Testimony of

David F. Carter, Chairman
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THE OKLAHOMA AGENT ORANGE FOUNDATION

Member of the National Association
of State Agent Orange Programs

before the

UNITED STATES SENATE
COMMITTEE ON VETERANS' AFFAIRS

Honorable Alan Cranston, Chairman

Thursday, May 12, 1988

MEMBER OF THE NATIONAL ASSOCIATION OF STATE AGENT ORANGE PROGRAMS

THE OKLAHOMA AGENT ORANGE FOUNDATION
P.O. Box 849
Lexington, OK 73051
March 31, 1988

The Honorable Alan Cranston
Chairman: Veterans Affairs Committee
United States Senate
Washington, D.C. 20510

RE: Written testimony for the Permanent Record of the Veterans Affairs Committee Hearings on Oversight and Legislation for Agent Orange Disabilities, March 31, 1988

Dear Senator Cranston,

This letter will introduce the following:

1. Opening remarks: Agent Orange - Medical or Political? (Three pages, 1-3)

2. An overall summary and critique of the Ranch Hand Studies. (One page, 4)

3. A review and critique of the Ranch Hand Baseline Morbidity Study Results. (Five pages, 5-9)

4. A review and critique of the Ranch Hand Followup Morbidity Examination Results. (Four pages, 10-13)

5. A review, critique, and summary of the CDC Vietnam Experience Study, 1987. (Three pages, 14-16)

The above mentioned items are intended to be the written testimony of The Oklahoma Agent Orange Foundation, David F. Carter, Chairman and Michael N. Sovick, Research Director. We respectfully submit these items for the permanent record of the Senate Veterans Affairs Hearings on Oversight and Legislation for Agent Orange Disabilities.

The intented purpose of these statements, reviews, critiques, and summaries is to help to set the record straight with respect to the human health effects of exposure to Agent Orange and the other toxic substances used in Vietnam.

Sincerely,

David F. Carter, Chairman
and Michael N. Sovick,
Research Director

MEMBER OF THE NATIONAL ASSOCIATION OF STATE AGENT ORANGE PROGRAMS

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AGENT ORANGE - MEDICAL OR POLITICAL?

The Veterans Administration must be mandated to provide specific health care to America's Veterans.

> "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the Pursuit of Happiness."
>
> -- The Declaration of Independence

Many Americans, past and present, grew to maturity with this thought, and love and respect the document that it spawned, the Constitution of these United States of America.

Now we find a great fraud has been committed on the people. Today's bureaucrats, and many of our highly elected officials fail to implement the protections of this near sacred document. A case in point, is a group of citizens who offered their lives in it's support, America's Veterans. They have been denied a basic Right to Life.

President Eisenhower identified the root cause of constitutional destruction some thirty years ago when he coined the phrase "military-industrial complex". Basically he said that if this institution of violence were allowed to exist in peace time it would soon take control of the government of the United States and ostracize - "We, the people".

Our defense contractors have developed many instruments for both war and protection; however, in order to keep a just profit they have had to find civilian uses for their wartime technologies, or convert their manufacturing expertise to products that are marketable during peaceful times. It is easy to see that continued manufacturing of existing technology, along with lobbying into existence a market, is by far the easiest, and most apt to bring financial gain. Civilian sales of war technology can only be profitable if information on the possible damage, by these products, to civilians is suppressed. Hence the first victim group, those that might act as a barometer of damage must be silenced. The method? Removal, by law, of the constitutional protection of the first victim group, the American Veteran.

This, in and of itself, is not only unconstitutional, but in fact was the beginning of the end of our beloved Republic. Those who supported the original removal, and those who continue to obstruct efforts to return, by law, these protections are most certainly traitors, the domestic enemy.

One specific, but sadly not isolated example, is the current problem with war gases (chemical warfare agents) i.e., Agents: Orange, White, Blue, Purple, Pink, Green, Orange II and their damaging effects on our species. Remove the color codes and one finds names such as 2,4-D, 2,4,5-T, picloram, cacodylic acid, arsine gas, dioxin, and more. Also, used in war were Chlordane, DDT, Lindane (666), Dieldrin, and others. Many users were and are educated in schools and at seminars that are supported financially by the manufacturers, and are therefore not only "diseducated", but have no knowledge of alternative methods for completing a given task. This may be the ultimate chemical dependency.

