

## PT/BRI QUERI TBI SCREENING AND EVALUATION RESEARCH FACT SHEET

As of September 28, 2012

### *How common is TBI in Iraq and Afghanistan War Veterans?*

- PT/BRI QUERI research based on VHA administrative data indicates that 58,998 (9.6%) Iraq and Afghanistan Veterans who used VHA over the three year period spanning FY 2009 through FY 2011 received a TBI diagnosis.
- Most Veterans with a TBI diagnosis also carried a mental health diagnosis, with PTSD being the most common.<sup>1</sup>
- In 2009, the median annual cost per patient was 4 times higher for TBI-diagnosed Iraq and Afghanistan War Veterans compared to those without TBI (X compared to Y).<sup>2</sup> Costs increased clinical complexity, as indicated by the presence of mental health and pain-related co-morbidities, increased.

### *What are we learning about VHA's postdeployment TBI screening measure?*

- The vast majority of Iraq and Afghanistan war Veterans presenting to VA Medical Centers for care are being screened for TBI.
- Three HSR&D funded studies are looking at the sensitivity and specificity of VHA's postdeployment TBI screening measure, two of which have published results. Both studies reported high sensitivity (.87 to .94).<sup>3-4</sup> However, specificity was poor (.13-.18)<sup>4</sup> to moderate (.59).<sup>3</sup> Findings from Donnelly et al.<sup>3</sup> suggested that specificity was lower because some of the symptoms included in the screen are also common in disorders other than TBI, such as PTSD. Data analysis is ongoing for the third study focused on the sensitivity and specificity of VHA's TBI screen.<sup>5</sup>
- Donnelly et al. found moderate to high test-retest reliability over a two-week period.<sup>3</sup>
- Findings to date suggest that the negative predictive value of VHA's postdeployment TBI screening measure is high.<sup>3-4</sup> That is, individuals who are screening negative are not likely to have sustained a deployment-related TBI.

### *What are we learning about Veterans who undergo comprehensive evaluation for TBI after a positive screen?*

- Patient and facility characteristics influence the rates of TBI evaluation completion after a positive screen.<sup>6</sup>
- Veterans who undergo evaluation after screening positive for TBI are highly symptomatic. Clinicians conducting evaluations believe that mental health problems contribute to the manifestation of these symptoms.<sup>7</sup>
- Female Veterans are reporting a particularly high level of symptoms on the Comprehensive TBI Evaluation compared with male Veterans.<sup>8</sup>
- A psychometric analysis of TBI evaluation data suggests that neurobehavioral symptoms can be grouped into 3 to 4 dimensions including cognitive, affective and somatosensory and possibly vestibular.<sup>9</sup> Research is underway to determine whether these dimensions are clinically meaningful.<sup>10</sup>
- Probable PTSD, depression and anxiety contribute to neurobehavioral symptom levels in individuals with TBI histories.<sup>11</sup>
- Over 95% of Veterans evaluated for TBI use VHA services after the evaluation, regardless of whether or not they were diagnosed with TBI. However, those diagnosed with TBI used significantly more outpatient care than those who were not diagnosed with TBI during the TBI evaluation.<sup>12</sup>

### *What will ongoing research tell us about VHA's TBI screening and evaluation in the future?*

- Ongoing research may help identify the reasons some Veterans with positive screens do not complete VHA's Comprehensive TBI Evaluation.<sup>13</sup>
- Ongoing research may improve standardization of the TBI evaluation process as well as post-evaluation care coordination.<sup>5,12</sup>
- An ongoing study will provide information to improve access to Comprehensive TBI Evaluations through clinical video telehealth (CVT).<sup>14</sup>
- PT/BRI QUERI will continue to report the prevalence of clinician-diagnosed TBI and comorbidities over time, as well as associated service use and costs per fiscal year.<sup>1, 15-16</sup>

## References

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