Gulf War Syndrome—Is Litigation the Answer?: Learning Lessons From In Re Agent Orange

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GULF WAR SYNDROME—IS LITIGATION THE ANSWER?: LEARNING LESSONS FROM IN RE AGENT ORANGE

The return of American troops from Operation Desert Storm in 1991 generated a sense of unity and success\(^1\) which was markedly different from the atmosphere that characterized the nation at the end of the Vietnam conflict.\(^2\) A comparison of the two military efforts, however, reveals one unfortunate commonality: Persian Gulf veterans are exhibiting a variety of medical symptoms, with effects ranging from benign to deadly,\(^3\) just as Vietnam veterans did after their return to the United States.\(^4\)

There appears to be a wealth of explanations for the symptoms afflicting those who served in Operation Desert Shield and Desert Storm.\(^5\) Former Senator Donald W. Riegle Jr.\(^6\) singled out the use

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\(^1\) See David Brown, *Triumphant in Desert, Stricken at Home*, WASH. POST, July 24, 1994, at A1 (characterizing Persian Gulf War as “more successful and more safe—at least for Americans—than anybody could have imagined,” and noting that fewer American soldiers died in battle than in road accidents); see also Denis Wadley, *With a Penstroke, Put the Selective Service Out of Our Misery*, STAR TRIB. (Minneapolis), Feb. 24, 1993, at A15 (quoting Selective Service Director Robert Gambino who characterized performance of American troops in Operation Desert Storm as “stunning”).

\(^2\) See generally CLARK DOUGAN & STEPHEN WEISS, *THE AMERICAN EXPERIENCE IN VIETNAM* 334-35 (1988). Vietnam veterans had little time for readjustment after the conflict and returned to a nation increasingly uncomfortable with their presence. Id. They soon realized that both ends of the political spectrum had abandoned them. Id.

\(^3\) See infra note 99 and accompanying text (listing symptoms exhibited by Gulf War veterans); see also Norm Brewer & John Hanchett, *Are Gulf War Veterans Getting Needed Treatment?*, GANNETT NEWS SERV., Dec. 21, 1994.

\(^4\) DOUGAN & WEISS, supra note 2, at 334-35. In addition to acute physical disabilities from combat, Vietnam veterans returned with “a collection of infirmities” including chronic skin rashes, respiratory problems, impaired hearing and vision, violent headaches, loss of sex drive and cancer, all of which were subsequently attributed to exposure to Agent Orange. Id.

\(^5\) See David Brown, *The Search for Causes*, WASH. POST, July 24, 1994, at A19. Among the explanations for the symptoms suffered by veterans of Operation Desert Storm, medical professionals point to exposure to chemical weapons, organic chemicals, smoke from oil well fires, pyridostigmine (a drug designed to protect against chemical weapons exposure), desert sand, psychological stress, multiple chemical sensitivity and psychological contagion. Id.; see also Alison Delsite, *Persian Gulf Illnesses Blamed On Desert Sand*, TIMES-PICAYUNE (New Orleans), Oct. 7, 1994, at A2. Sixty of 582 members of the 193rd Special Operations Group of the Pennsylvania Air National Guard who served in Desert Shield or Desert Storm all suffered from similar symptoms, including chronic diarrhea, irritable bowel syndrome, stomach bloating, night sweats, and skin lesions, which doctors deemed to be a result of their exposure to desert sand. Id. In concluding that the sand directly caused the illnesses, doctors noted that the veterans developed skin lesions and pustules only on those areas which had been exposed to the desert sand. Id. Other doctors speculated that
of chemical and biological weapons as a predominant factor.\(^7\) A group of Desert Storm veterans who echoed Senator Riegle’s concern filed suit in United States District Court for the Southern District of Texas.\(^8\) In their complaint, the plaintiffs attempted to link American and foreign companies to the production of such weapons.\(^9\) The filing of this lawsuit, which is presently in its pre-

ambient sand particles altered the veterans’ immune systems by lodging in their lungs, thereby increasing their susceptibility to respiratory illness. Brown, \textit{supra}, at A19. Sand was also linked to non-respiratory illnesses such as viscerotropic leishmaniasis, an infection caused by a parasite which is known to be carried by sand flies. \textit{Id.} Doctors have found that the parasites found in the sand flies eject poison, which can kill the host by destroying its immune and nervous systems. George C. Wilson, \textit{Curing What Ails Him and Other Gulf War Vets}, \textit{Army Times}, Jan. 31, 1994. Congress noted some of the possible causes of Desert Storm Syndrome in § 102 of the Persian Gulf War Veterans’ Benefits Act. § 102, 108 Stat. 4645, 4647 (1994):

During the Persian Gulf War, members of the Armed Forces were exposed to numerous potentially toxic substances, including fumes and smoke from military operations, oil well fires, diesel exhaust, paints, pesticides, depleted uranium, infectious agents, investigational drugs and vaccines, and indigenous diseases, and were also given multiple immunizations. It is not known whether these service members were exposed to chemical or biological warfare agents. However, threats of enemy use of chemical and biological warfare heightened the psychological stress associated with the military operation.

\textit{Id.} § 102(1).

\(^6\) \textit{See} MICHAEL BARONE \& GRANT UJIFUSA, \textit{THE ALMANAC OF AMERICAN POLITICS} 1992 609 (1991). Former Senator Riegle (D-MI) was Chairman of the Senate Committee on Banking, Housing and Urban Affairs. \textit{Id.} He declined to seek re-election 1994. \textit{Id.}; 140 CONG. REC. S1196-201 (daily ed. Feb. 9, 1994) (statement of Sen. Riegle). The Banking, Housing and Urban Affairs Committee has oversight responsibility for the Export Administration Act, which enabled it to obtain information on the export of biological materials from the United States to Iraq prior the Gulf War. \textit{Id.}

\(^7\) \textit{See} 140 CONG. REC. S1196-201 (daily ed. Feb. 9, 1994) (statement of Sen. Riegle). While addressing the Senate, Senator Riegle alleged that United States troops may have come in contact with chemical and biological weapons, "either through direct exposure from some kind of weapon, or shell fire; or from the downwind exposure as we bombed these biological and chemical weapons facilities—throwing hazardous debris up into the air which was then carried down over our troops." \textit{Id.} Congress initially collected data concerning chemical weapons use in the Persian Gulf and then proceeded to amass data on possible biological weapons exposure. \textit{Id. But see} David Brown, \textit{No Evidence Chemical Weapons Used in Gulf War, Panel Says}, \textit{Wash. Post}, Jan. 5, 1996, at A6. A panel appointed by the National Academy of Sciences’ Institute of Medicine reported that there was “no evidence that chemical or biological weapons were used in the Persian Gulf War, and that rumors they were should be put to rest.” \textit{Id.} The panel further concluded that Gulf War syndrome was “not the result of chemical, biological, or toxin warfare, or accidental exposures to stored weapons or research material.” \textit{Id.; Pentagon Rejects Germ War Agents for Gulf Ills}, \textit{Boston Globe}, Mar. 10, 1995, at 19 (citing Pentagon’s rejection of theory that chemical and biological weapons caused Gulf War syndrome).


\(^9\) Terri Langford, \textit{Ill Gulf War Veterans Sue 11 Companies}, \textit{Phil. Inq.}, June 8, 1994, at A5. The veterans named eleven American companies in their complaint, stating that the companies made “unreasonably dangerous” biological compounds and conducted their operations so as to allow “an outlaw country like Iraq” an opportunity to acquire these compounds and use them to make weapons. \textit{Id.} The complaint also alleged that the companies were negligent in selling bacteria and micro-organisms to Iraq prior to the war and that
trial stage, represents the veterans' dissatisfaction with the Department of Veterans Affairs' response to their medical needs. Congress and the Department of Veterans Affairs have begun to address Gulf War Syndrome more effectively by authorizing medical care and disability payments for affected veterans. The needs of Gulf War veterans' children, however, many of whom were born with birth defects, as well as wives, suffering from stillbirths and miscarriages, have not been addressed.

The inception of litigation stemming from Gulf War Syndrome commands a comparison to the In re Agent Orange Product Liability Litig. and its settlement following the Vietnam Conflict. In re Agent Orange elucidated the proof and causation obstacles in-

Iraq used these materials against the United States and its allies during the Persian Gulf War. John Toth, Ill Veterans File Lawsuit Over Gulf War Syndrome, HOUS. CHRON., June 8, 1994, at A22; see also 140 CONG. REC. S1196-201 (daily ed. Feb. 9, 1994) (statement of Sen. Riegle). The Senate Banking, Housing and Urban Affairs Committee conducted research to determine what, if any, biological materials had been shipped to Iraq and found that, since 1985, the United States Department of Commerce had authorized shipments to Iraq of pathogenic and toxigenic materials which were capable of being reproduced by the Iraqis and transformed into biological weapons. Id. at S1196-97.