Information control now runs deep. The monies of defense contractors not only support college laboratories but also political campaigns, and are used to influence bureaucrats. These monies also control the media through advertising dollars, and are surely the method of release of "disinformation", so popular with the present Reagan administration; which actually had a cancer warning removed from from the Veterans Administration literature (compare VA pamphlet "Worried About Agent Orange?", July 1980 with VA COMM 1 3-82). Six years later, thousands of American Veterans who could not avail themselves of early warning and/or detection were found to have cancer.

The truth is that these chemicals are carcinogenic and/or cancer promoters. They cause chromosome damage, are teratogenic and mutagenic, damage the thyroid, kidneys, heart, blood-forming organs, liver, and the brain. They may be the main cause of Autoimmune diseases such as rheumatoid arthritis, mixed connective tissue disease, systemic lupus erythematosus, and others. They can cause behavioral changes and anti-social behavior. They are excreted in the semen and as such, are not only sexually transmitted but also expose the fetus in the uterus. They damage and/or compromise the human immune system and they are in fact at least a cofactor, and more probably the direct cause of leukemias, including the current AIDS "epidemic". If these charges are false would not the "evil" ones insist on, instead of denying, a court case that could rebuke them?

It is no great surprise that the U.S. defense contractors try to hide from legal prosecution for crimes against humanity by claiming immunity because of acting as agents of the government (this is the Nuremburg defense).

Is it any wonder that these "agents of the devil" place their "whores" through out the system i.e., regulatory agencies both state and federal, colleges and even elected officials that can table and veto any corrective measures.

The Rights of the First, Fifth, and Fourteenth Amendments to the Constitution must be returned to our citizens, by law, if the Republic is to endure.

American Veterans are only the first group of citizens to be denied the Rights of redress, and equal protection under the law. Worse yet, without due process, they are being denied the basic Right to Life.

A citizens Right of benefit of doubt, of innocent until proven guilty, is now given to a chemical (read corporate profit). In order to do this these Rights must first be removed from the citizen. Corporate "whores" have suppressed life saving information, released fraudulant information, and thus have murdered not only American Veterans and their families, but those civilians exposed to war gases (chemical warfare agents) while pursuing the American dream. The "multi-national society of greed" is trying to hide under the American flag, as U. S. defense contractors. They care not for our country, or it's people. They have truly caused destruction that may equal or exceed even Hitler's crimes.

The American Revolution must live on and we are armed with the ultimate revolutionary weapon, the vote.

Section Three of the Fourteenth Admendment clearly states that no one shall serve in either the House or Senate if he or she rebels against the Constitution, this would include the constitutional Rights of citizens.

> "That to insure these Rights, Governments are instituted among Men, deriving their just powers from the consent of the governed." "That whenever any form of Government becomes destructive of these ends, it is the Right of the people to alter or abolish it, and to institute new Government, laying its foundation on such Principles and organizing its Powers in such form, as to them shall seem most likely to effect their Safety and Happiness."
>
> -- The Declaration of Independence

Respectfully,

David F. Carter

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March 31, 1988

SUMMARY AND CRITIQUE OF THE RANCH HAND II STUDIES

The information contained on this page will summarize the results of the Ranch Hand II studies. These results will be compared with the 1979 GAO instructions given to VA health care facilities. Also, within these studies the USAF reports an increasing dose-response relationship in twelve instances for the officer group, fifteen instances for the enlisted flying group, and seven instances for the enlisted groundcrew group. An increasing dose-response relationship is a true "herbicide effect".

The GAO, on April 6, 1979 in "Health Effects of Exposure to Herbicide Orange in South Vietnam Should Be Resolved", CED-79-22, gave instructions to VA health care facilities, to pay particular attention to a number of organ systems when examining Vietnam veterans for health effects due to exposure to Agent Orange.

