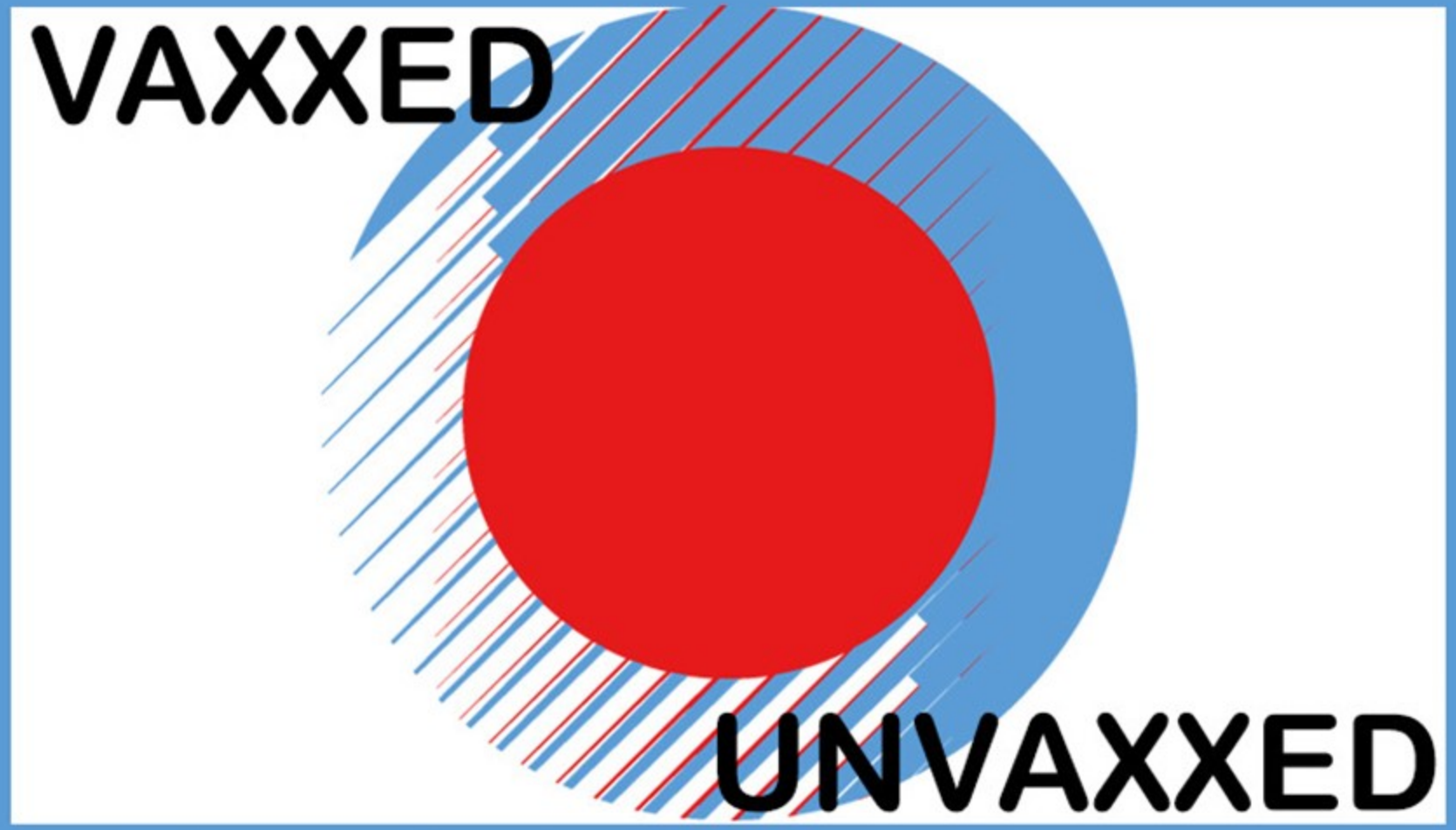


The Science (Part 11)

Children's Health Defense

Vaccination With the Hepatitis B Vaccine Series Increases the Odds of Liver Problems in Children 294%

