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Veterans Affairs: Health Care and Benefits for Veterans Exposed to Agent Orange

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Summary

Since the 1970s, Vietnam-era veterans have attributed certain medical illnesses, disabilities, and birth defects to exposure to Agent Orange and other herbicides sprayed by the U.S. Air Force to destroy enemy crops and remove forest cover. During the last 30 years, Agent Orange legislation has established and updated the health and disability benefits of Vietnam veterans exposed to herbicides.

The Veterans' Health Care, Training and Small Business Loan Act (P.L. 97-72) elevated Vietnam veterans' priority status for health care at Department of Veterans Affairs facilities by recognizing a veteran's own report of exposure as sufficient proof to receive medical care unless there was evidence to the contrary. The Veterans' Health Care Eligibility Reform Act of 1996 (P.L. 104-262) completely restructured VA medical care eligibility requirements for all veterans. Under P.L. 104-262, a veteran does not have to demonstrate a link between a certain health condition and exposure to Agent Orange; instead, medical care is provided unless the VA has determined that the condition did not result from exposure to Agent Orange or the condition has been identified by the Institute of Medicine (IOM) as having "limited/suggestive" evidence of *no* association between the occurrence of the disease and exposure to a herbicide.

The Veterans' Dioxin and Radiation Exposure Compensation Standards Act of 1984 (P.L. 98-542) required the VA to develop regulations for disability compensation to Vietnam veterans exposed to Agent Orange. In 1991, the Agent Orange Act (P.L. 102-4) established for the first time a presumption of service connection for diseases associated with herbicide exposure. P.L. 102-4 authorized the VA to contract with the IOM to conduct a scientific review of the evidence linking certain medical conditions to herbicide exposure. Under this law, the VA is required to review the reports of the IOM and issue regulations, establishing a presumption of service connection for any disease for which there is scientific evidence of a positive association with herbicide exposure.

Navy veterans of the Vietnam Era (those who served in Vietnam between January 9, 1962, and May 7, 1975), who served offshore and were never physically present on Vietnamese soil, have been contesting the presumption of service-connection for Agent Orange disability benefits. In 2006, the U.S. Court of Appeals for Veterans Claims (CAVC) ruled in *Haas v. Nicholson* that navy veterans who served offshore during the Vietnam Era were entitled to a presumption of exposure to Agent Orange. However, in May 2008, the U.S. Court of Appeals for the Federal Circuit reversed the prior CAVC ruling. The Agent Orange Equity Act of 2008 (H.R. 6562), which has seen no legislative action, would clarify service in Vietnam to include inland waterways, waters offshore, and, airspace above Vietnam.

This report will be updated as events warrant.

Contents

Background 1
Health Care 1
Disability Compensation 2
The Agent Orange Registry 4
Non-Vietnam Veterans Exposed to Agent Orange 4
Haas v. Peake (Previously *Haas v. Nicholson*) 5
    Haas v. Nicholson 5
    Subsequent Actions 6
    Haas v. Peake 7
    Subsequent Actions 7
    Proposed Legislation to Clarify Service in Vietnam 7
Epidemiologic Research on Vietnam Veterans 8
    Centers for Disease Control and Prevention 8
    Air Force Health Study (AFHS) 8

Veterans Affairs: Health Care and Benefits for Veterans Exposed to Agent Orange

Background

Between 1962 and 1971, the U.S. Air Force sprayed approximately 107 million pounds of herbicides in South Vietnam for the purpose of defoliation and crop destruction. The herbicides sprayed during the Vietnam era contained mixtures of 2,4-dichlorophenoxyacetic acid (2,4-D), 2,4,5-trichlorophenoxyacetic acid (2,4,5-T), picloram, and cacodylic acid. The most extensively used defoliant compound, a 50:50 combination of 2,4-D and 2,4,5-T, came to be known as "Agent Orange" because of the orange-colored band placed on each chemical storage container. One of the chemicals used in Agent Orange, 2,4,5-T, contained small amounts of dioxin. Other herbicides employed in Vietnam such as "Agent Purple"and "Agent Green" also were contaminated with dioxin. Collectively, these compounds were referred to as the "rainbow defoliants." The late 1960s saw a decline in the use of these herbicides when dioxin, already well known to be highly toxic in animals, was implicated in birth defects seen in mice. By 1969, spraying was restricted to remote areas, and by 1971, the Air Force ceased all spraying of Agent Orange.