COMPARISON BETWEEN RANCH HAND RESULTS AND THE GAO INSTRUCTIONS

	CATEGORY	RANCH HAND	GAO INSTRUCTIONS TO VA
A.	GEN. HEALTH	Poorer health	Repeated infections
B.	CANCER	Excess neoplasms	Neoplasia
C.	NEUROLOGY	Excess nerve disease	Nervous system
D.	PSYCHOLOGY	Suggests more illness	
E.	DIGESTIVE	Excess MORTALITY	Liver
F.	DERMATOLOGY	More Post-SEA acne	Chloracne
G.	CARDIOLOGY	Excess heart disease	Adrenals
H.	HEMATOLOGY	"Herbicide effect"	Blood-forming organs
I.	RENAL	Excess kidney disease	Kidneys
J.	ENDOCRINE	"Herbicide effect"	Thyroid
K.	IMMUNOLOGY	Excess disease	Immune system
L.	PULMONARY	Excess TB, pleurisy	Lungs
M.	REPRODUCTIVE	Excess: birth defects, miscarriages, induced abortions, physical handicaps, neonatal deaths, and more abnormal live birth outcomes	Frequent abortions, congenital deformities

Did the failure of the VA, during the Reagan administration, to diagnose and treat Vietnam veterans for latent disorders mean that this administration is possibly responsible for more suffering than that inflicted on these men by the enemy in Vietnam?

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SUMMARY AND CRITIQUE OF RANCH HAND II: BASELINE RESULTS

This summary of Ranch Hand II, the Baseline Morbidity Study Results, must be read after understanding the following: (1) part of the control population of the Ranch Hand Study is employed by the manufacturers of the herbicides used in South Vietnam, (2) the level of statistical significance used by the USAF to describe positive associations of morbidity was a p-value equal to or less than 0.05, and (3) the original comparison group is the only valid comparison group.

First, the fact that part of the control group works around and has been continually exposed to the herbicides and their contaminants, during the manufacturing process, may have resulted in considerable negative bias in the Ranch Hand Study. In other words, this bias probably resulted in an under estimation of the diseases and conditions caused by herbicide exposure in the Ranch Hand group in Vietnam.

Second, in regard to level of statistical significance used in assessing human health; recently, the p-value of 0.10 is being excepted as a better indicator for assessing human health data. Some researchers have even suggested a p-value equal to or less than 0.15 for studies assessing disease prevention. In fact, even the USAF authors of this Ranch Hand Study report that p-values between 0.10 and 0.20 are suggestive of differences between the groups being studied (see page XVI-4-4 of Ranch Hand II). The use of p-value 0.05 as an indicator of human morbidity in Ranch Hand II is another negative bias which under-assesses the diseases and conditions experienced by these Vietnam Veterans.

Third, as the Ranch Hand Study progressed through the years the deceaced members of the control group were replaced from an elegible pool of possible participants who were essentially self-selected because they volunteered; instead, they should have been randomly choosen. This method of replacement also results in a possible negative bias because the replacements would be more healthy than those they replaced.

Because of the above mentioned negative influences this summary will: (1) report diseases and conditions found with p-values equal to or less than 0.20 and (2) report differences with the original control group. Furthermore, all differences between the study group and control group will be expressed as Ranch Hand vs. the Comparison group.

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BRIEF REVIEW ----- USAF RANCH HAND II: BASELINE RESULTS

A. GENERAL HEALTH

In terms of overall health, Ranch Handers perceive their state of health to be POORER that of the Comparisons.

B. MALIGNANCY

The occurrence of verified SKIN CANCER was SIGNIFICANTLY HIGHER in the Ranch Hand group (p=0.04).

Observed systemic cancer versus SEER (Surveillance, Epidemiology, and End Results, a National Cancer Institute data base); showed a "STATISTICALLY SIGNIFICANT EXCESS" of lip and oral cancers, Ranch Hand in excess (RH>C).

*** HOWEVER, IN THE "EXECUTIVE SUMMARY", USAF AUTHORS WROTE JUST THE OPPOSITE: "There were no statistically significant differences in the occurrence of malignant or benign systemic tumors between the groups."

IN FACT, THERE ARE TWICE AS MANY CANCERS OF THE LIP, ORAL CAVITY, AND PHARYNX.