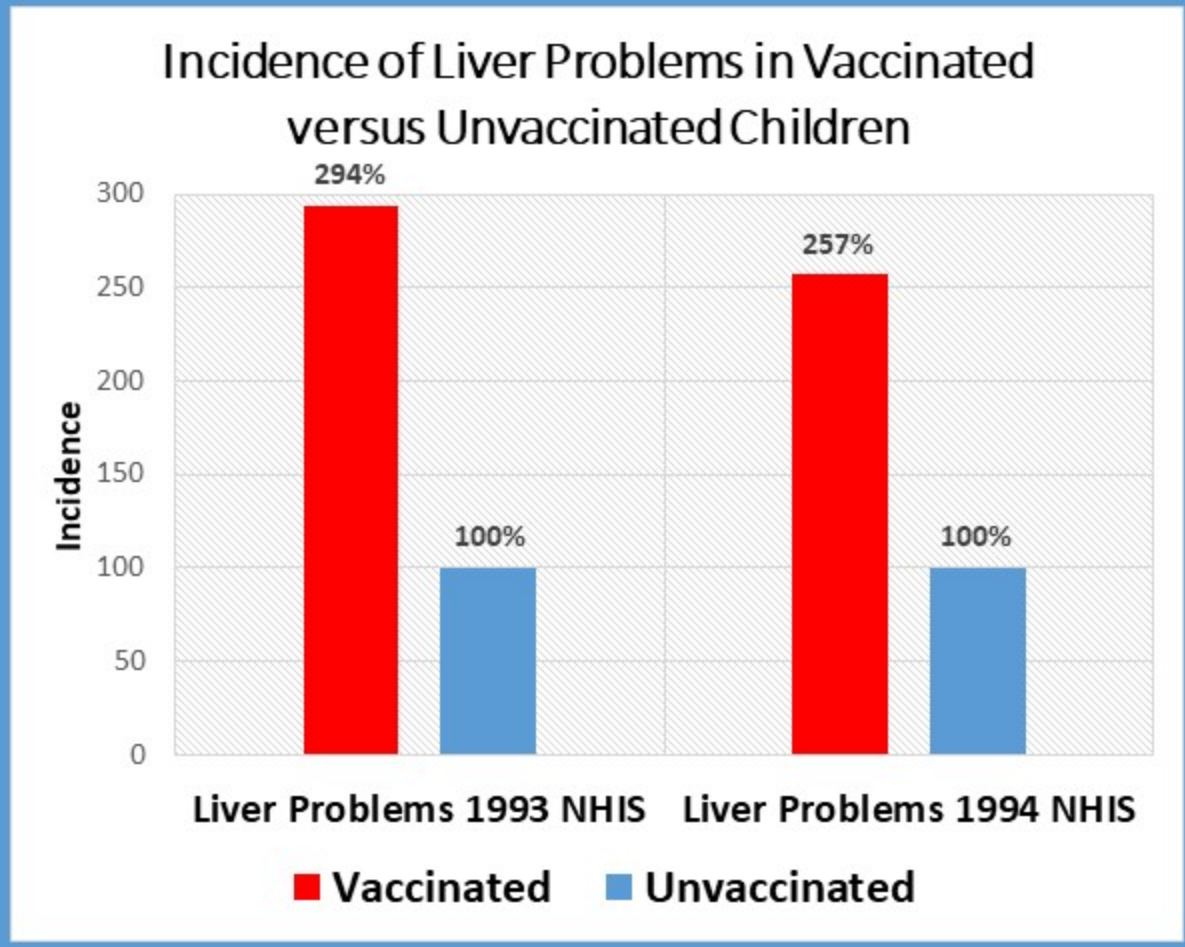
Hepatitis B Vaccine and Liver Problems in U.S. Children Less Than 6 Years Old, 1993 and 1994