Senator Shelby, in addressing the Senate, stated that veterans were dissatisfied with the Department of Veterans Affairs' and the Department of Defense's initial responses to the veterans' health needs. Id.

See infra notes 30-50 and accompanying text (tracing congressional steps to aid Gulf War veterans); see also Disability Pay for Gulf War Veterans, MIAMI HERALD, Feb. 4, 1995, at A11. The Department of Veterans Affairs will pay benefits to Gulf War veterans found to have had symptoms of Gulf War syndrome for at least six months. Id. Benefits will range from $89 a month for 10% disability to $1,823 for 100% disability. Id.


But see Despite Fears, Evidence Shows Babies of Veterans of Gulf War Born Healthy, STAR TRIB. (Minneapolis), Jan. 19, 1995, at A12. "New evidence from military hospitals and studies of veterans shows that the infant mortality rate for the children of soldiers did not change after the Gulf War and remains better than the national average." Id.


herent in tort litigation, leading many experts to conclude that those burdens can become insurmountable in mass toxic cases.

Judge Jack Weinstein of the United States District Court for the Eastern District of New York noted the difficulties in establishing the causal connection between exposure to dioxin, a key component of Agent Orange, and the injuries suffered by the plaintiffs. As a result, he urged the veterans and their families to accept a settlement, citing potential proof and causation obstacles likely to arise at trial. Judge Weinstein cautioned the plaintiffs that if they failed to prove the required tort elements, he would be forced to grant a directed verdict for the defendants.

The plaintiffs in In re Agent Orange had effectively traced their illnesses to the contaminant dioxin. Gulf War Veterans, comparatively, have been unable to identify a singular causal agent. More importantly, a growing segment of the medical community questions whether the syndrome actually exists. Based on this reasoning, it seems that Gulf War Veterans will be even less likely to surmount the proof and causation hurdles imposed by the tort system.

Part One of this Note will analyze the legislative response to Gulf War Syndrome. Part Two will discuss governmental immunity in the military setting according to the doctrine enunciated by the Supreme Court in the 1950 case Feres v. United States, and

17 See, e.g., In re Agent Orange Prod. Liab. Litig., 611 F. Supp. 1223, 1229 (E.D.N.Y. 1985) (dismissing claims of veterans who had declined to join class action because of lack of evidence of causal link between exposure to Agent Orange and symptoms).
18 See infra notes 93-95 and accompanying text (detailing causation requirement in tort cases).
19 In re Agent Orange, 611 F. Supp. at 1260 (stating proof of causal connection was only "remotely possible").
20 See Rabin infra note 57, at 816 (explaining Judge Weinstein's commitment to settle case because of proof and causation problems).
21 See Rabin infra note 57, at 816 (illustrating Judge Weinstein's concern with viability of plaintiff's case were it to proceed to trial).
23 See David Brown, "Gulf War" Illness Vexes Doctors; Tests of 1,000 Soldiers Turn Up No One Cause, INT'L HERALD TRIB., Dec. 15, 1994, at A22. Stephen Joseph, the assistant secretary of defense for health affairs, claimed that studies of 1,000 soldiers claiming to be afflicted with Gulf War syndrome show that there are multiple causes for the syndrome. Id.
24 See, e.g., British Find No Evidence of Gulf War Syndrome, S.F. CHRON., Jan. 10, 1995, at A7. After a study of 77 British veterans of the Persian Gulf War, British Armed Forces Minister Nicholas Soames concluded that "scientific and clinical data provide no evidence for the existence of Gulf War syndrome among ailing veterans." Id.
25 340 U.S. 135, 146 (1950) (holding that serviceman is precluded from recovering judgment against United States for service related injuries).
in the 1977 case, *Stencel Aero Engineering Corp. v. United States*\(^26\) which effectively eliminates government tort liability for service connected injuries. Part Three will trace the history of the Agent Orange litigation from its inception to its settlement in 1983. Part Four will compare the current Gulf War Syndrome litigation to *In re Agent Orange*, acknowledging the inadequacies of the tort system. Part Five will examine alternative compensation systems. Finally, this Note will recommend that Gulf War veterans seek redress by encouraging a more comprehensive legislative response to their illnesses instead of relying on the judicial process.

**I. Legislative Response to Gulf War Syndrome**

It took many years for veterans of the Vietnam conflict to compel a congressional response to the problems caused by Agent Orange.\(^27\) In contrast, Persian Gulf veterans have had many of their needs addressed in a more timely manner.\(^28\) The earliest legislative action dealing with what is now known as "Gulf War Syndrome" reveals a concern that exposure to oil well fires may be the root of the troops' illnesses.\(^29\)

Congress augmented aid to Gulf War veterans in 1991 by authorizing the creation of a registry under the auspices of the Secretary of Defense to catalog all members of the Armed Forces who had been exposed to oil well fire fumes.\(^30\) This registry was

\(^{26}\) 431 U.S. 666, 673-74 (1977) (barring indemnification actions against United States by government contractors where injured party is member of Armed Forces).

\(^{27}\) See *Agent Orange Act of 1991*, 38 U.S.C. § 1116 (Supp. V 1993) (creating presumption of military service in Vietnam as connection for presence of certain diseases in Vietnam veterans which are associated with exposure to certain herbicides); see also Peter H. Schuck, *Agent Orange on Trial*, 78-79 (1986) (tracing publicity surrounding Agent Orange in the late seventies and early eighties). Congress unanimously passed legislation in 1981 which gave veterans claiming Agent Orange-related illnesses higher priority in obtaining access to care in Veterans Administration Hospitals and nursing homes than other veterans. *Id.* Professor Schuck claims this act "sidestepped the dispute over the health effects of Agent Orange" by providing care for exposed veterans while stipulating that there was insufficient medical evidence to conclude their illnesses were related to Agent Orange exposure. *Id.*

\(^{28}\) See *infra* notes 30-50 and accompanying text (tracing congressional response to Gulf War syndrome).

\(^{29}\) See *infra* note 30 and accompanying text (detailing congressional action regarding studies of oil well fire fumes).

\(^{30}\) See National Defense Authorization Act for Fiscal Years 1992 and 1993 § 734, 10 U.S.C. § 1074 (Supp. IV 1992) (authorizing establishment of registry by Secretary of Defense of members of Armed Forces who were exposed to burning oil fumes during Operation Desert Storm). The Act also provides for members listed in the registry to receive, upon request, "a pulmonary function examination and chest x-ray" if such testing was deemed medically appropriate. *Id.* The Secretary of Defense must submit annually to Congress a
designed to provide assistance to aggrieved veterans.\textsuperscript{31} Similarly, the Veterans Health Care Act of 1992\textsuperscript{32} expands the Department of Defense Registry and creates a Veterans Affairs Registry.\textsuperscript{33}

Scientific experts have subsequently discredited the oil well fire link to Gulf War Syndrome.\textsuperscript{34} The studies authorized under the Act, however, continue to explore other possible causes for the veterans' symptoms.\textsuperscript{35} As part of the exploration, Congress's next legislative step was to authorize scientific studies to explore whether

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\textsuperscript{31} Id. § 702(f). Members of the V.A. Registry were to receive periodic notices from the V.A. "of significant developments in research on the health consequences of military service in the Persian Gulf theater of operations during the Persian Gulf War." Id. The act also provided for medical examinations, consultations and counseling to be given to all members of the V.A. registry. Id. § 703(b)(1). Veterans who were eligible for other health-related registry compiled by the Secretary of Veterans Affairs may be given the above listed services at the Secretary's discretion. Id. § 703(b)(2).


\textsuperscript{33} Id. § 702(a). To be included in the registry, the veteran must have:

A. apply[ied] for care or services from the Department of Veterans Affairs . . .;

B. file[d] a claim for compensation . . . on the basis of any disability which may be associated with such service;

C. die[d] and is survived by a spouse, child, or parent who files a claim for dependency and indemnity compensation . . . on the basis of such service;

D. request[ed] from the Department a health examination . . . or

E. receive[d] from the Department of Defense a health examination similar to the health examination referred to in subparagraph (D) and requests inclusion in the Registry.

Id. §§ 702(b)(1)(A)-(E).

\textsuperscript{34} See No Kuwait Oil Fire Link Found to GI Ills, CHI. TRIB., Sept. 17, 1992, at 6 (citing government report that found no link between oil fire exposure and ailments suffered by American troops); see also Jacqueline Frank, Gulf War Veterans' Illnesses to be Studied, REUTERS, Sept. 16, 1992 (reporting Pentagon and Veterans Affairs officials statement that "no conclusive proof that Kuwaiti oil fires or other toxic substances caused illness in Persian Gulf War troops"). But see Sarah Tippit, What's Wrong With Our Gulf War Veterans? Several Studies, Several Possible Causes, ORLANDO SENTINEL, Jan. 15, 1995, at 9 (citing argument that source of veterans' illnesses may be exposure to environmental toxins such as smoke from burning oil wells, paint, and leaded diesel fuel).