THERE ARE THREE TIMES AS MANY RESPIRATORY AND INTRATHORACIC NEOPLASMS.

ALSO, THREE TIMES AS MANY GENITOURINARY ORGAN CANCERS, INCLUDING TWO (2) TESTICULAR NEOPLASMS (NONE IN THE COMPARISON GROUP). THE TWO (2) RANCH HAND BLADDER CANCERS WERE NOTED AT EARLIER-THAN-EXPECTED AGES.

C. NEUROLOGY

The USAF claims that the only neurological abnormality is a borderline increase in the proportion of Ranch Handers with a positive Babinski reflex.

*** HOWEVER, THERE ARE MANY OTHER SIGNIFICANT AND SUGGESTIVE NEUROLOGICAL ABNORMALITIES LISTED WITHIN THE STUDY.

D. PSYCHOLOGY

The USAF claims that the only psychological abnormalities in the Ranch Hand group are SIGNIFICANT hypochondria, depression, hysteria, and schizophernia vis-a-vis the comparison group, after adjustment for education.

*** HOWEVER, THERE ARE MANY OTHER SIGNIFICANT AND SUGGESTIVE PSYCHOLOGICAL ABNORMALITIES LISTED WITHIN THE STUDY.

E. DIGESTIVE SYSTEM

Twice as many Ranch Handers as comparisons had ENLARGED LIVERS on physical examination.

STATISTICALLY SIGNIFICANT group differences were found in the occurrence of MISCELLANEOUS LIVER DISORDERS. (RH>C)

F. DERMATOLOGY

Reported ACNE post SEA shows a relative risk of 1.18. (RH>C)

G. CARDIOVASCULAR

Two (2) PERIPHERAL PULSES are SIGNIFICANTLY DEMINISHED OR ABSENT in the Ranch Handers.

H. HEMATOLOGY

Two (2) STATISTICALLY SIGNIFICANT OVERALL EXPOSURE GROUP EFFECTS are seen and seven (7) exposure-smoking interaction effects are found.

"The 2 overall exposure group effects occur in the Ranch Hand officer cohort and involve the variables MCH and MCHC."

"An increasing dose-response relationship is clear...".

AN INCREASING DOSE-RESPONSE RELATIONSHIP IS A "HERBICIDE EFFECT".

"These findings are suggestive of a herbicide effect,...".

"This interaction is compatible with a herbicide effect, and reinforces the finding in the enlisted flying personnel."

*** HOWEVER, THERE IS NO MENTION OF THIS "HERBICIDE EFFECT" IN EITHER THE "EXECU-TIVE SUMMARY" OR IN THE "INTERPRETA-"TIONS OF STUDY RESULTS & CONCLUSION".

I. RENAL

The Ranch Hand group reported significantly MORE past KIDNEY DISEASE than the comparison group.

J. ENDOCRINOLOGY

Ranch Handers were found to DIFFER from the comparison group with respect to proportions of individuals in normal & abnormal thyroid hormone categories.

"...(D)ecreasing T3 uptakes are associated with advancing age in both groups with the slope being much steeper in the Ranch Hand group."

"...(I)t also cannot be confidently asserted that a herbicide effect on thyroid function has not occurred."

Ranch Hand personnel have HIGHER TESTOSTERONE LEVELS than comparisons.

"This finding... ...may reflect a herbicide effect,...".

POSITIVE ASSOCIATIONS of GLUCOSE LEVELS with age are GREATER in the Ranch Hand group than in the comparison group.

"Thus, a subtle toxicological effect of herbicide on glucose metabolism may have been detected."

*** HOWEVER, THERE IS NO MENTION OF THIS "HERBICIDE EFFECT" IN EITHER THE "EXECU-TIVE SUMMARY" OR IN THE "INTERPRETA-"TIONS OF STUDY RESULTS & CONCLUSION".

K. IMMUNOLOGY

"A statistically significant group difference is noted in Control #1." (unstimulated proliferation rate)

*** HOWEVER, THERE IS NO MENTION OF THIS FUNCTIONAL IMMUNE SYSTEM DEFICIT IN THE "EXECUTIVE SUMMARY" OR IN THE "INTERPRE-TATIONS OF STUDY RESULTS & CONCLUSION".