Monica A. Fisher and Stephen A. Eklund

Data to assess the benefits and risks of hepatitis B vaccine for the general population of U.S. children are sparse. This study addressed the problem of external validity found in previous studies of high risk populations by evaluating the benefit of hepatitis B vaccination for the general population of American children. We calculated the risk of liver problems among hepatitis B vaccinated and non-hepatitis B vaccinated children using logistic regression. Hepatitis B vaccinated children had an unadjusted odds ratio of 2.94 and age-adjusted odds ratio of 2.35 for liver problems compared with non-hepatitis B vaccinated children in the 1993 National Health Interview Survey. Hepatitis B vaccinated children had an unadjusted odds ratio of 2.57 and age-adjusted odds ratio of 1.53 for liver problems compared with non-hepatitis B vaccinated children in the 1994 National Health Interview Survey dataset. (Epidemiology 1999;10:337–339)

Keywords: adverse effects, child, hepatitis B, hepatitis B vaccine, infant, risk, risk assessment.

Fisher and Eklund, Epidemiology 1999
https://insights.ovid.com/pubmed?pmid=10230847



"Hepatitis B vaccinated children had an unadjusted odds ratio of 2.94 and an age-adjusted odds ratio of 2.35 for liver problems compared with non-hepatitis B vaccinated children in the 1993 National Health Interview Survey."

Children's Health Defense

Polio Vaccine Increases the Risk of Crohn's Disease by 228% and Ulcerative Colitis by 348%

Fasiha Kanwal, Section Editor

Vaccination and Risk for Developing Inflammatory Bowel Disease: A Meta-Analysis of Case–Control and Cohort Studies

Guillaume Pineton de Chambrun,[*,‡,§,‖] Luc Dauchet,[§,¶] Corinne Gower-Rousseau,[*,‡,§] Antoine Cortot,[*,‡,§] Jean-Frédéric Colombel,[#] and Laurent Peyrin-Biroulet[§,**]

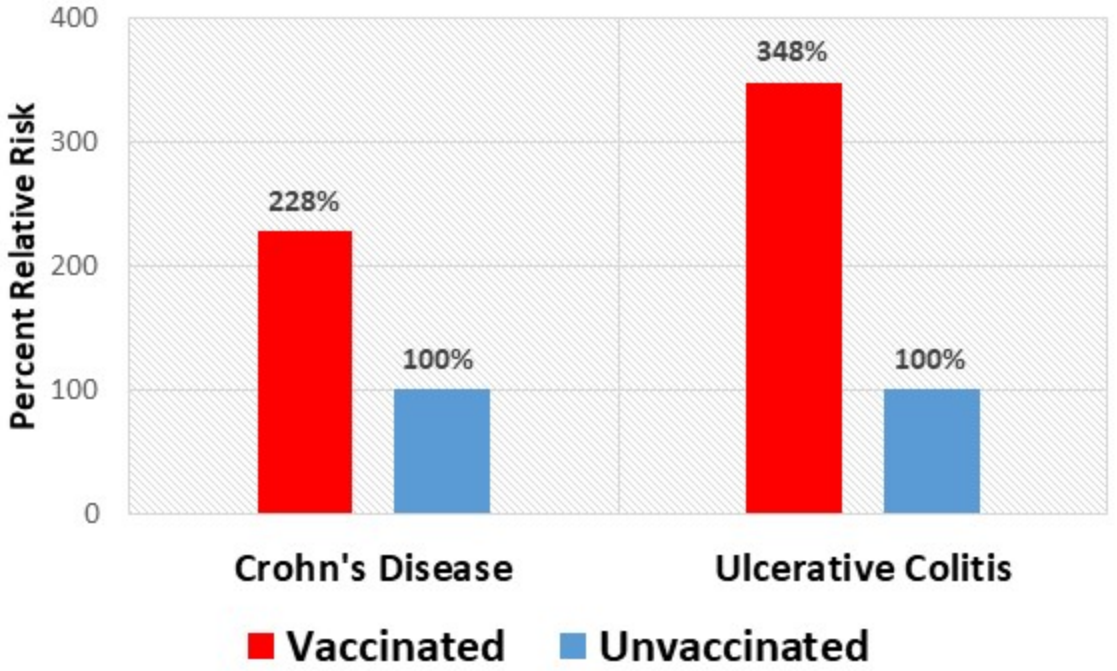
This article has an accompanying continuing medical education activity on page e130. Learning Objective–Upon completion of this activity, successful learners will be able to discuss the implication of vaccination and environmental factors in the development of inflammatory bowel disease.