\textsuperscript{35} See Dept. of Veterans Affairs "Descriptive Epidemiology of Illness Patterns Among Veterans of the Persian Gulf Conflict", Mark R. Cullen, M.D., principal investigator; see also Dept. of Veterans Affairs "Respiratory Effects of Ambient Air Pollution Among Veterans of the Persian Gulf Conflict.", John P. Concato, M.D., principal investigator; Bethany Candell, "Gulf War Syndrome" Explained, USA TODAY, Sept. 9, 1992, at 2A. Most veterans "believe their problems come from something they encountered in the gulf, like exposure to petrochemicals during the Kuwaiti oil fires or diesel fuel in shower water." Id. But see Philip J. Hilts, Study on Ailing Gulf War G.I.'s Called a Failure, N.Y. TIMES, Jan. 5, 1995, at A10. A panel affiliated with the National Academy of Sciences concluded that research on the health problems of Persian Gulf War veterans had been poorly organized and had failed to determine if Gulf War syndrome really exists. Id. But see Thomas D. Williams, Investigator Says Panel Ignored Iraqi Links to Gulf War Ailments, HARTFORD COURANT, Feb. 8, 1995, at A5 (stating congressional investigator found oversight committee of eight-
exposure to hazardous agents or depleted uranium caused Gulf War Syndrome.\textsuperscript{36} Troops may also have been exposed to depleted uranium by "friendly fire" from United States tanks, which used ammunition powered in part by depleted uranium.\textsuperscript{37}

Recognizing that the Department of Veterans Affairs could not legitimately address the needs of the ailing Gulf War veterans under the existing statutory framework,\textsuperscript{38} Congress passed legislation in late 1993 designed to increase Gulf War veterans' access to the Department's facilities.\textsuperscript{39} Time constraints imposed by this legislation, however, only allowed these increased services to Gulf War veterans through December 31, 1994.\textsuperscript{40} Congress addressed this limitation by enacting the National Defense Authorization

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\textsuperscript{36} National Defense Authorization Act for Fiscal Year 1994, Pub. L. No. 103-160, §§ 270-271, 107 Stat. 1547 (1993). The term "hazardous agents" includes chemical warfare agents, biotoxins and any other toxic substances to which members of the Armed Forces in the Gulf War may have been exposed. \textit{Id}., § 270(a)(2). This act allocated $1.2 million to the Department of Defense for the creation of an environmental facility suited to the investigation of health effects on humans, especially active duty Gulf War veterans, of low level exposure to hazardous chemicals. \textit{Id}., § 270(b). The act allocated an additional $1.7 million for research into health effects of exposure to depleted uranium on the battlefield. \textit{Id}., § 271(a); \textit{cf.} Scientists Fault Federal Gulf War Illness Effort, \textit{Commercial Appeal} (Memphis), Jan. 5, 1995, at 5A (noting National Academy of Sciences panel concluded government's research on health problems of Persian Gulf War veterans has been badly organized and has failed to determine if Gulf War syndrome exists).

\textsuperscript{37} \textit{See} Patrick Cockburn, \textit{U.S. Troops Claim Gulf "Disease"}, \textit{The Independent} (London), June 10, 1993, at 14. The author reported that Major-General Ronald R. Blanck, commanding officer at the Walter Reed Army Medical Centre, claimed that 22 United States soldiers showed no symptoms of Gulf War Syndrome, despite having been wounded when their vehicles were mistakenly fired upon with depleted uranium shells. \textit{Id}., Major-General Blanck also acknowledged, however, that the veterans' illnesses are "real," and added that "[s]o far, we are unable to relate it conclusively to environmental exposure" . . . unfortunately, "we [the military] don't know [the causes]." \textit{Id.}; \textit{see also}, Marlene Cimons, \textit{Gulf War Syndrome May Be Contagious}, \textit{L.A. Times}, Oct. 21, 1994, at A4 (reporting that depleted uranium was used in munitions and armor).

\textsuperscript{38} \textit{See generally} 38 U.S.C. § 610 (1988). The Secretary of Veterans Affairs is authorized to furnish hospital care to veterans who have "service-connected" disabilities. \textit{Id}. Jesse Brown, Secretary of Veterans Affairs, reported to Congress that the current law allows the Department of Veterans Affairs to grant the designation "service connection" only to cases in which there has been a diagnosis of the underlying illness; 140 CONG. REC. H7082-H7087, H7084 (Aug. 8, 1994). Because scientists have been unable to diagnose the illnesses associated with Gulf War Syndrome, the Department of Veterans Administration was not able to favorably consider claims for treatment by sick veterans. \textit{Id}.


\textsuperscript{40} 38 U.S.C. § 1710(e)(3) (extending hospital care, nursing home care, and medical services for Gulf War veterans only to December 31, 1994).
Act for Fiscal Year 1995,\textsuperscript{41} which provided varying degrees of medical care for different classes of Gulf War veterans.\textsuperscript{42}

Recently, Congress took its most significant legislative action\textsuperscript{43} by enacting the Veterans' Benefits Improvements Act of 1994 (the "Act").\textsuperscript{44} The Act gives the Secretary of Veterans Affairs authority, on a presumptive basis, to compensate veterans who suffer "from a chronic disability resulting from an undiagnosed illness"\textsuperscript{45} that manifested itself during or after service in the war.\textsuperscript{46} Additionally, in response to reports that Gulf War Syndrome also was adversely affecting the spouses and children of veterans,\textsuperscript{47} the Act provides funds\textsuperscript{48} for a study to evaluate the health status of these two

\textsuperscript{42} Id. The medical benefits provided for by the act are provided as an incentive for, and contingent upon, registration in one of the Department of Defense's or Veterans Administration's registries. Id. § 721(b). Active duty veterans of the Persian Gulf War are provided "a full medical evaluation and any required medical care." Id. § 721(b)(1). Members of a reserve component are entitled to "a full medical evaluation" by the Defense Department, however medical care will be administered at the Defense Department’s discretion. Id. § 721(b)(2). Veterans who are neither active nor in a reserve unit are entitled only to "support services provided by the Department of Veterans Affairs". Id. § 721(b)(3). The Act creates a statutory presumption that the aggrieved veteran's illness is a result of serving in the Persian Gulf War. Id. § 721(d)(2). This presumption exists "until such time as the weight of medical evidence establishes another cause or causes of the member’s illness.” Id.

\textsuperscript{43} See, e.g., 140 CONG. REC. H7082-107 (daily ed. Aug. 8, 1994) (statement of Rep. Montgomery). Representative Montgomery stated that "[w]hat we are doing is unprecedented" in the history of the United States. Id. at H7084; see also Bill McAllister, Illness Pay for Gulf Vets Is Endorsed; Administration Plan Would Not Require A Defined Ailment, WASH. POST, June 10, 1994, at A1. Secretary of Veterans Affairs Jesse Brown declared that the legislation was “revolutionary” and “unprecedented” because, previously, the Department of Veterans Affairs had only been authorized to compensate for “illnesses or conditions that [could] be directly linked to their active duty service.” Id. But see Jim Schnabel, Band-Wagon Syndrome, WASH. POST, June 29, 1994, at A23. Schnabel warned, prior to the bill's enactment, that “to validate a nonexistent syndrome by legislative fiat, as the administration and its congressional allies may do here, could also lead to a flood of spurious claims, drawing funds from taxpayers and other veterans’ programs and causing needless anxieties among veterans and their families.” Id. Schnabel points to the fact that when the V.A. created its registry for Gulf War Syndrome veterans, the number of claimants rose from 300 to 24,000, in order to support his claim that "mass illness can be created more easily by suggestion and incentive than by any biological agent.” Id.

\textsuperscript{45} Id. § 106(a).
\textsuperscript{46} Id. § 106(a)(1),(2). The act authorizes the creation of a presumptive period of time, within which any illnesses manifested after service in the Gulf War are presumed to be connected to the veteran's service in the Gulf War. Id. § 106(b).
\textsuperscript{47} See Gulf War Illness May Be Spreading To Veterans’ Families, ARIZ. REP., Mar. 6, 1994, at A10 (reporting that 37 of 55 babies born after Gulf War to members of four Mississippi National Guard units that served in war were suffering from illnesses, including respiratory and blood disorders); see also Cimons, supra note 37, at A4. (stating that of 400 veterans polled, 78% of their spouses and 25% of their children born before Gulf War were also being affected by Gulf War syndrome).
\textsuperscript{48} Gulf War Benefits Act § 107(c).
groups. In order to ensure that veterans would utilize the newly authorized programs, the Act mandates an aggressive outreach program.