Since the 1970s, Vietnam-era veterans have voiced concerns about how exposure to Agent Orange may have affected their health and caused certain disabilities, including birth defects in their children. Initially, the Department of Defense (DOD) maintained that only a limited number of U.S. military personnel, such as those operating aircraft or troops engaged in herbicide spraying, could be positively linked to Agent Orange exposure. However, in 1979, the General Accounting Office, now the Government Accountability Office (GAO), reported that ground troops had also been exposed to Agent Orange, and DOD was forced to reconsider its prior statements.[1] In response to these concerns, Congress passed legislation to research the long-term health effects on Vietnam veterans, and to provide benefits and services to those who may have been exposed to Agent Orange.

Health Care

Prior to the 1981 Veterans' Health Care, Training and Small Business Loan Act (P.L. 97-72), veterans who complained of Agent Orange-related illnesses were at the lowest priority for treatment at Department of Veterans Affairs (VA) medical

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[1] U.S. General Accounting Office, *Ground Troops in South Vietnam were in Areas Sprayed with Herbicide Orange*, GAO 80-23, November 1979, p. 1.

facilities because these conditions were not considered "service-connected."[2] P.L. 97-72 elevated Vietnam veterans' priority status for health care at VA facilities by recognizing a veteran's own report of exposure as sufficient proof to receive medical care unless there was evidence to the contrary. The Veterans' Health Care Eligibility Reform Act of 1996 (P.L. 104-262) completely restructured VA medical care eligibility requirements for all veterans. Under P.L. 104-262, a veteran does not have to demonstrate a link between a certain health condition and exposure to Agent Orange; instead, medical care is provided unless the VA has determined that the condition did not result from exposure to Agent Orange or the condition has been identified by the Institute of Medicine (IOM) as having "limited/suggestive" evidence of *no* association between the occurrence of the disease and exposure to a herbicide.[3] The research by the IOM (part of the National Academies) and its significance is addressed below.[4]

Disability Compensation

The Veterans' Dioxin and Radiation Exposure Compensation Standards Act of 1984 (P.L. 98-542) required the VA to develop regulations for disability compensation to Vietnam veterans who may have been exposed to Agent Orange. Veterans seeking compensation for a condition they thought to be related to herbicide exposure had to provide proof of a service-connection that established the link between herbicide exposure and disease onset. P.L. 98-542 authorized disability compensation payments to Vietnam veterans for the skin condition chloracne, which is associated with herbicide exposure. In 1991, the Agent Orange Act (P.L. 102-4) established for the first time a presumption of service connection for diseases associated with herbicide exposure. Under the Agent Orange Act, veterans seeking disability compensation for diseases they thought to be associated with herbicides no longer were required to provide proof of exposure. P.L. 102-4 authorized the VA to contract with the IOM to review and summarize the scientific evidence concerning the association between exposure to herbicides used in support of military operations in Vietnam during the Vietnam Era and each disease suspected to be associated with such exposure. P.L. 102-4 mandated that IOM determine, to the extent possible (1) whether there is a statistical association between the suspect diseases and herbicide exposure, taking into account the strength of the scientific evidence and the appropriateness of the methods used to detect the association; (2) the increased risk of disease among individuals exposed to herbicides during service in Vietnam during the Vietnam Era; and (3) whether there is a plausible biological mechanism or other

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[2] The term "service-connected" means, with respect to disability, that such disability was incurred or aggravated in the line of duty in the active military, naval, or air service. VA determines whether veterans have service-connected disabilities, and for those with such disabilities, assigns ratings from 0% to 100% based on the severity of the disability. Percentages are assigned in increments of 10%.

[3] "Limited/suggestive" evidence of no association is when several adequate studies, covering the full range of levels of exposure that human beings are known to encounter, are consistent in not showing a positive association between any magnitude of exposure to herbicides and the outcome of disease.