BACKGROUND & AIMS: Environmental factors may play a key role in the pathogenesis of inflammatory bowel disease (IBD). Whether vaccination is associated causally with IBD is controversial. We performed a meta-analysis of case–control and cohort studies on the association between vaccination and the risk for IBD.

METHODS: Studies and abstracts investigating the relationship between vaccination and subsequent risk for developing IBD were reviewed. Childhood or adult immunizations with any vaccine type, at any dose, and with any vaccine schedule were used as inclusion criteria.

RESULTS: Eleven studies were included in the systematic review and meta-analysis: 8 case–control studies and 3 cohort studies. Studied vaccines were bacille Calmette–Guérin), vaccines against diphtheria, tetanus, smallpox, poliomyelitis, pertussis, H1N1, measles, rubella, mumps, and the combined measles, mumps, and rubella vaccine. Only a few details about vaccine type or route of administration were found in studies. Overall, there was no association between childhood immunization and risk for developing IBD: bacille Calmette–Guérin, relative risk (RR) of 1.04 (95% confidence interval [CI], 0.78–1.38), diphtheria, RR of 1.24 (95% CI, 0.80–1.94), tetanus, RR of 1.27 (95% CI, 0.77–2.08), smallpox, RR of 1.08 (95% CI, 0.70–1.67), poliomyelitis, RR of 1.79 (95% CI, 0.88–3.66), an measles containing vaccines, RR of 1.33 (95% CI, 0.31–5.80) in cohort studies, and RR of 0.85 (95% CI, 0.60–1.20) in case–control studies. Subgroup analysis for Crohn's disease (CD) and ulcerative colitis (UC) found an association between the poliomyelitis vaccine and risk for developing CD (RR, 2.28; 95% CI, 1.12–4.63) or UC (RR, 3.48; 95% CI, 1.2–9.71). The RR of developing IBD after H1N1 vaccination was 1.13 (95% CI, 0.97–1.32).

CONCLUSIONS: Results of this meta-analysis show no evidence supporting an association between childhood immunization or H1N1 vaccination in adults and risk of developing IBD. The association between the poliomyelitis vaccine and the risk for CD or UC should be analyzed with caution because of study heterogeneity.



Pineton de Chambrun et al., Clin Gastroenterol Hepatol 2015
http://dx.doi.org/10.1016/j.cgh.2015.04.179

"Subgroup analysis for Crohn's disease (CD) and ulcerative colitis (UC) found an association between the poliomyelitis vaccine and risk for developing CD (RR, 2.28; 95% CI, 1.12-4.63) or UC (RR, 3.48; 95% CI 1.2-9.71)."

Children's Health Defense

Vaccination in non-Persian Gulf War Veterans Increases Odds of Neurological and Pain Symptoms