*** ALSO, THERE ARE MANY OTHER SIGNIFICANT AND SUGGESTIVE IMMUNOLOGICAL ABNORMALITIES LISTED WITHIN THE STUDY.

L. PULMONARY

"In a few instances the results of the statistical analyses revealed signifi-cant ($p =/< 0.05$) or suggestive ($p=0.10-.20$) differences in pulmonary function."

M. FERTILITY AND REPRODUCTIVE OUTCOMES

Results of the Conception/Exposure Index Analyses -- "The only statistically significant findings are for miscarriage and for induced abortion among officers. ...there was a significant association between miscarriage and exposure level (low, medium, and high)."

THIS IS AN INCREASING DOSE-RESPONSE RELATIONSHIP -- A "HERBICIDE EFFECT".

Results of the Live Birth/Exposure Index Analyses -- "Birth defects are found to have a statistically significant association with herbicide exposure level in the officer and enlisted flying groups."

"Executive Summary" -- "Reported neonatal deaths and physical handicaps were also significantly excessive in the Ranch Hand group when contrasted to the total comparison group."

"Summary of Fertility and Reproductive Analyses" -- "Significant differences were reflected in the analyses of live birth outcomes."

"Spouse and Participant Reported Birth Defects Not Meeting Study Criteria" -- Mental including "Learning Disability".

"Summary" -- "These findings in this chapter do require further evaluation of the possible link between herbicide/dioxin exposure and birth defects."

*** HOWEVER, IN THE "EXECUTIVE SUMMARY", USAF AUTHORS WROTE JUST THE OPPOSITE: "There were no significant findings in conception outcomes for miscarriages, stillbirths, induced abortions, or live births. For live birth outcomes no differences were observed for prematurity, learning disability, or infant deaths."

DESPITE ALL OF THE PRECEEDING EVIDENCE OF EXCESS DEATH AND DISEASE the USAF insists that, "...the baseline study results should be viewed as reassuring to the Ranch Handers and their families at this time". HOWEVER, WITHIN THEIR STUDY THE USAF REPORTS AN INCREASING DOSE-RESPONSE RELATIONSHIP IN TWELVE (12) INSTANCES FOR THE OFFICERS, FIVE (5) INSTANCES FOR THE ENLISTED FLYING, AND TWO (2) INSTANCES FOR THE ENLISTED GROUNDCREW. AN INCREASING DOSE-RESPONSE RELATIONSHIP IS A "HERBICIDE EFFECT".

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SUMMARY AND CRITIQUE OF RANCH HAND II: FOLLOWUP RESULTS

This summary of the USAF Ranch Hand Study II, First Followup Examination Results, must be read after completely understanding the following: (1) part of the control population (Comparisons) used in the Ranch Hand Study are currently employed by the manufacturers of the herbicides which were used in South Vietnam, (2) the level of statistical significance used by the USAF to describe positive associations of morbidity was a p-value equal to or less than 0.05, and (3) the original Comparison group is the only valid comparison group.

As the Ranch Hand study has progressed thru the years some members of the comparison group have been replaced, due to death or nonparticipation, from an elegible pool of possible participants. These replacements were essentially self-selected because they volunteered; instead they should have been randomly choosen. This method of replacement may have biased the results by making the total Comparison group statistically "more healthy" than the original comparison group. Also, some of the Ranch Hands "chose" not to participate in the Followup study including some of the individuals who had verified neoplasms during the the Baseline study. The exclusion of these individuals would make the Ranch Hand group appear statistically "more healthy".

However, even with the positive effect of the "more healthy" Ranch Hand and Comparison groups the Followup Results showed a WORSENING of the health of the Ranch Hands versus Comparisons with respect to exposure analyses, in almost all of the study categories. Also, worth noting is the fact that Fertility and Reproductive Outcomes were not done during the Followup Examination. Also, again in the Followup study, as in the Baseline study many of the immunological tests were claimed by the USAF to be unusable because of poor procedure or protocol.