[4] For detailed information on eligibility for VA health care, see CRS Report RL34598, *Veterans' Medical Care: FY2009 Appropriations*, by Sidath Viranga Panangala.

evidence of a causal relationship between herbicide exposure and the health outcome.[5] VA is then required to review the reports of the IOM and issue regulations, establishing a presumption of service connection for any disease for which there is scientific evidence of a positive association with herbicide exposure. Once the VA has established presumption of service connection for a certain disease or medical condition, a Vietnam veteran with that disease is eligible for disability compensation. The amount of compensation is based on the degree of disability and, again, veterans are compensated only for approved conditions that have demonstrated sufficient evidence of an association with herbicide exposure.

Currently, the conditions that are presumptively recognized for service-connection for Vietnam veterans are chloracne (must occur within one year of exposure to Agent Orange); non-Hodgkin's lymphoma; soft tissue sarcoma (other than osteosarcoma, chondrosarcoma, Kaposi's sarcoma, or mesothelioma); Hodgkin's disease; porphyria cutanea tarda (must occur within one year of exposure); multiple myeloma; respiratory cancers, including cancers of the lung, larynx, trachea, and bronchus; prostate cancer; acute and subacute transient peripheral neuropathy (must appear within one year of exposure and resolve within two years of date of onset); type II diabetes; and chronic lymphocytic leukemia.[6] In addition, Vietnam veterans' children with the birth defect spina bifida are eligible to receive a monthly monetary allowance in addition to certain health care services. The Veterans Benefits and Health Care Improvement Act of 2000 (P.L. 106-419) authorized similar benefits and services for children with certain birth defects who were born to female Vietnam veterans.[7]

The Agent Orange Act of 1991 (P.L. 102-4) also mandated the VA to publish a notice when the VA determines that a presumption of service-connection is not

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[5] This comprehensive review by the IOM has been repeated at least every two years since 1994 and is authorized to continue until October 2014. *Veterans and Agent Orange* weighs the strengths and limitations of the complete body of epidemiologic evidence on herbicide exposure and manifestation of certain health outcomes. This review then assigns the investigated medical conditions to one of four categories ranging from "sufficient evidence of an association" to "limited or suggestive evidence of no association." For example, in the 2006 *Veterans and Agent Orange* update, this information is available in Table S-1. The latest update was compiled in 2006 and released in July 2007, at [http://www.nap.edu/].

[6] 38.C.F.R. §3.309(e). In 2003, based on 2002 update of the IOM report *Veterans and Agent Orange*, the VA issued regulation designating chronic lymphocytic leukemia ("CLL") and other medical conditions as diseases associated with dioxin. CLL was therefore to be considered "service connected." However, the VA did not re-adjudicate prior claims for CLL, nor did it pay retroactive benefits, arguing that compensation was not applicable to diseases determined to be service-connected after September 20, 2002, the original sunset date of the Agent Orange Act of 1991. Following extensive litigation, the U.S. Court of Appeals for the Ninth Circuit (*Nehmer v. VA*, 494 F.3d 846 (9th Cir. Cal. 2007)) affirmed the district court decision *(Nehmer v. VA*, 32 F.Supp. 2d 1175 (N.D. Cal. 1999)) and, in effect, confirmed that the VA was obligated to pay disability benefits to all "Agent Orange" veterans with CLL, including those diagnosed after September 20, 2002.

[7] 38 C.F.R. §3.815. For detailed information on eligibility for disability compensation, see CRS Report RL33113, *Veterans Affairs: Basic Eligibility for Disability Benefit Programs*, by Douglas Reid Weimer.

warranted. On June 12, 2007, based on the 2004 IOM report on Agent Orange, the VA issued a notice that a presumption of service-connection is not warranted based on exposure to herbicides used in Vietnam during the Vietnam Era for the following medical conditions: Hepatobiliary cancers; oral, nasal, and pharyngeal cancer; bone and joint cancer; skin cancers (melanoma, basal, and squamous cell); breast cancer; female reproductive cancer (cervix, uterus, and ovary); testicular cancer; urinary bladder cancer; renal cancer; leukemia (other than chronic lymphocytic leukemia [CLL]); abnormal sperm characteristics and infertility; spontaneous abortion; neonatal or infant death and stillbirth in offspring of exposed individuals; low birthweight in offspring of exposed individuals; neurobehavioral disorders (cognitive and neuropsychiatric); movement disorders, including Parkinson's disease and amyotrophic lateral sclerosis (ALS); chronic peripheral nervous system disorders; respiratory disorders; gastrointestinal, metabolic, and digestive disorders (changes in liver enzymes, lipid abnormalities, ulcers); immune system disorders (immune suppression, autoimmunity); circulatory disorders; amyloid light-chain (AL) amyloidosis; endometriosis; effects on thyroid homeostasis; gastrointestinal tumors (esophagus, stomach, pancreas, colon, rectum); brain tumors; and any other condition for which the VA has not specifically determined a presumption of service-connection.[8]