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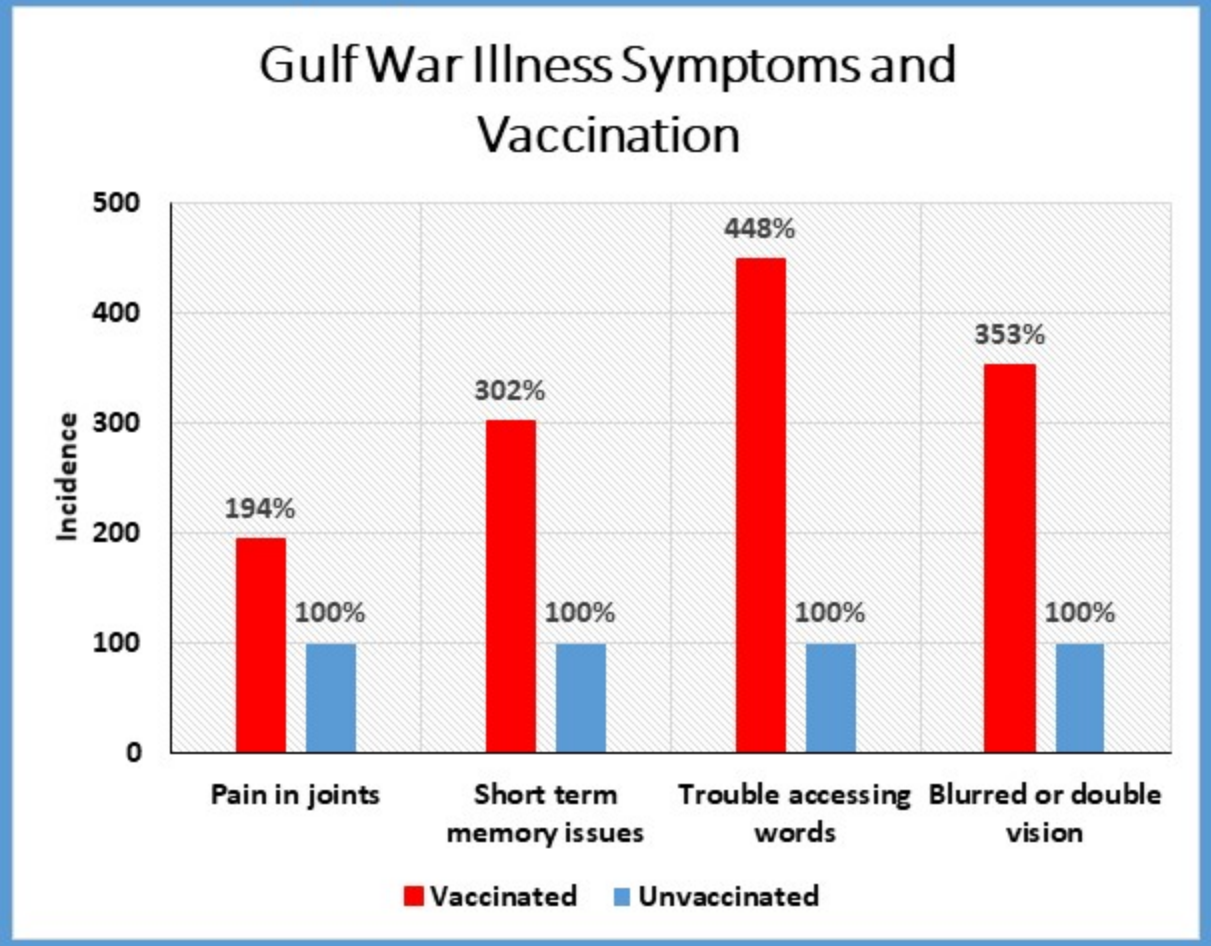
Prevalence and Patterns of Gulf War Illness in Kansas Veterans: Association of Symptoms with Characteristics of Person, Place, and Time of Military Service

Lea Steele

Gulf War veterans have reported health problems that they attribute to their military service, but little is understood about the nature or extent of these conditions. To determine whether Kansas Gulf War veterans are affected by excess health problems, a population-based survey of 1,548 veterans who served in the Persian Gulf War (PGW) and 482 veterans who served elsewhere (non-PGW) was conducted in 1998. Gulf War illness, defined as having chronic symptoms in three of six domains, occurred in 34% of PGW veterans, 12% of non-PGW veterans who reported receiving vaccines during the war, and 4% of non-PGW veterans who did not receive vaccines. The prevalence of Gulf War illness was lowest among PGW veterans who served on board ship (21%) and highest among those who were in Iraq and/or Kuwait (42%). Among PGW veterans who served away from battlefield areas, Gulf War illness was least prevalent among those who departed the region prior to the war (9%) and most prevalent among those who departed in June or July of 1991 (41%). Observed patterns suggest that excess morbidity among Gulf War veterans is associated with characteristics of their wartime service, and that vaccines used during the war may be a contributing factor. *Am J Epidemiol* 2000;152:992–1002.

fatigue syndrome, chronic; Persian Gulf syndrome; risk factors; symptoms and general pathology; veterans



Steele, Am J Epidemiol 2000
https://pubmed.ncbi.nlm.nih.gov/11092441/

"Gulf War Illness, defined as having chronic symptoms in three of six domains, occurred in 34% of PGW veterans, 12% of non-PGW veterans who reported receiving vaccines during the war and 4% of non-PGW veterans who did not receive vaccines."