Despite these congressional measures, the Gulf War litigation in Texas indicates a dissatisfaction with legislative relief. The broad range of lucrative tort remedies, including pain and suffering as well as punitive damages, makes the possibility of a civil judgment appealing to veterans. The complexity and magnitude of mass toxics litigation suggests that it might be more effective for veterans to compel a more comprehensive response from Congress and the Department of Veterans Affairs including medical coverage for affected spouses and children. However, since the litigation process has already begun, it is necessary to examine the likelihood of success in that forum.

II. GOVERNMENTAL IMMUNITY—A BACKGROUND

Governmental immunity has not yet become a predominant issue in the current Gulf War litigation, however, it merits brief discussion because it may emerge as an integral aspect of the ultimate decisions.

49 Id. § 107. The section authorizes the Secretary of the Veterans Administration to “provide for the conduct of diagnostic testing and appropriate medical examinations” for these individuals. Id. § 107(a). The individual seeking such services must be one:

(1) who is the spouse or child of a veteran who—
   (A) is listed in the Persian Gulf War Veterans Registry . . . and
   (B) is suffering from an illness or disorder;
(2) who is apparently suffering from, or may have suffered from, an illness or disorder (including a birth defect, miscarriage, or stillbirth) which cannot be disassociated from the veteran’s service in the Southwest Asia theater of operations; and
(3) who, in the case of a spouse, has granted the Secretary permission to include in the Registry relevant medical data (including a medical history and the results of diagnostic testing and medical examinations) and such other information as the Secretary considers relevant and appropriate with respect to such individual.

Id. § 107(a)(1)-(3). This program is authorized for less than two years, beginning on November 1, 1994 and ending on September 30, 1996. Id. § 107(b).

50 Id. § 105. A newsletter, containing the latest information on scientific research into Persian Gulf syndrome and on benefits available to veterans and their spouses and children through the Department of Veterans Affairs, is to be made available to every veteran listed on the V.A.’s registry at least twice a year. Id. § 105(b). This information will also be made available by means of a toll-free number established by the Secretary of Veterans Affairs. Id. § 105(c).

51 See, e.g., Thomas D. Williams, Medical Claims for Gulf War Ailments Most Often Denied, HARTFORD COURANT, Dec. 27, 1994, at A7 (reporting that almost two-thirds of Gulf War veterans seeking government sponsored medical treatment are denied such coverage).

52 See Coleman v. Abb Lummus Crest, Inc., No. G-94-415, (S.D. Tex. filed Sept. 30, 1994). For example, Gulf War veterans are seeking in excess of one billion dollars in damages for injuries they allege were caused by chemical and biological weapons. Id.

53 Id.
The doctrine of sovereign immunity has traditionally operated to bar suit against the state.\textsuperscript{54} Congress relinquished much of this federal privilege by enacting the Federal Tort Claims Act.\textsuperscript{55} Nevertheless, Congress retained a key element of immunity in the military setting, as announced in \textit{Feres v. United States}.\textsuperscript{56} In \textit{Feres}, the Supreme Court held that the United States government is not liable to members of the armed forces for injuries which "arise out of or are in the course of activity incident to service."\textsuperscript{57} In precluding such litigation, the Court reasoned that certain suits, such as those involving the military, fall outside the scope of the Act.\textsuperscript{58} The Court cited the Veterans Administration compensation program as further support for its position,\textsuperscript{59} stating that the Veterans Administration was capable of providing a fully adequate means of redress for any soldier's injuries.\textsuperscript{60} Furthermore, in \textit{Stencel Aero Engineering Corp. v. United States},\textsuperscript{61} the Court expanded the exception to the Federal Tort Claims Act by applying the \textit{Feres} standard to contractors who seek indemnification from the United States government.\textsuperscript{62} In \textit{Stencel}, Captain John Donham, a National Guardsman, was permanently injured when a negligently designed component of his airplane malfunctioned.\textsuperscript{63} Donham brought suit against Stencel, the manufacturer of the negligently designed component, and Stencel then cross-claimed

\textsuperscript{54} See, e.g., Jeremy Travis, Note, \textit{Rethinking Sovereign Immunity After Bivens}, 57 N.Y.U. L. Rev. 597, 598-99 (1982) (stating doctrine provides that United States cannot be sued without consent of Congress). Effectively, the United States cannot be held liable for damages absent a statutory waiver of the immunity. \textit{Id.} at 599.

\textsuperscript{55} Federal Tort Claims Act, 10 U.S.C. § 2733 (1988) (authorizing government officials to settle claims against United States for certain acts of governmental employees and members of Armed Forces).

\textsuperscript{56} 340 U.S. 135, 146 (1950).

\textsuperscript{57} \textit{Id.} at 146. Congress, in drafting the Federal Tort Claims Act, did not create a new cause of action dependent on local law for service-connected injuries or death due to negligence. \textit{Id.} \textit{Feres} thus created a blanket government immunity in cases of military service tort suits on a variety of grounds, relying on the need to observe due deference to military discipline. See Robert L. Rabin, \textit{Tort System on Trial: The Burden of Mass Toxics Litigation}, 98 Yale L.J. 813, 814-15 (1989).

\textsuperscript{58} \textit{Feres}, 340 U.S. at 141. The Court specifically noted that the Act did not state that all claims must be allowed. \textit{Id.}

\textsuperscript{59} \textit{Id.} at 145.

\textsuperscript{60} \textit{Id.} Plaintiffs in \textit{Feres} availed themselves of Veterans Administration payments and statutory compensation systems for members of the armed forces and their surviving dependents, which included death gratuities. \textit{Id.}

\textsuperscript{61} 431 U.S. 666 (1977).

\textsuperscript{62} \textit{Id.} at 673 (concluding that policies underlying \textit{Feres} were applicable to bar Stencel's suit against United States).

\textsuperscript{63} \textit{Id.} at 673-74.
against the United States. The Supreme Court concluded that the Feres reasoning was equally applicable to this case and that it served to bar Stencel’s third-party indemnity action against the United States.

The Feres/Stencel doctrine proved to be central in the in In re Agent Orange settlement and other cases involving claims against the government. Accordingly, it may emerge as a key doctrine in the Gulf War litigation.

III. In re Agent Orange: Re-defining Toxic Tort Litigation

The United States government sprayed the herbicide Agent Orange in Vietnam from 1965 to 1970. This use, however, has been widely linked to a multitude of medical problems, ranging

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64 Id. at 668.
65 Id. at 673. The Court evaluated Stencel’s suit against the United States according to two factors which were the basis for the Feres holding. Id. First, it noted the “distinctively federal” character of the relationship between the government and members of the armed forces. Id. at 671 (citing United States v. Standard Oil Co., 332 U.S. 301 (1947)). “The distinctively federal nature of the relationship between soldiers and the government means that military personnel should not be subject to variations in state law when seeking relief.” William J. Blechman, Agent Orange and the Government Contract Defense: Are Military Manufacturers Immune from Products Liability?, 36 U. Miami L. Rev. 489, 493 n.17 (1982). The second factor noted by the Stencel Court was the Veterans’ Benefits Act, which provided “generous pensions to injured servicemen,” thereby obviating the need for a tort suit against the government. Stencel, 431 U.S. at 671. A third factor considered by the Court was the need for military discipline, which the Court felt could be promoted by prohibiting military personnel from questioning the validity of orders from their superiors. Id. (citing United States v. Brown, 348 U.S. 110, (1954)). The Stencel Court reasoned that a third-party action against the government would evoke “second-guessing of military orders” and would insinuate a certain degree of fault in the same way as a direct suit against the government would. Stencel, 431 U.S. at 673.


67 See Young & Reggiani, supra note 22. This herbicide was a reddish brown to tan colored liquid formulated to contain an equal amount of n-butyl esters 2,4-D and 2,4,5-T. Id.; see also Schuck, supra note 27, at 17 (1986) (stating that Agent Orange, composed of equal parts of 2, 4-0 and 2, 4, 5-T, proved effective in defoliating woody and broad-leafed vegetation). Agent Orange was also utilized to improve the Army’s visibility and destroy the enemy’s food supply. Richard A. Roth, The Essence of the Agent Orange Litigation: The Government Contract Defense, 12 Hofstra L. Rev., 983, 1003 n.163 (1984) (noting that United States sprayed herbicides over South Vietnam for strategic purpose of destroying enemy’s food supply). Other agents were sprayed in large quantities in Southeast Vietnam. Young & Reggiani, supra at 9-28.

68 See Young & Reggiani, supra note 22, at 12. Agent Orange was, however, the most widely used herbicide in South Vietnam. Id. at 12-13. By the end of the conflict, the U.S. government had sprayed approximately 44,953,560 liters of Agent Orange. Id. at 13-14.
from skin rashes to cancer. The subsequent legal consequences of Agent Orange use parallel the medical ones in complexity and severity. After a Veterans Administration officer advanced the idea that veterans' symptoms might be associated with Agent Orange exposure, veterans filed claims and litigation ensued. The plaintiffs then consolidated their pretrial proceedings in federal District Court after successfully petitioning the federal Multi-district Litigation Panel.

