

Regarding associations between deployment to the Gulf War and specific health concerns, the IOM committee concludes the following:

SUFFICIENT EVIDENCE OF A CAUSAL RELATIONSHIP

- Posttraumatic stress disorder (PTSD)

SUFFICIENT EVIDENCE OF AN ASSOCIATION

- Generalized anxiety disorder, depression, and substance abuse (particularly alcohol abuse)
- Gastrointestinal symptoms consistent with functional gastrointestinal disorders such as irritable bowel syndrome and functional dyspepsia
- Chronic fatigue syndrome
- Gulf War illness

LIMITED/SUGGESTIVE EVIDENCE OF AN ASSOCIATION

- Amyotrophic lateral sclerosis (ALS)
- Fibromyalgia and chronic widespread pain
- Self-reported sexual difficulties

INADEQUATE/INSUFFICIENT EVIDENCE TO DETERMINE WHETHER AN ASSOCIATION EXISTS

- Any cancer
- Cardiovascular conditions or conditions of the blood and blood-forming organs
- Endocrine, nutritional, and metabolic conditions
- Neurodegenerative diseases other than ALS and multiple sclerosis
- Neurocognitive and neurobehavioral performance
- Migraines and other headache disorders
- Other neurologic outcomes
- Respiratory diseases
- Structural gastrointestinal diseases
- Chronic skin conditions
- Musculoskeletal system diseases
- Genitourinary conditions
- Specific birth defects
- Adverse pregnancy outcomes such as miscarriage, stillbirth, preterm birth, and low birth weight
- Fertility problems
- Increased mortality from any cancer, any neurologic disease (including multiple sclerosis, Alzheimer's disease, Parkinson's disease, and ALS), respiratory disease, or gastrointestinal disease

LIMITED/SUGGESTIVE EVIDENCE OF NO ASSOCIATION

- Objective measures of peripheral neurologic conditions
- Multiple sclerosis
- Mortality from cardiovascular disease or parasitic diseases
- Decreased lung function
- Mortality due to mechanical trauma or other external causes

The IOM committee recommends:

- Any future studies of Gulf War illness should recognize the connections and complex relationships between brain and physical functioning and should not exclude any aspect of the illness with regard to improving its diagnosis and treatment.
- The Department of Veterans Affairs and the Department of Defense should develop a joint and cohesive strategy on incorporating emerging diagnostic technologies and personalized approaches to medical care into sufficiently powered future research to inform studies of Gulf War illness and related health conditions.
- The Department of Veterans Affairs should continue to conduct follow-up assessments of Gulf War veterans for neurodegenerative diseases that have long latencies and are associated with aging; these include amyotrophic lateral sclerosis, Alzheimer's disease, and Parkinson's disease.
- The Department of Veterans Affairs should conduct further assessments of cancer incidence, prevalence, and mortality because of the long latency of some cancers. Such studies should maximize the use of cancer registries and other relevant sources, data, and approaches, and should have sufficient sample sizes to account for relatively rare cancers. These studies should also be able to report sex-specific and race/ethnicity-specific information.
- Further studies to assess the incidence and prevalence of circulatory, hematologic, musculoskeletal, structural gastrointestinal, genitourinary, reproductive, endocrine and metabolic, respiratory, chronic skin, and mental health conditions due to deployment in the Gulf War should not be undertaken. Rather, future research related to these conditions should focus on ensuring that Gulf War veterans with them receive timely and effective treatment.
- Without definitive and verifiable individual veteran exposure information, further studies to determine cause-and-effect relationships between Gulf War exposures and health conditions in Gulf War veterans should not be undertaken.
- Sex-specific and race/ethnicity-specific health conditions should be determined and reported in future studies of Gulf War veterans. In addition, selected prior studies (e.g., large cohort studies) should be reviewed to determine whether reanalysis of the data to assess for possible sex-specific and race/ethnicity-specific health conditions is feasible.
- Future Gulf War research should place top priority on the identification and development of effective therapeutic interventions and management strategies for Gulf War illness. The Department of Veterans Affairs should support research to determine how such treatments can be widely disseminated and implemented in all health care settings.

To download the full report, visit nas.edu/GulfWarHealth10