Children's Health Defense

Vaccination Increases Odds of Gulf War Illness 260%

Articles

Health of UK servicemen who served in Persian Gulf War

Catherine Unwin, Nick Blatchley, William Coker, Susan Ferry, Matthew Hotopf, Lisa Hull, Khalida Ismail, Ian Palmer, Anthony David, Simon Wessely

Summary

Background Various symptoms in military personnel in the Persian Gulf War 1990–91 have caused international speculation and concern. We investigated UK servicemen.

Methods We did a cross-sectional postal survey on a random sample of Gulf War veterans (Gulf War cohort, n=4248) and, stratified for age and rank, servicemen deployed to the Bosnia conflict (Bosnia cohort, n=4250) and those serving during the Gulf War but not deployed there (Era cohort, n=4246). We asked about deployment, exposures, symptoms, and illnesses. We analysed men only. Our outcome measures were physical health, functional capacity (SF-36), the general health questionnaire, the Centers for Disease Control and Prevention (CDC) multisymptom criteria for Gulf War illness, and post-traumatic stress reactions.

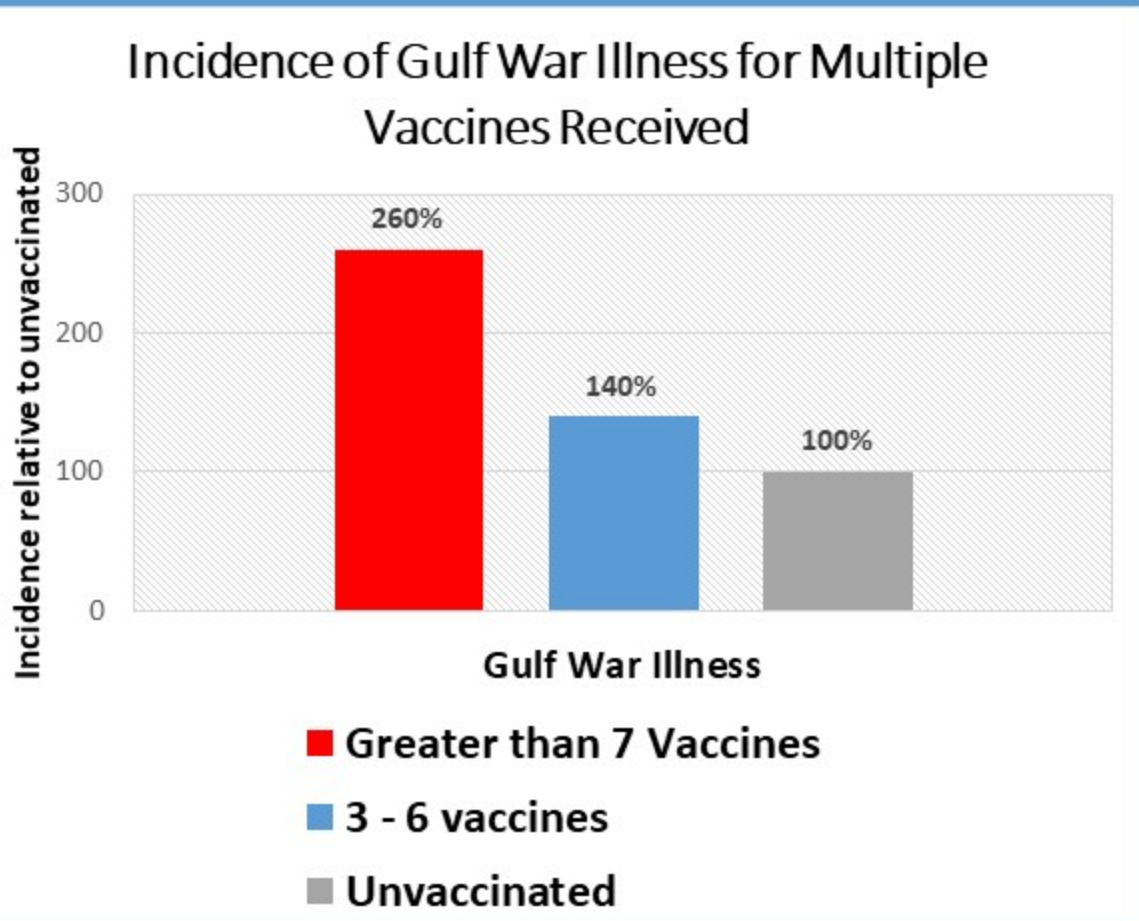
Findings There were 8195 (65·1%) valid responses. The Gulf War cohort reported symptoms and disorders significantly more frequently than those in the Bosnia and Era cohorts, which were similar. Perception of physical health and ability were significantly worse in the Gulf War cohort than in the other cohorts, even after adjustment for confounders. Gulf War veterans were more likely than the Bosnia cohort to have substantial fatigue (odds ratio 2·2 [95% CI 1·9–2·6]), were found in all cohorts, however, they may not be unique and causally implicated in Gulf-War-related illness. A specific mechanism may link vaccination against biological warfare agents and later ill health, but the risks of illness must be considered against the necessity of protection of servicemen.