The Agent Orange Registry

The Agent Orange Registry was established in 1978 by the VA for Vietnam veterans concerned about the health effects of exposure to Agent Orange. A veteran choosing to register is eligible for an examination consisting of a medical history, a physical examination, and a series of laboratory tests. Each veteran is also required to answer a set of questions relevant to exposure. In September 2000, the Agent Orange Registry was expanded to include veterans who served in Korea in 1968 and 1969. Since August 2001, the registry is accessible to all U.S. veterans potentially exposed to dioxin or other toxic substances used in herbicides while engaged in military activity. Participating in the registry does not give exposed military personnel automatic access to health and disability compensation benefits. As of September 2007, more than 490,000 veterans have participated in the registry.[9]

Non-Vietnam Veterans Exposed to Agent Orange

Under current law, only Vietnam veterans who served in-country are eligible to receive health care benefits and compensation for service "in Vietnam."[10] However, under certain circumstances, veterans are eligible for health care and compensation benefits for service outside of Vietnam. A non-Vietnam veteran who claims that an

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[8] U.S. Department of Veterans Affairs, "Health Outcomes Not Associated With Exposure to Certain Herbicide Agents." *Federal Register*, vol. 72, no.112 (June 12, 2007), pp 32395-32407.

[9] There were a total of 439,849 initial examinations, and 50,487 follow-up examinations.

[10] Service in the Republic of Vietnam includes service in the waters offshore and services in other locations if conditions of service involved duty or visitation in the Republic of Vietnam. 38 C.F.R. §3.313(a); 38 C.F.R. 3.307(a)(6)(iii).

injury or illness resulted from exposure to Agent Orange while serving in the military can apply for service-connected benefits. But unlike Vietnam veterans, they are required to prove they were exposed to Agent Orange. VA requires the following information in the veteran's benefit application: a medical diagnosis of a disease or condition the VA recognizes as associated with Agent Orange; evidence of exposure to a chemical contained in the herbicides used in Vietnam; and medical evidence that the disease began or manifested within the designated time frame, if any, for that disease.[11] Those veterans who served in areas such as the Korean Demilitarized Zone (DMZ) may be eligible to apply for disability benefits. The DOD has also published a list of areas outside of Vietnam where Agent Orange was used.[12]

In 2003, Congress passed the Veterans Benefits Act of 2003 (P.L. 108-183).[13] Among other things, the Act expanded health care and other benefits to natural children of Korea service veterans born with spina bifida.[14] To be eligible for benefits, the veteran must have served in the active military, naval, or air service in or near the Korean Demilitarized Zone (DMZ) between September 1, 1967, and August 31, 1971, and must have been exposed to certain herbicides during such service.[15] Furthermore, under P.L. 108-183, the determination of service in the Korean DMZ is to performed by the VA in consultation with DOD.

Haas v. Peake [16] (Previously *Haas v. Nicholson*)[17]

Haas v. Nicholson. On August 16, 2006, the U.S. Court of Appeals for Veterans Claims (CAVC) determined that the veterans who had served in the waters off Vietnam (this class of veterans is generally known as "blue water" veterans) were

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[11] If a veteran did not serve in the Republic of Vietnam, but was exposed to an herbicide agent defined in 38 CFR 3.307(a)(6) during active military service, has a disease on the list of diseases subject to presumptive service-connection, VA will presume that the disease is due to the exposure to herbicides. Additional information on benefits and compensation for veterans exposed to Agent Orange is available at the U.S. Department of Veterans Affairs, "VA's Guide on Agent Orange Claims, Compensation and Pension Service," updated April 27, 2004, pp. 1-7, at [http://www.vba.va.gov/bln/21/Benefits/Herbicide/AOno3.htm].