Finally, within the Followup Results there was no listing of the raw data and very few calculated results. Most charts were labeled with NS (nonsignificant) and/or S (significant), instead of the actual numbers; also many analyses were not performed, i.e., the adjusted systemic cancer results.

It is our opinion that the raw data from the Ranch Hand Studies should be made available for independent review. For that matter the raw data from all U.S. government funded studies should be made available to the public; because these studies are paid for by the tax dollars of the public.

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BRIEF REVIEW ----- USAF RANCH HAND II: INTERVAL BETWEEN THE BASELINE AND FIRST FOLLOWUP RESULTS

A.	GENERAL HEALTH	There has been no change in the Ranch Handers POORER perception of general health.
B.	MALIGNANCY	There has been a change for the WORSE with respect to exposure analyses and systemic cancer in Ranch Handers. (See the summary of cancers -- page 13) IN FACT, ORAL CAVITY, PHARYNX AND TESTICULAR NEOPLASMS ARE EXCESS IN RANCH HANDERS -- $p<0.06$. THREE TIMES THE NUMBER IN THE COMPARISONS. THERE ARE TWICE AS MANY NEOPLASMS OF THE BRONCHUS AND LUNG. (RH>C) AN EQUAL NUMBER OF SOFT TISSUE SARCOMAS. A VERIFIED LYMPHOMA -- RANCH HAND ONLY!
C.	NEUROLOGY	There has been a change for the WORSE with respect to exposure analyses and Ranch Handers neurological functions. IN FACT, INTERVAL NEUROLOGICAL DISEASE FOR NON-INFLAMMATORY DISORDERS SHOWED BORDERLINE SIGNIFICANCE ($p=0.069$) WITH RANCH HANDS FARING WORSE THAN COMPARISONS.
D.	PSYCHOLOGICAL	There has been a change for the WORSE with respect to exposure analyses and Ranch Handers psychological functions.
E.	DIGESTIVE SYSTEM	There has been a change for the WORSE with respect to Ranch Handers and digestive system disease. IN FACT, THE USAF REPORTS THAT "A REVIEW OF DIGESTIVE SYSTEM MORTALITY SHOWED A RELATIVE EXCESS IN THE RANCH HANDS...".

F.	DERMATOLOGY	There has been a change for the WORSE with respect to exposure analyses and the Ranch Hands dermatology evaluation.
G.	CARDIOVASCULAR	There has been a change for the WORSE with respect to exposure analyses and Ranch Handers cardiovascular function. THERE IS A STATISTICALLY SIGNIFICANT EXCESS OF HEART DISEASE IN RANCH HANDS.
H.	HEMATOLOGY	There has been a change for the WORSE with respect to exposure analyses and Ranch Handers hematological function.
I.	RENAL	There has been a change for the WORSE with respect to the Ranch Handers renal function.
J.	ENDOCRINOLOGY	There has been a change for the WORSE with respect to exposure analyses and Ranch Handers endocrinological function. IN FACT, THE USAF REPORTS THAT "TSH & TESTOSTERONE MEANS TESTS WERE STATISTICALLY SIGNIFICANT, AND IN THE EXPECTED DIRECTION OF A HERBICIDE EFFECT,...".
K.	IMMUNOLOGY	There has been a change for the WORSE with respect to exposure analyses and Ranch Handers immunological responses.
L.	PULMONARY	There has been a change for the WORSE with respect to the Ranch Handers and pulmonary disease. IN FACT, THERE IS A STATISTICALLY SIGNIFICANT EXCESS OF TUBERCULOSIS, PLEURISY, AND RALES IN RANCH HANDERS.

DESPITE ALL OF THE PRECEEDING EVIDENCE OF EXCESS DEATH AND DISEASE the USAF insists that, "(t)he results of the first followup study in 1985 have shown a subtle but consistent narrowing of medical differences between the Ranch Hands and Comparisons since the Baseline study in 1982".