Lancet 1999; **353:** 169–78

Introduction

From late 1990, the UK deployed 53 462 military personnel to the Persian Gulf War. In the months after the end of the war, anecdotal reports emerged in the USA of various disorders affecting Gulf War veterans. In the UK, similar observations surfaced in 1993, after a television broadcast in June. Some UK Gulf War veterans have experienced health problems since their return. Such anecdotal reports cannot, however, establish whether these complaints have any particular pattern, nor whether they are related to Gulf War service.

Previous studies of the health of Gulf War veterans have had limitations. Comparisons with non-military populations may be misleading, since military recruitment involves medical screening. Clinical assessment programmes for non-randomly selected veterans with symptoms cannot provide epidemiological information or



Unwin et al., The Lancet 1999
https://pubmed.ncbi.nlm.nih.gov/9923871/

"Vaccination against biological warfare and multiple routine vaccinations were associated with CDC multisymptom syndrome in the Gulf War cohort."

Children's Health Defense

Multiple Vaccination During Deployment Increases Odds of Gulf War Illness 500% and Fatigue 340%

Role of vaccinations as risk factors for ill health in veterans of the Gulf war: cross sectional study

Matthew Hotopf, Anthony David, Lisa Hull, Khalida Ismail, Catherine Unwin, Simon Wessely

Abstract

Objectives To explore the relation between ill health after the Gulf war and vaccines received before or during the conflict. To test the hypothesis that such ill health is limited to military personnel who received multiple vaccines during deployment and that pesticide use modifies any effect.

Design Cross sectional study of Gulf war veterans followed for six to eight years after deployment.

Setting UK armed forces.

Participants Military personnel who served in the Gulf and who still had their vaccine records.