During a lengthy pre-trial stage, District Court Judge George Pratt of the Eastern District of New York rejected the plaintiffs' statutory claims, but allowed claims based on federal common law. In reversing the District Court decision, Judge Amalya Kearse of the United States Court of Appeals for the Second Circuit concluded that federal common law was not applicable because federal interests had not been directly implicated by the litigations.

69 See Schuck, supra note 27, at 17-18. As early as 1963, an army review of toxicity studies of Agent Orange ingredients suggested an increased risk of severe skin condition and respiratory irritation. Id. at 17. The contaminant tetrachlorodibenzo-p-dioxin ("TCDD"), a by-product of the manufacturing process of Agent Orange, has been recognized as one of the most highly toxic substances ever synthesized. Id. at 18 (citing interview with Arthur Galston, chairman, Department of Biology, Yale University); see also Murray Polner, For Long Island Veterans, Trauma and Injuries of War Persist, N.Y. Times, Nov. 8, 1992, at 8. The article reported that the Veterans Administration currently recognizes four diseases caused by exposure to Agent Orange: (1) chloracne—a skin rash; (2) soft-tissue sarcoma—cancer of the muscles and tissues; (3) non-Hodgkin's lymphoma—a group of illnesses including the growth of cancerous lymphoid cells; and (4) peripheral neuropathy—a disease of the nervous system that gives rise to numbness and tingling.

70 In re Agent Orange Prod. Liab. Litig., 635 F.2d 987, 996 (2d Cir. 1980). Several individual veterans and their families originally filed complaints in the Eastern and Southern Districts of New York and the Northern District of Illinois to set the Agent Orange litigation in motion. Id.

71 See Rabin, supra note 57, at 814. Judge George Pratt used the term Agent Orange to include, collectively, the herbicides Orange, Pink, Purple and Green. In re Agent Orange Prod. Liab. Litig., 506 F. Supp. 762, 768 n.1 (E.D.N.Y. 1980).

72 In re Agent Orange, 506 F. Supp. at 768. See 28 U.S.C. § 1407(a) (1988) (providing that "when civil actions involving one or more common questions of fact are pending in different districts, such actions may be transferred to any such district for coordinated or consolidated pretrial proceedings."). The consolidated case was assigned to Judge George Pratt of the Eastern District of New York. Rabin, supra note 57, at 814-15.


74 In re Agent Orange Prod. Liab. Litig., 506 F. Supp. 737, 745-46 (E.D.N.Y. 1979). Pratt noted that the federal interest in the litigation, a factor in determining whether federal common law should be applied, was strong here due to the increasing number of veterans involved in the litigation and the increasing size of the claims. Id. at 747-48. He decided that this federal interest would be unfairly burdened by the application of state law to plaintiffs' claims because the states did not have uniform tort laws. Id. at 748. According to Judge Pratt, the application of federal law would not significantly displace state law because "state tort law has not yet evolved to govern the duties of federal war contractors to federal soldiers." Id. at 749.
In late 1980, Judge Pratt then ruled on the remaining motions and pronounced a case management plan. While Judge Pratt deemed the case ready for discovery, he limited the inquiries to the government contractor defense. In addition, Judge Pratt began to view the problem of causation as critical in deciding other aspects of the case and accordingly, determined that all issues should be decided together. As this discovery proceeded, Judge Pratt was appointed to the Second Circuit.

The subsequent appointment of Judge Jack Weinstein to the case marked the inception of a new approach to mass toxic tort cases arising from United States military action. Judge Weinstein shifted the legal focus from the government contractor de-
fense to causation, thereby changing the character of the case. His efforts plainly entailed an effort to exert pressure on all parties through the use of judicial ingenuity. Judge Weinstein's approach culminated in the one of the most controversial settlements in tort history. While it is debatable whether the settlement actually benefited the recipients to any measurable degree, it is evident that it serves as one of the most visible guideposts for military tort litigation.

83 See Rabin, supra note 57, at 815 (noting that Judge Weinstein discerned national consensus law).
84 Id. at 815-17. Judge Weinstein aimed his creativity and domineering character at all the parties during the pre-trial stage:

When the Army insisted on its military command immunity under the Feres doctrine, he devised an independent theory of government liability to aggrieved spouses and after-born children. When the plaintiffs' lawyers evinced a determination to go to trial, he opined that their case on causation might not survive summary judgment. At the same time, when the chemical companies showed signs of stonewalling, he raised the specter of crippled and maimed veterans appearing before a sympathetic jury.

Id. at 815-16; see also Arnold H. Lubasch, Jack Weinstein: Creative U.S. Judge Who Dismains Robe and High Bench, N.Y. Times, May 28, 1991, at B5. While most lawyers acknowledge Judge Weinstein as being one of the most innovative judges in the Federal judiciary, some characterize him as being an impatient judge who sometimes pressures attorneys to settle complex litigation. Id.

85 Rabin, supra note 57, at 815. Although the Second Circuit had previously held that federal common law was inapplicable to plaintiffs' claims, Judge Weinstein nevertheless developed a "national consensus law" among all the states, which would result at trial in the application of one set of tort law to the case. Id. While introducing a "representative" test case approach, Judge Weinstein developed a strategy for providing veterans with notice and enunciated an opt-out alternative for recalcitrant claimants. Id.

86 See Peter H. Schuck, The Role of Judges in Settling Complex Cases: The Agent Orange Example, 53 U. Chi. L. Rev. 337, 343 (1986). The parties reached a settlement on May 7, 1984, the day jury selection was scheduled to begin. Id. According to Professor Schuck, the goal of settling was foremost in Judge Weinstein's mind from outset because "toxic tort cases like Agent Orange, involving mass exposures and causal relationships that are extremely difficult and costly to prove, could not be litigated properly or at an acceptable social cost under traditional rules." Id. at 343. He further contends that a settlement appeared to be the most attractive arrangement because both sides would benefit at a socially acceptable cost. Id; see also Rabin, supra note 57, at 816. Judge Weinstein attempted to pursue this settlement on terms he considered equitable to both sides. Id. The final settlement was for $180 million. Id.

87 See SCHUCK, supra note 27, at 217-220; see also Payments for Families of Defoliant's Victims, N.Y. Times, Mar. 3, 1989, at A23. In March of 1989 the Agent Orange settlement fund distributed its first payments, averaging $3,000 each, to families of Vietnam veterans whose deaths were linked to the defoliant. Id.

88 See SCHUCK, supra note 27, at 171. While $180 million constituted the largest settlement of any personal injury case to that date, the veterans believed that this figure was a small fraction of what a jury would have awarded them and an even smaller fraction of the chemical companies' profits earned at the veterans' expense. Id.
IV. A Comparison of Agent Orange and Gulf War Syndrome

The filing of the complaint in federal court in Texas by Desert Storm veterans alleging negligence by certain chemical companies\(^8\) seems reminiscent of In re Agent Orange. It again raises various issues concerning the adequacy of the tort system to address the needs of the aggrieved parties and generates proposals for amending the current system.\(^9\)

A. Tort System Criticism After Agent Orange

Following the In re Agent Orange settlement, several legal scholars questioned whether the tort system was equipped to meet its goals of compensation and deterrence\(^1\) in the face of a mass toxics disaster.\(^2\) The general consensus was that the tort system was ill-equipped to deal with the Agent Orange suit due to its heavy reliance on causation and its demand for sufficient evidence to establish a causal link.\(^3\) Furthermore, proving a causal connection, such as the one between dioxin and the symptoms exhibited

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\(^8\) See Coleman v. Abb Lummus Crest, Inc., No. G-94-415 (S.D. Tex. filed Sept. 30, 1994). The chemical companies named in the litigation are Abb Lummus Crest Inc. of Bloomfield, NJ, Abb Lummus Crest North America Inc. of DE, Alcolac Inc. of GA, Alcolac International of Linthicum, MD, Interchem Inc. of Monmouth Junction, NJ, Rhone-Poulenc Posi-Seal International Inc. of DE, Fisher Controls International Inc. of St. Louis, Bechtel Group Inc. of San Francisco, and Bechtel Corp. and American Type Culture Collection Inc. of Rockville, MD. Id. Twenty-six veterans filed the $1 billion class action lawsuit against these companies alleging that the firms made biological compounds they knew were "unreasonably dangerous" and that the firms conducted business in such a way that allowed "an outlaw country like Iraq" to acquire the compounds and use them to make weapons. Id. at 33-35.

\(^9\) See infra notes 91-98 and accompanying text (outlining inadequacies of tort system in dealing with mass toxics).