Also, the USAF insists that, "(t)he 1985 examination results provide reassuring evidence that the current state of health of the Ranch Hand participants is unrelated to herbicide exposure in Vietnam". HOWEVER, IN TEN (10) INSTANCES THE USAF REPORTS AN INCREASING DOSE-RESPONSE RELATIONSHIP FOR THE ENLISTED FLYING GROUP. AND, THIS SAME INCREASING DOSE-RESPONSE RELATIONSHIP IS MENTIONED FIVE (5) TIMES FOR THE ENLISTED GROUNDCREW GROUP. AN INCREASING DOSE-RESPONSE RELATIONSHIP IS A "HERBICIDE EFFECT"!

CANCERS FOUND IN EXCESS IN VIET VETS BY STATE STUDIES AND AGENT ORANGE PROGRAMS, THE USAF RANCH HAND II - BASELINE AND FOLLOWUP, THE CDC, AND THE VA. (Oklahoma Agent Orange Foundation-1988)

1983 VA A.O. Registry	LYMPHOMAS (NHL) PHARYNX or BUCCAL cavity
1983 Massachusetts	Soft-tissue sarcomas, Kidney
1984 Ranch Hand II Baseline	Skin (RH>C - more cancers) Systemic cancers (RH vs. Controls) Twice as many cancers of: Lip Oral cavity (BUCCAL) PHARYNX Testis (Testicular) Three times the cancers of: RESPIRATORY system and Intrathoracic (chest) Genitourinary system
1985 New York	LUNG — LYMPHOMAS and Hodgkin's Melanoma — Genitourinary system Leukemia — Brain and CNS NASAL — Soft-tissue sarcomas
1985 Wisconsin	Soft-tissue sarcomas, Pancreatic
1986 West Virginia	LYMPHOMAS — Hodgkin's disease RESPIRATORY — Soft-tissue sarcomas LARYNX — Testicular
1987 CDC VES	LYMPHOSARCOMAS Leukemias Brain
1987 VA	LYMPHOMAS (NHL) LUNG All cancers combined
1987 Ranch Hand II Followup	Skin (RH>C - more neoplasms) Systemic Neoplasms (RH>C) Three times the cancers of: Oral Cavity (BUCCAL) PHARYNX Testis (Testicular) Two and a half times as many: Genitourinary system Twice as many cancers of the: BRONCHUS LUNG Soft-Tissue Sarcomas: Equal LYMPHOMA: Ranch Hand only

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CRITIQUE OF THE CDC VIETNAM EXPERIENCE STUDY

On February 13, 1987, the Journal of the American Medical Association (JAMA) published the first part of the Centers for Disease Control (CDC) Vietnam Experience Study (VES); which, states: "(t)he VES is a historical cohort study designed to identify the possible adverse health effects of having served in the military in Vietnam." This study is the first result of the Congressionally mandated epidemiological studies first proposed by PL-96-151 which was signed into law by President Carter. The CDC also published a monograph about this part of the VES which is titled "Postservice Mortality Among Vietnam Veterans" which was printed in February, 1987. This critique will describe the many differences between these two formats of the same study, which were written by the same authors.

The primary difference between these two versions of the VES was the method used characterize data. In the JAMA article the data was based on the less accurate information found on the death certificates; however, in the CDC Monograph the data was based on a more truthful assessment of the cause of death. The data used in the CDC Monograph reflected the views of a medical review panel which determined the true cause of death from a review of the medical records. The differences in the data between these methods essentially provided the researchers with two data bases. Because the JAMA article was subsequently reported on by the media, the least accurate information was made public. Was this meant to bias public perception of the health problems experienced by Vietnam Veterans?

Another factor was misrepresented in the JAMA article by the following statement, "(t)he excess in postservice mortality due to external causes among Vietnam veterans is similar to that found among men returning from combat areas after World War II and the Korean War". The authors did not explain that these veterans were POWs during their period of service. The fact that Vietnam Veterans have experienced similar excesses in postservice mortality means that Vietnam Veterans are dying at the same rate as POWs from those past two wars (not at the same rate as all "men returning from combat areas"). Was this omission another attempt to bias public perception?

In the CDC monograph the more accurate data base provided a different assessment of the excess deaths due to external causes. In the JAMA article this category was statistically significant; however, the statistical significance was lost when the more

accurate data from the medical review panel was used. Also, in the monograph besides the elevated risk ratio for external causes found in the JAMA article; there was a positive risk ratio for mental disorders and cancer.