[12] [http://www1.va.gov/agentorange/docs/Report_on_DoD_Herbicides_Outside_of_Vietnam.pdf].

[13] P.L. 108-183, among other the bills, contained provisions from H.R. 2297 (H.Rept. 108-211) and S. 1132 (S.Rept. 108-169).

[14] This applies to all forms and manifestations of spina bifida, except spina bifida occulta.

[15] 38 U.S.C. §1821.

[16] 525 F.3d 1168 (Fed. Cir. 2008).

[17] 20 Vet. App. 257 (2006). Jonathan L. Haas was a member of the U.S. Navy Reserve components that served in the waters off Vietnam and received the Vietnam Service Medal (VSM). He claimed that his diabetes mellitus and resulting medical complications were related to his exposure to Agent Orange that drifted offshore, and filed a disability claim with the VA. VA denied the claim on the grounds that servicemembers had to have actually set foot on Vietnamese soil in order to be eligible for benefits.

entitled to a presumption of exposure to Agent Orange.[18] Prior to this CAVC decision,[19] VA's interpretation of 38 CFR 3.307(a)(6)(iii) was that a service member had to have actually set foot on Vietnamese soil or served on a craft in its rivers (also known as "brown water" veterans) in order to be entitled to the presumption of exposure to Agent Orange. The CAVC specifically held the following: (1) the reference to service "in Vietnam" as used in the statute was ambiguous because there are many definitions of the territory of a nation, and (2) VA's regulation defining Vietnam service for purposes of granting the presumption of exposure to herbicides, 38 CFR 3.307(a)(6)(iii), was ambiguous when viewed together with 38 CFR 3.313, which also defines service in Vietnam. Because CAVC determined that ambiguity was present, it also examined VA's Adjudication Procedure Manual M21-1 (the M21-1 manual)[20] provision from 1991, which stated that the receipt of a Vietnam Service Medal (VSM) would be considered proof of Vietnam service in the absence of "contradictory evidence." In 2002, VA issued a new M21-1 provision advising VA benefit adjudicators that the receipt of the VSM could indicate service on land in Vietnam but, by itself, was not proof of service in Vietnam because a veteran may have received this medal for service in locations other than Vietnam.[21] The CAVC determined the M21-1 provision to be a substantive rule establishing entitlement to the presumption of exposure to herbicides, and held that VA's "attempted rescissions" of that M21-1 provision were void because they failed to comply with the notice and comment requirements of the Administrative Procedures Act (APA).[22]

Subsequent Actions. On September 21, 2006, Secretary Nicholson issued a memorandum directing the Board of Veterans Appeals (BVA) to withhold adjudicating all service-connected claims based on exposure to herbicides in which the only evidence of exposure is the receipt of the Vietnam Service Medal or service on a vessel off the shore of Vietnam. On December 11, 2006, VA issued a memorandum to its regional offices, instructing them that claims related to *Haas v. Nicholson* decision should not be adjudicated until the litigation is resolved. As a result, at this time, BVA has suspended action on *Haas v. Nicholson* claims.[23]

VA appealed the CAVC decision to the U.S. Court of Appeals for the Federal Circuit in Washington, D.C. Oral argument was held on November 7, 2007.

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[18] For further information on the CAVC, see CRS Report RS22561, *Veterans Affairs: The U.S. Court of Appeals for Veterans Claims — Judicial Review of VA Decision Making*, by Douglas Reid Weimer.

[19] U.S. Court of Appeals for Veterans Claims (CAVC), 20 Vet. App. 257 (2006).

[20] The M21-1 is an internal manual used to provide guidance to VA benefit adjudicators on procedures for adjudicating claims for compensation, pension, dependency and indemnity compensation, accrued benefits, and burial allowance.

[21] The VSM was awarded to all members of the Armed Forces who served between July 3, 1965, and March 28, 1973, either (1) in Vietnam and contiguous waters and airspace thereover, or (2) in Thailand, Laos, or Cambodia, or airspace thereover, in direct support of operations in Vietnam.