\(^1\) See Schuck, supra note 27, at 277-97 (acknowledging three broad policy goals of tort system concerning mass torts: compensation, deterrence and constraint on both); see also Rabin, supra note 57, at 817-22. (pointing to compensation and vindication of victims' injuries, deterrence of accident generating conduct, and tolerable level of administrative costs as goals of tort system).

\(^2\) See Rabin, supra note 57 at 819 (noting that after five years of pre-trial activity, number of seriously disabled claimants in class, character, and extent of their injuries was still unclear). Under the circumstances, the $180 million settlement did not reflect the probability of success if the tort claims had been litigated and, furthermore, did not approximate any rational estimate of economic or intangible loss actually suffered by the claimants. Id.

\(^3\) See W. Page Keeton et al., Prosser and Keeton on the Law of Torts § 41, at 269 (5th ed. 1984) [hereinafter Prosser & Keeton]. Generally, the plaintiff must introduce evidence which affords a reasonable basis for concluding that it is more likely than not that the particular conduct of the defendant was the cause in fact of the alleged injuries. Id.
by Vietnam veterans, requires the establishment of a causal chain and an explanation of the vital role of the given agent. Concerning toxics, this process often requires the use of expert testimony. Ironically, this is the type of testimony that led Judge Weinstein to conclude that plaintiffs in Agent Orange may not have had enough evidence to survive the scrutiny of summary judgment. While it would be naive to assert that all toxic tort cases present insurmountable causation problems, cases such as In re Agent Orange illuminate the difficulties surrounding the proof required in the tort system.

94 See Daniel A. Farber, Toxic Causation, 71 MINN. L. REV. 1219, 1227 (1987) (arguing that there are two causation problems in considering compensation). Professor Farber first cites to the problem in establishing that the chemical involved is capable of causing the type of harm from which the plaintiff suffers. Id. He then explains that the other problem involving proof of causation is establishing, once it is proven that the toxic substance in question can cause the harm suffered by the plaintiff, that the plaintiff's harm did result from the alleged, particular exposure. Id.

95 See Michael D. Green, Expert Witnesses and Sufficiency of the Evidence in Toxic Substances Litigation: The Legacy of Agent Orange and Benedictin Litigation, 86 NW. U. L. REV., 643, 644 n.7 (1992) (citing H.L.A. HART & ANTHONY HONORE, CAUSATION IN THE LAW (2d ed. 1985)); see also Richard W. Wright, Causation in Tort Law, 73 CAL. L. REV. 1735, 1737 (1985) (discussing scope and significance of causation in tort law context of causal inquiry and problems associated with causation). The author notes that the causation requirement, which relieves a defendant of liability if it cannot be established, is the more pervasive yet elusive concept in tort law. Id. at 1737.

96 See Green, supra note 95, at 644.

97 See generally Green, supra note 95, at 644 n.6 (noting many courts have restricted admissibility of expert witness testimony). The author also describes five different types of evidence which can contribute to an inference of causation: epidemiology, animal toxicology, in vitro testing, chemical structural analysis, and case reports. Id. at 644-58. Green utilized the Agent Orange and Benedictin litigation as examples of judicial approaches to admitting expert testimony, both involving the burden of production on cause in fact. Id at 659-63. One approach, effectively adopted by Judge Weinstein, requires epidemiologic studies by the plaintiff showing a causal connection between the agent and the illness. Id. at 659-60 n.72 (citing In Re Agent Orange, 611 F.Sup. 1223, 1231 (E.D.N.Y. 1985)). Another approach, espoused by the D.C. Circuit Court of Appeals in Ferebee v. Chevron Chemical Co., 736 F.2d 1529 (D.C. Cir.), cert. denied, 469 U.S. 1062 (1984), does not require epidemiologic evidence for a plaintiff to meet the burden of production on cause in fact. Green, supra at 663. This treatment has been deemed to be "passive acceptance of scientific testimony," allowing the jury to make a determination when expert testimony conflicts concerning certain undecided scientific fields. Id.

98 See Arvin Maskin, A Legal Assessment of the Agent Orange Controversy, in YOUNG & REGGIANI, supra note 22, at 175-78 (noting that United States limited its motion for summary judgment to claims arising from miscarriages and birth defects). Maskin stresses certain weaknesses in plaintiffs available epidemiological evidence. Id. at 175. Plaintiffs did not introduce any biochemical or laboratory tests or other non-epidemiological means by which birth defects or miscarriages could be attributed to parental exposure. Id. The author notes that plaintiffs "did not dispute the fact that no epidemiological evidence substantiated or even corroborated" their contentions. Id. at 177-78; see also Farber, supra note 94, at 1234-35 (stating that weakness of plaintiffs' causation evidence persuaded Judge Weinstein to approve $180 million settlement).
B. The Question of Causation

Litigation based on Gulf War Syndrome is likely to present an even more attenuated causal connection than that which existed in the Agent Orange litigation. Due to the assortment of symptoms exhibited by Desert Storm veterans, experts suspect that there may be multiple causes for Gulf War Syndrome. A 1994 report issued by the National Institutes of Health found that Gulf War Syndrome involves symptoms that could have been caused by biological and chemical warfare agents, vaccines, parasites, or a combination of these factors. The lack of meaningful data on the veterans’ illnesses, however, prevented the workshop from establishing a case definition. The absence of this data also precluded identification of any single explanation for Gulf War Syndrome.

99 See, e.g., 140 CONG. REC. S1196-201 (daily ed. Feb. 9, 1994) (statement of Sen. Riegle). In his statement to the Senate, Senator Riegle alleged that symptoms associated with Gulf War syndrome have already killed returning veterans and that other symptoms including serious memory loss, intestinal and heart problems, runny noses, urinary and intestinal tract problems, twitching, sores, as well as emotional and temper problems, had been reported. Patrick Cockburn, U.S. Troops Claim Gulf "Disease", THE INDEPENDENT (London), June 10, 1993, at 14. According to Major-General Ronald R. Blanck, commanding officer at the Walter Reed Army Medical Centre, veterans are suffering from “malaise/fatigue, muscle/joint pain, intermittent fever, diarrhea, abdominal pain, thick saliva, thinning/loss of hair, weight loss, skin rash, and bleeding gums.” Id; see also No Kuwait Oil Fire Link Found to GI Ills, CHI. TAM., Sept. 17, 1992, at 6. Veterans' complaints have also included bleeding gums, elevated blood pressure, and liver disorders.

100 See NATIONAL INSTITUTES OF HEALTH, TECHNOLOGY ASSESSMENT WORKSHOP STATEMENT: THE PERSIAN GULF EXPERIENCE AND HEALTH, Apr. 27-29, 1994 [hereinafter NIH REPORT]. One of the conclusions of the workshop panel was that "[n]o single disease or syndrome is apparent, but rather there are multiple illnesses with overlapping symptoms and causes." Id. at 18. The report divides the illnesses suffered by Gulf War veterans into those which were expected and those which were unexpected. Id. at 4. “Certain infectious diseases, such as acute viral, bacterial, and parasitic respiratory and gastrointestinal infections due to crowded living conditions” were expected to be reported by Gulf War veterans and were not the subject the workshop’s study. Id. Instead the workshop focused on the incidence of unexpected illnesses, which are defined as “previously unrecognized and unanticipated symptom complexes or illnesses that do not fit traditional diagnostic categories.” Id. The data presented to the workshop was insufficient to determine whether the incidence of unexpected illnesses in Gulf War veterans was higher significantly than in the general population. Id. The data did suggest, however, that “deployed active-duty personnel and deployed reservists reported more symptoms than did their non-deployed counterparts.” Id.

101 See NIH REPORT, supra note 100, at 3-6; see also John Toth, Ill Veterans File Lawsuit Over “Gulf War Syndrome”, HOUS. CHRON., June 8, 1994, at 22 (quoting report which concludes that “[t]here is no single disease or syndrome apparent, but rather multiple illnesses with overlapping symptoms and causes”).

102 See NIH REPORT, supra note 100, at 18.

103 See NIH REPORT, supra note 100, at 7. The report does, however, examine possible causative or contributing factors to the unexplained symptoms, including leishmaniasis, exposure to petroleum vapors, sand dust, depleted uranium, pyridostigmine, pesticides,
The plaintiffs who filed suit in United States District Court for the Southern District of Texas must overcome several significant hurdles in proving causation. They intend to show that "they were repeatedly exposed to chemical and/or biological reagents" and that these exposures caused their illnesses. The Agent Orange cases never specifically addressed the causation issue in a litigation context because of the settlement. However, Judge Weinstein's treatment of the claimants who "opted-out" of the class action, by granting defendants' motion for summary judgment, indicates that the burden may be insurmountable in similar cases. Relying on Ferabee v. Chevron Chemical Corp., Judge Weinstein stated that under either strict liability or negligence.

chemical agent coatings used on vehicles and equipment, exposure to biological and chemical warfare vaccines, and stressors. Id. at 7-14.