With respect to the risk ratio of 0.82 for cancer deaths, the JAMA article states "(t)here was no particular type of neoplasm in excess in the Vietnam cohort". However, the CDC monograph shows a risk ratio of 1.21 and states that "(e)xamination of specific types of cancer (Table 30) shows more deaths among Vietnam veterans from brain cancers, leukemia, and non-Hodgkin's lymphomas, all in very small numbers". The calculated risk ratios 4.0, 1.66, and 2.73 respectively for these cancers reveal a very different assessment of health effects of Vietnam Veterans than that found in the JAMA article.

The risk ratio of 0.95 for mental disorders found in the JAMA article was different from the 2.85 risk ratio which was found after the medical review of deaths in the CDC monograph. In fact, a p-value of 0.06 was calculated from the CDC data for mental disorders. There was only agreement between JAMA (death certificate) and CDC (medical review panel) on 4 of 16 of the deaths due to mental disorders. Again, the JAMA article misrepresents the true facts.

The most important omission from the JAMA article concerns the fact that there was no mention of the autoimmune disease described in the CDC monograph. The category of diseases of the musculoskeletal system (ICD 710-739) did not exist in the JAMA article which was based only on the death certificate data. The CDC monograph found some evidence of autoimmune disease in Vietnam Veterans; and, because the ICD categories do not have a specific code number for autoimmune disease there may be other cases of this type of disease which are not otherwise obvious. Within the book "Environmental Epidemiology" a study by Todd M. Frazier, "The Use of National and State Data Systems for Occupational Health Surveillance", found excesses for diseases of the muscloskeletal system and connective tissue (ICD 710-738) among workers in agriculture (who probably were exposed to the phenoxy herbicides), by using Social Security Administration (SSA) Disability Award Files. Also the VA authors (in the soon to published), "Proportionate Mortality Study of Army and Marine Veterans of the Vietnam War", found a statistically significant increase in deaths due to musculoskeletal and connective tissue diseases among Army Vietnam Veterans.

In summary, the JAMA article seems to misrepresent the true facts with respect to the health effects experienced by Vietnam Veterans; because, the data used was based on inaccurate information found on the death certificates. However, the CDC monograph about the VES was based on data from a medical review of the medical records; which found excess risk ratios not only for external causes but also for cancer and mental disorders. Why were two versions of the same study printed using CDC data?

MEMBER OF THE NATIONAL ASSOCIATION OF STATE AGENT ORANGE PROGRAMS

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DIFFERENCES BETWEEN THE "J.A.M.A." (Journal of the American Medical Association) AND THE CDC (Centers for Disease Control) MONOGRAPH VERSIONS OF THE CDC VIETNAM EXPERIENCE STUDY (VES).

	CDC JAMA VERSION		CDC MONOGRAPH VERSION
1.	Medical data used based on death certificates. [Less accurate]	1.	Medical data used based on review of medical records.[More accurate]
2.	"There was no particular type of neoplasm in excess in the Vietnam cohort."	2.	"Examination of specific types of cancer shows more deaths amoung Vietnam Veterans from brain cancers, leukemia, and non-Hodgkin's lymphomas, all in very small numbers."
3.	Risk ratio for neoplasms 0.82.	3.	Risk ratio for neoplasms 1.21. [Excess]
4.	Found excess post-service mortality similar to other men returning from combat areas after WWII and Korea.	4.	Did not explain that Vietnam veterans actually are experiencing similar post-service mortality as ex-POW's from WWII and Korea.
5.	Describe statistically significant excess deaths due to external causes.	5.	Statistical significance for external causes lost.
6.	Report a 0.95 risk ratio for mental disease.	6.	Report a 2.85 risk ratio for mental disease ($p<.06$). [Excess]
7.	No mention of autoimmune diseases.	7.	Autoimmune diseases, including lupus, were found.
8.	Released to the media for public consumption and published in JAMA.	8.	NO MEDIA RELEASE OF THE MORE ACCURATE DATA IN THE CDC MONGRAPH.