[22] 5 U.S.C. §706(2)(A).

[23] For further details on the BVA, see CRS Report RL33704, *Veterans Affairs: The Appeal Process for Veterans' Claims*, by Douglas Reid Weimer.

On November 27, 2007, VA published a *Federal Register* notice proposing to rescind provisions of its Adjudication Procedures Manual, M21-1 (M21-1), that were found by the CAVC not to have been properly rescinded under the APA.[24] This action was taken by the VA as a preemptive measure in the event the Department did not prevail on appeal in *Haas v. Nicholson*.

***Haas v. Peake*.** *Haas v. Peake* is the case name on appeal of the previously discussed *Haas v. Nicholson.* On May 8, 2008, the U.S. Court of Appeals for the Federal Circuit (the "court") issued a decision reversing the prior CAVC ruling. The court concluded that the VA's interpretation of "service in Vietnam" as requiring the servicemember's presence at some point on the landmass or the inland waters of Vietnam was based on a permissible construction of the statute.[25] The court also stated in its opinion that "Mr. Haas is free to pursue his claim that he was actually exposed to herbicides while on board his ship as it traveled near the Vietnamese coast." However, according to the court's opinion, he is not entitled to the benefit of a presumption related to Agent Orange exposure.

Subsequent Actions. On June 23, 2008, the attorneys for Haas filed a petition with the U.S. Court of Appeals for the Federal Circuit (the "court") for a Panel Rehearing or a Rehearing En Banc (that is, the whole panel of judges of the court).[26] The court may grant or deny the petition. If granted, the court may have a rehearing of the case. If denied, the court will not rehear the case.

Following a final decision of the court,[27] either the veteran or the VA may petition the U.S. Supreme Court for certiorari within 90 days of the court's final action.[28] In the present case, there does not appear to be an immediate judicial resolution of the issues, and a decision of the court may be appealed to the U.S. Supreme Court. However, it is possible that congressional legislative activity, in the meantime, may render moot the judicial issues; that is, congressional legislative actions may resolve the legal issues in controversy.

Proposed Legislation to Clarify Service in Vietnam. Representative Filner, the Chairman of the House Veterans' Affairs Committee, has introduced the Agent Orange Equity Act of 2008 (H.R. 6562).[29] This legislation, if enacted, would

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[24] Department of Veterans Affairs, "Rescission of Manual M21-1 Provisions Related To Exposure to Herbicides Based on Receipt of the Vietnam Service Medal," *Federal Register*, vol. 72, no 227 (November 27, 2007), pp. 66218-66219.

[25] *Haas v. Peake*, 525 F.3d 1168 (Fed. Cir. 2008).

[26] No. 2007-7037.

[27] In this case, the final decision may be a decision based upon the merits of the case following the grant of a motion for rehearing or the denial of the petition for rehearing.

[28] 38 U.S.C. § 7292(c)). A petition for certiorari is a request for the Supreme Court to review the decision of the lower court. If the petition is granted, the Supreme Court will review the case.

[29] The bill was introduced on July 22, 2008, and was referred to the House Committee on Veterans' Affairs on that date.

clarify service in Vietnam to include inland waterways, waters offshore, and airspace above Vietnam.

In addition, Senator Akaka, the Chairman of the Senate Veterans' Affairs Committee, introduced the Agent Orange Compensation Act (S. 2026) for consideration at the request of the Administration.[30] If enacted, this legislation would clarify that the presumption of herbicide exposure applies only to veterans who served in Vietnam on land or on Vietnam's inland waterways and not to those who served only in waters offshore or in airspace above.

Epidemiologic Research on Vietnam Veterans

Because of the controversy surrounding the use of herbicides in Vietnam, significant research on the health effects of Agent Orange and dioxin exposure has occurred over the last 30 years. The majority of studies have focused on morbidity and mortality of Vietnam veterans and are conducted by the VA, the Centers for Disease Control and Prevention (CDC), the U.S. Air Force, and the various veteran service organizations (VSOs). Despite the abundance of research completed, epidemiologic studies on Agent Orange are historically burdened by the lack of reliable exposure data. The lack of accurate data remains a continued source of frustration for researchers, government officials, and Vietnam-era veterans seeking conclusive information on the health risks of exposure to Agent Orange. Below is a brief description of epidemiologic research conducted by the various agencies.