See Hart & Honore, supra note 95, at 152. A negligent act is unintentional but not accidental, for such act would reasonably be expected, in the circumstances, to lead to harm. Id.; see also RESTATEMENT (SECOND) OF TORTS § 431 (1965). The Restatement provides:

The actor's negligent conduct is a legal cause of harm to another if (a) his conduct is a substantial factor in bringing about the harm, and (b) there is no rule of law relieving the actor from liability because of the manner in which his negligence has resulted in the harm.

Id.; see also Prosser & Keeton, supra note 93, § 42, at 279 (illustrating problems to be considered as approach to proximate cause).


In re Agent Orange Prod. Liab. Litig., 611 F. Supp. 1223, 1264 (E.D.N.Y. 1985) (dismissing suits of claimants who opted not to participate in settlement). Judge Weinstein determined that "no acceptable study to date of Vietnam veterans and their families has concluded that there is a causal connection between exposure to Agent Orange and the serious adverse health effects claimed by plaintiffs." Id. at 1231. The judge also held that the plaintiffs' evidence on causation was inadmissible and worthless. Id. at 1238-39. Therefore, the judge concluded that plaintiffs were unable to establish that a material issue of fact existed with respect to causation. Id. at 1260.

See Fed. R. Civ. P. 56 (requiring lack of existence of genuine issue of material fact in order to grant summary judgment); see also Arvin Maskin, A Legal Assessment of the Agent Orange Controversy, in Young & Reggiani, supra note 22, at 174-75. Maskin points out that establishing one's entitlement to relief is not "summary" in terms of quality of proof required when the motion is predicated on causation. Id. But see Schuck, supra note 27, at 226-27 (noting that general rule is any doubts must be resolved against summary judgment largely because of plaintiffs' constitutional right to have jury decide all material factual issues).

736 F.2d 1529 (D.C. Cir.), cert. denied, 469 U.S. 1062 (1984). The court concluded that cases with complex causal issues, where there is dissent among experts as to a link between low level toxic chemical and human disease, require a jury decision. Id. at 1535.
gence, plaintiffs would have to prove a "but-for" causal connection between their claimed injuries and their exposure to Agent Orange by a preponderance of the evidence.\textsuperscript{111} In \textit{Ferebee}, the Court of Appeals reversed a summary judgment decision against an agricultural worker who claimed that his pulmonary fibrosis resulted from long term exposure to paraquat.\textsuperscript{112} Judge Weinstein swiftly distinguished \textit{Agent Orange} from \textit{Ferebee},\textsuperscript{113} noting that \textit{Ferebee} did not require epidemiologic studies because the plaintiff supplied technically competent and probative evidence from physicians that the paraquat led to his death.\textsuperscript{114}

Due to the factual similarities that underlie both cases, Agent Orange and Gulf War Syndrome, it is likely that Gulf War Syndrome cases will refer to Weinstein's \textit{In re Agent Orange} opinions for guidance. In applying the opt-out causation standard to the present Desert Storm case, it becomes apparent that the overlapping symptoms and causes, coupled with uncertainty in the medical and scientific communities, could present grounds for dismissal. Since there is uncertainty in the scientific and medical communities surrounding the cause or causes of Gulf War Syndrome,\textsuperscript{115} application of a Judge Weinstein analysis from \textit{Ferebee} would demand epidemiologic studies from the plaintiffs showing the requisite causal connection.\textsuperscript{116}

\textsuperscript{111} \textit{In re Agent Orange}, 611 F. Supp. at 1261. Although Judge Weinstein applied a rigorous standard for overcoming the summary judgment motion made by the opt-out plaintiffs, he deftly expanded the settlement to include all completely disabled veterans able to establish any exposure to Agent Orange, effectively removing the causation element from the settlement. \textit{Id.}; see also Rabin, supra note 57, at 823. \textit{See generally Prosser & Keeton, supra note 93, at 269} (discussing preponderance of evidence standard of proof in negligence cases).

\textsuperscript{112} \textit{Ferebee}, 736 F.2d at 1532. The court decided that sufficient evidence of causation had been demonstrated to justify submission of the issue to the jury. \textit{Id.} Furthermore, the court held that the manufacturer had sufficient knowledge to warrant a more detailed label, and that evidence supported the jury's finding that inadequate labeling was the proximate cause of the worker's illness. \textit{Id.}

\textsuperscript{113} \textit{In re Agent Orange}, 611 F. Supp. 1223, 1261 (E.D.N.Y. 1985) (stating that "Agent Orange presents entirely different set of problems" than \textit{Ferebee}).

\textsuperscript{114} \textit{Id.} at 1261-62. (citing \textit{Ferebee} v. Chevron Chemical Co., 736 F.2d 1529 (D.C. Cir.), cert. denied, 469 U.S. 1062 (1984)). Judge Weinstein also differentiated the cases by comparing the long period of time during which the agricultural worker had been exposed to paraquat, while the Vietnam veterans' exposure to Agent Orange had been for much shorter amounts of time. \textit{Id.} at 1262. The court also stated that in the "Agent Orange" litigation no competent particularistic evidence was presented and furthermore, the relevant epidemiological evidence was negative. \textit{Id.}

\textsuperscript{115} \textit{See supra} note 5 and accompanying text (discussing possible causes of Gulf War Syndrome).

\textsuperscript{116} \textit{See In re Agent Orange} 611 F. Supp. at 1261-62. Judge Weinstein interpreted \textit{Ferebee} to require that in the absence of "technically competent, probative evidence [by an
C. The Costs of Litigation

In deciding the summary judgment motion against the opt-out claimants, and essentially reinforcing the futility of the Agent Orange claims, Judge Weinstein observed that both the government and other groups had spent millions of dollars in research during the almost six years of In re Agent Orange Product Liability Litigation.\(^{117}\) While the settlement provided for the establishment of a $180 million fund, experts estimate that administrative costs had reached approximately $110 million by 1984.\(^{118}\) This assessment raises questions as to whether the tort system, with notable administrative costs, is generally a cost effective means of seeking redress.\(^{119}\) More specifically, it adds credence to the primary argument that the tort system, with causation as an integral component, is unable to process mass toxic cases effectively.\(^{120}\)

expert] that the chemical in question led to [the injury]," epidemiological proof was necessary. \(\text{Id.}\)\(^{117}\) \(\text{Id.}\) at 1260 (stating years of discovery and tens of millions of dollars spent on research has not produced any competent evidence indicating any issues of fact regarding causation).

\(^{118}\) See Rabin, supra note 57, at 820 (enumerating terms of settlement specifically accounting for $180 million plus interest). By May of 1984, plaintiffs had spent over $10 million dollars and defendants had spent roughly $100 million dollars in an extensive trial preparation effort. \(\text{Id.}\) at 820 n.20. The author states that the defendants had major incentives in prolonging the litigation, and consequently increasing the costs to the plaintiffs, in the hopes that the plaintiffs' resources would become insufficient. \(\text{Id.}\) at 821.

\(^{119}\) See John J. Donohue III, The Law and Economics of Tort Law: The Profound Revolution, 102 HARV. L. REV. 1047, 1048 (1989) (book review) (stating tort system is poor mechanism for providing compensation because it provides less than 50 cents on dollar for every dollar of cost). Donohue recognizes the benefits of using insurance to provide compensation rather than the tort system. \(\text{Id.}\) at 1048. Private insurance provides benefits exceeding eighty cents per dollar of cost. \(\text{Id.; see also}\) Rabin, supra note 57, at 821 (citing JAMES KALALIK & NICHOLAS PACE, COSTS AND COMPENSATION PAID IN TORT LITIGATION XVII-XIX (1986), noting that even classic two-party negligence case is costly mechanism for allocating losses, as compared to no-fault and social insurance schemes). Rabin also expresses criticism of the tort system by noting that "when process costs become the dominant characteristic of a system designed to allocate liability on corrective justice principles, tort law has lost its bearings." \(\text{Id.}\) at 829. \(\text{But see}\) Donohue, supra, at 1048 n.9 (acknowledging net compensation of total cost is slightly higher where tort system influences defendants to settle prior to litigation).

\(^{120}\) See Robert L. Rabin, Some Thoughts on the Efficacy of a Mass Toxics Administrative Compensation Scheme, 52 MD. L. REV. 951, 978 (1993) (noting that many supporters of tort system would agree that traditional two-party system is inadequate for handling mass toxic tort cases); see also, Alan O. Sykes, Reformulating Tort Reform, 56 U. CHI. L. REV. 1153, 1156 (1989); Joseph A. Page, Deforming Tort Reform, 78 GEO. L.J. 649, 656-58 (1990) (reviewing PETER W. HUBER, LIABILITY: THE LEGAL REVOLUTION AND ITS CONSEQUENCES (1988)).
V. ASSESSING THE ALTERNATIVES

Legal scholars have openly criticized the current tort system and have offered alternative methods of redress. For example, Professor David Rosenberg of Harvard University School of Law has outlined a public tort model. In this model, he advances a theory of proportional liability based on the percentage of injuries attributable to defendant's activity. Comparatively, Professor Robert Rabin of Yale Law School focuses on the social insurance model. By merely requiring proof of present injury, social insurance essentially reduces plaintiff's causation burden.