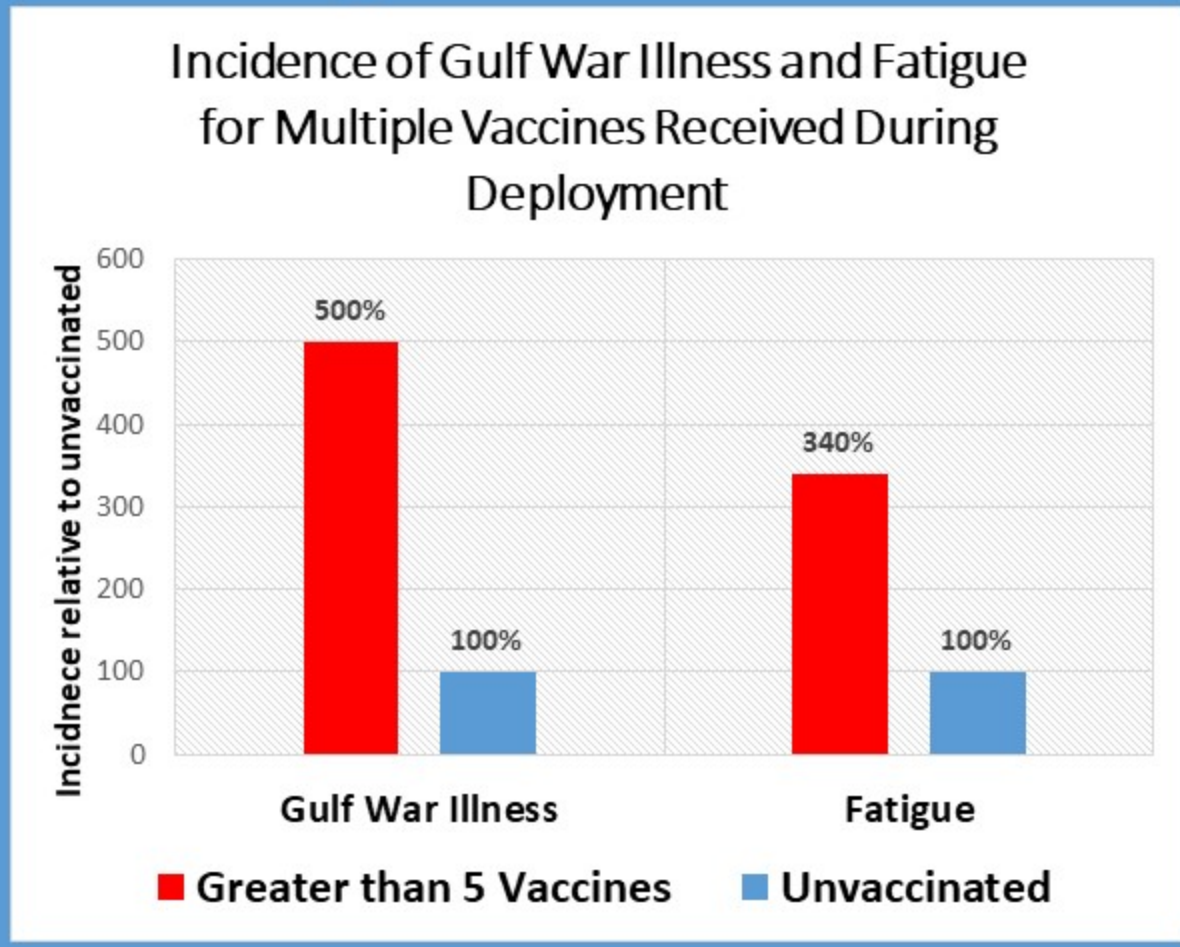
Main outcome measures Multisymptom illness as classified by the Centers for Disease Control and Prevention; fatigue; psychological distress; post-traumatic stress reaction; health perception; and physical functioning.

Results The response rate for the original survey was 70.4% (n = 3284). Of these, 28% (923) had vaccine records. Receipt of multiple vaccines before deployment was associated with only one of the six health outcomes (post-traumatic stress reaction). By contrast five of the six outcomes (all but post-traumatic stress reaction) were associated with multiple vaccines received during deployment. The strongest association was for the multisymptom illness

increase the likelihood that they suffered long term health consequences. The first was that for UK (but not US) service personnel pertussis was used as an adjuvant to stimulate the immune response to anthrax vaccine. The second was that multiple vaccines were given simultaneously. This reflected the need to keep the personnel up to date with routine vaccines; to protect them from infectious diseases such as cholera and typhoid, which were potential health hazards during deployment; and to protect them from the threat of biological warfare agents—namely, plague and anthrax. The third aspect was that many of the vaccines were given after the personnel were deployed. Rook and Zumla suggested that deployment was a stress which would in itself lead to increased circulating corticosteroids, and this too would influence cytokine profiles.[1] Finally, they speculated that there might have been an interaction between the vaccine regimen and pesticides—especially organophosphate pesticides—used in the Gulf to cause a Th2 promoting effect.

We have previously reported on a large (n = 3284) cohort study of male Gulf war veterans who were compared with non-deployed service personnel and veterans of peacekeeping duties in Bosnia.[2] We found increased rates of ill health for all health outcomes in those who served in the Gulf. Among many other

Hotopf et al., BMJ 2000
https://pubmed.ncbi.nlm.nih.gov/10818024/



"Among veterans of the Gulf war there is a specific relation between multiple vaccinations given during deployment and later ill health."

Children's Health Defense