said.

The value is that neurologists can use the data downloaded from the devices to evaluate real exposure to pressure waves — the first time quantitative data will be available for evaluating the relationship between blast waves and milder brain injury.

Many soldiers do not report exposure if they are not incapacitated, in order to remain with their unit and continue operations.

“But we have found some who have had more exposure than they thought,” he said. “The most important feature is that they allow for immediate triage for milder brain trauma, while at the same time providing data that can be used for scientific purposes, once larger data sets are available.”

**OUTCOMES RESEARCH**

Yelena Bogdanova, PhD, assistant professor of psychiatry at Boston University School of Medicine and the VA Boston Healthcare System, said that developing methods and measures to predict outcomes following blast-induced TBIs can help in prioritizing cognitive rehabilitation and information from the gauges might prove useful for future research.

“While little is known about the pattern of recovery following TBI, the available evidence suggests similar profiles of impairment in cognitive functioning and similar post-concussion symptoms associated with blast and non-blast TBI,” said Dr. Bogdanova, who holds doctorates in both behavioral neuroscience and clinical neuropsychology. “Dr. Bogdanova has done extensive research on the impact of different types of blast injury on TBI and recovery.”

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