While both of these theories are noble propositions, it is questionable whether they can meet the needs of veterans more effectively. Former United States Assistant Attorney General Richard Willard maintains that the current tort system warrants procedural reforms. According to Willard, the tort system swayed from its goals of compensation and deterrence, and instead, imposes concepts of societal insurance and risk spreading.

121 See supra notes 91-98 and accompanying text (discussing negative aspects of tort claims in judicial process).

122 See David Rosenberg, The Causal Connection in Mass Exposure Cases: A “Public Law” Vision of the Tort System, 97 Harv. L. Rev., 851, 854-55 (1984) (noting inability of tort system to deal effectively with mass exposure cases because of plaintiffs' causation burden concerning preponderance of evidence standard). Professor Rosenberg proposes replacing the preponderance of the evidence rule with a standard of proportional liability. Id. at 859. In imposing proportional liability, the court would apportion liability and distribute compensation in proportion to the probability of causation assigned to the excess disease risk in the exposed population. Id; see also Schuck, supra note 27, at 268. Additionally, the public law approach would exclusively employ a class action approach to litigation, as opposed to individualized claims. Id.

123 Id. at 859.

124 See Rabin, supra note 57, at 825-29. The author finds little hope for translating the public law model from theory to practice. Id. at 825. He alternatively suggests a solution outside the tort system. Id. Consequently, the social insurance model seems to put the causal nexus prerequisite to rest. Id. at 827. The distinguishing characteristic of the social insurance model is that the sole requirement for compensation by the claimant is proof of a present disability, and therefore, proof of the cause of the disability is irrelevant. Id. Professor Rabin, however, acknowledges that a social insurance system, standing alone, would not achieve the goal of “optimal accident prevention”, one of the redeeming features of the traditional tort system. Id. at 828. This results because the incentive to control against undue risk is removed by the no fault, limited liability approach embodied by the social insurance system. Id. Replacing the tort system would require the addition of a regulatory system to control against undue risks produced by the industrial and service sectors of the economy. Id.

125 Id. at 826.


127 Id. at 6-7 (arguing that courts have central tort concepts of compensation and deterrence).
the substantive legal doctrine through alternative claims compensation systems would prove ineffective.\textsuperscript{128} Willard contends that these systems would not obviate the unfairness and perverse incentives of expansive tort liability.\textsuperscript{129} Moreover Willard, maintains that alternative claims compensation systems would also involve substantial transactional costs.\textsuperscript{130}

Close examination of the current measures being taken by Congress and the Department of Veterans Affairs reveals the adoption of a scheme that approximates the approach articulated in the social insurance model.\textsuperscript{131} In particular, these measures unilaterally compensate claimants who are suffering from undiagnosed illnesses.\textsuperscript{132} In the Veterans’ Benefits Improvements Act of 1994,\textsuperscript{133} Congress created a legislative presumption that Gulf War veterans suffering from undiagnosed illnesses contracted those illnesses as a result of their service in the Gulf War.\textsuperscript{134} This approach essentially circumvents the causation obstacle present in both the traditional tort system and the public tort model.\textsuperscript{135} The legislation does not, however, provide compensation for veterans’ children who may be disabled by Gulf War Syndrome.\textsuperscript{136} For these individuals, one alternative is tort litigation.\textsuperscript{137} Although the like-

\textsuperscript{128} See id. (cautioning against adopting alternative claims compensation systems involving trade-offs between levels of compensation and standards of liability). Willard notes that alternative compensation schemes limit or preclude recovery for non-economic damages. Id. at 7. He argues that the first step toward efficiency would be to reduce delay and legal costs. Id. at 7.

\textsuperscript{129} Id. Willard asserts that the systems would exacerbate those effects to the extent that they lessen the requirements for proving causation and fault. Id.

\textsuperscript{130} Richard K. Willard, The Litigation Explosion and the Need for Tort Reform in The Legal System, Assault on the Economy, 35 (Philip D. Mink, ed. 1986). According to Willard, the alternative claims compensation systems would still have substantial, albeit lower, transaction costs. Id. Also, the total cost of an alternative claims compensation program could be enormous, even though damage levels are limited. Id.

\textsuperscript{131} See supra note 125 and accompanying text (explaining that social insurance model does not require proof of causation for victim compensation).


\textsuperscript{133} See supra note 5 and accompanying text (detailing possible causes of Gulf War Syndrome).

\textsuperscript{134} See supra notes 45-46 and accompanying text (noting legislative presumption created by Veterans’ Benefits Improvement Act of 1994).

\textsuperscript{135} See supra notes 93-97 and accompanying text (addressing causation obstacle posed in mass tort litigation).

\textsuperscript{136} See supra notes 12-14 and accompanying text (explaining alleged effects of Gulf War syndrome on veterans’ wives and children).

lihood of success based on such claims is remote, the suits would, arguably, still serve the function of deterring high risk conduct in the toxics industry. In addition, the financial cost of such litigation, combined with the remote likelihood of success in obtaining a favorable judgment, weigh heavily against this alternative. Thus, the intricacies and limitations of the tort system, when dealing with mass toxics in a military context, demonstrate that plaintiffs should pursue other options.

A. Proposal

Perhaps the most efficient and feasible option available to potential claimants is the creation of a comprehensive treatment plan for Gulf War veterans, their spouses, and children who suffer from Gulf War syndrome. The implementation of such a broad plan would require Congress to amend the 1994 Act to include spouses’ children who apparently suffer from Gulf War syndrome. This change would presumably allow spouses and children to receive care for their illnesses on a presumptive basis under the Act. This care would be authorized unless scientific evidence conclusively establishes that the affected parties’ injuries were not caused by service in the Gulf War. By eliminating the need for complex, costly tort litigation and recognizing the interests of these additional affected parties, the effectuation of this plan would serve both fiscal and policy interests.

B. Regulatory Scheme

Exclusive reliance on this plan could prove problematic. The plan may fail to deter high risk conduct because it offers no financial impetus for manufacturers to refrain from manufacturing

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138 See supra notes 93-97 and accompanying text (discussing difficulty of success in tort litigation due to causation requirement).
139 See supra note 139 and accompanying text (noting that litigation costs serve to deter high risk conduct in toxics industry).
141 See supra notes 12-14 and accompanying text (explaining alleged effects of Gulf War syndrome on veterans’ wives and children).
142 See Laurie Wilson, Gulf War Veterans Form Coalition; Group Seeks Benefits for Health Problems, DALLAS MORNING NEWS, Mar. 12, 1995, at 35A. Gulf War veterans are forming a coalition in order to compel a more comprehensive system of benefits from the government. Id.
dangerous products.\textsuperscript{143} Tort litigation achieves this goal through the threat of costly litigation and even costlier judgments against manufacturers.\textsuperscript{144} This positive attribute of tort litigation could, however, be achieved through a more strictly enforced regulatory framework.\textsuperscript{145} Stricter regulation of exports of military value and toxic substances must be implemented along with the expansion of coverage of the 1994 Benefits Act in order to create a justifiable alternative to the tort system.\textsuperscript{146}

V. Conclusion

The United States government waited more than fifteen years to acknowledge that its use of the herbicide Agent Orange affected over 2.5 million Vietnam veterans, their spouses and their children. In effect, the government presumed that the veterans' claims for compensation were invalid, leaving the wounded servicemen with the opportunity to seek redress only from the chemical companies that manufactured the herbicide. The ensuing settlement revealed the inadequacy of the tort system as a vehicle for compensating the veterans for their injuries. While Gulf War Syndrome now stands to affect a significantly smaller number of veterans, the problems faced by the two groups of veterans are disturbingly similar. The compensation scheme recently adopted by Congress is a laudable first step in avoiding the same mistakes made with the Agent Orange veterans. It is, however, unjustifiably incomplete without an expanded regulatory scheme to govern the export of potentially harmful substances and an extension of medical coverage to affected spouses and children of service people.

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\textsuperscript{143} See Guido Calabresi, The Costs of Accidents 95-129 (1970); see also supra note 139 and accompanying text (noting that accident deterrence is one goal of tort system).

\textsuperscript{144} See generally Rabin, supra note 57, at 819 (explaining that plaintiff compensation and deterrence of manufacturers' high-risk conduct are "two sides of the same coin").

\textsuperscript{145} See Rabin, supra note 57, at 828 (explaining that strictly enforced regulatory scheme is necessary, in absence of tort system, to control against unwarranted risk in industrial sector of economy).