Centers for Disease Control and Prevention. In 1979, the VA was authorized to conduct an epidemiologic study to determine the association between Agent Orange and the medical concerns of Vietnam-era veterans. In carrying out the congressional mandate, the VA was faced with substantial challenges in determining study design and research protocol, and in 1982, responsibility for the research was transferred from the VA to the CDC. The CDC also faced its own obstacles in research design and were delayed by the lack of exposure data. In response to the difficulty in obtaining exposure data, the CDC attempted an Agent Orange Validation Study to see if indirect estimates of exposure from military records and self-reports could be compared to dioxin serum levels in veterans as a method of determining true exposure. After investigation, the CDC reported that military records and self-reports obtained from the Agent Orange Validation Study were inadequate for identifying the exposed individuals necessary for a large epidemiologic study of dioxin effects. Secondary to the problems faced by the VA and the CDC, a group of government panels and advisory boards determined that the congressionally mandated Agent Orange Study was improbable, and the CDC investigation ended.[31]

Air Force Health Study (AFHS). Operation Ranch Hand was responsible for spraying herbicides in Vietnam between 1962 and 1971. In 1982, Air Force

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[30] The bill was introduced on September 6, 2007, and was referred to the Committee on Veterans' affairs on that date.

[31] The government panel and advisory groups included the CDC advisory group, the Science Panel of the Domestic Policy Council's Agent Orange Working Group, and the Agent Orange Advisory Panel of the Congressional Office of Technology Assessment.

investigators began a study investigating the long-term health problems of pilots and ground crews engaged in spraying herbicides in Vietnam. The study cohort consisted of more than 1,200 Ranch Hand veterans and more than 19,000 comparison Air Force veterans who did not spray herbicides. AFHS data collected between 1979 and 1993 revealed no statistically significant differences between the Ranch Hand personnel and the comparison cohort both for all-cause mortality and for cause-specific mortality. The exception was an increased mortality rate for circulatory diseases seen in enlisted ground crew personnel, a group at higher risk for skin exposure to herbicides. In 2005, an AFHS update reviewing 20 years of epidemiologic data on mortality rates reported a small, but significant, increase in all-cause death rates for Ranch Hand veterans. This was the first published research to find a statistically significant increase in the relative risk for all-cause mortality among Ranch Hand veterans.[32] After 20 years of analysis, data collection, and review, a recent IOM publication indicated that diabetes presented as the most serious health problem observed in the AFHS. Type II diabetes was added to the list of service-connected diseases for Vietnam veterans exposed to Agent Orange in 2001.[33] The long-standing AFHS ended on September 30, 2006.

Section 714 of the John Warner National Defense Authorization Act, 2007 (P.L. 109-364), requires the Secretary of the Air Force to transfer custody of the AFHS data to the IOM. This decision to retain the AFHS materials was based on the scientific merit of maintaining herbicide exposure records as a valuable source of medical and epidemiologic data as recommended by the IOM study.[34] Furthermore, P.L. 109-364 required the Secretary of Defense to make $850,000 available to the Air Force in preparation for the transfer of study data to the IOM. An additional $200,000 was to be reimbursed from the DOD to the IOM for costs related to the transfer of study materials from the Air Force.[35] Under this provision, the Air Force is required to submit a report on the transfer to the Armed Services Committees of Congress.

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[32] Norma Ketchum and Joel Michalek, "Postservice Mortality of Air Force Veterans Occupationally Exposed to Herbicides During the Vietnam War: 20-year follow-up results," *Military Medicine*, vol. 170, no. 5 (May 2005), pp. 406-413.

[33] National Academies, Institute of Medicine, *Disposition of the Air Force Health Study*, 2006, p. 55.

[34] Ibid., p. 4.

[35] U.S. Congress, Conference Committees, *National Defense Authorization Act for Fiscal Year 2007*, a report to accompany H.R. 5122, 109th Congress, 2nd sess., H.Rept. 109-702. *Congressional Record*, daily edition, vol. 152 (September 29, 2006), pp. H8061-H8536.