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ROBERT M. COWAN
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OF COUNSEL:
RAMON VILLAGOMEZ (SAIPAN)

December 15, 1980

REPLY TO: MAJURO

The Honorable Wallace O. Green
Assistant Secretary Designate
Territory and International Affairs
United States Department of Interior
Office of the Secretary
Washington, D.C. 20240

Re: P.L. 96-205/RFP #14-01-0001-80-R-75

Dear Mr. Green:

Our office, along with several other law offices, have joined together to represent the interests of various groups of people from the Marshall Islands. Our clients include people from atolls which were specifically named in P.L. 96-205 as well as people from other atolls which were affected by the atomic testing in the Marshall Islands. We represent people from the atolls of Rongelap, Utirik, Enewetak and several of the other atolls. We appeared at the hearing recently held by the Department of the Interior in Washington, D.C., relative to the plans which had been prepared pursuant to the captioned RFP. We questioned the plans at that time. The Chairperson of the meeting, Mrs. VanCleve, was kind enough to grant us permission to present additional materials to you for your consideration in preparing your report to Congress pursuant to the statutes.

Enclosed herewith you will find a document which recommends additions to the health care proposal submitted by Loma Linda University. We would appreciate your receiving this document along with this letter as the additional documents which fall within the permission granted.

We find the three reports to be contradictory. The report relative to an education program, and the report relative to future monitoring, are restrictive in their recommendations solely to the specifically named atolls. The report relative

to the health plan almost entirely ignores the separate problems of those named atolls and the other atolls which were radiated by the testing.

Although the law specifically requires a program be developed for monitoring the continuing radioactive affects on the named atolls, "and other affected atolls", the report restricts itself solely to the named atolls. Such a system is self-defeating. The only studies conducted so far indicate that all of the Northern Marshall Islands thus far tested show lasting radiation affects. For example, the Northern Marshall Islands Aerial Radiation Survey of November and December of 1978 found all of the atolls surveyed to be radioactive.

Only by monitoring the radioactive affects upon all of the atolls could the scope of the monitoring plan required by the law be determined. No attempt was made to do such monitoring, nor was any attempt even made to devise a program of such monitoring.

Likewise, the educational program is similarly lacking. Although the peoples of the named atolls are scattered amongst all of the Marshall Islands, the educational program was aimed solely at the named atolls. Obviously the purpose of an educational program is to tell the affected people the facts so that they can make intelligent informed determinations as to their future, and also can be warned about possible signs and symptoms which would permit early detection of illness. If the program is restricted to the named atolls, it fails to reach those who have been scattered to the other atolls.

The medical and health care proposal, on the other hand, almost completely ignores the affects of the testing even upon those persons of the named atolls, and in its zeal to develop a health care plan for all of the Marshall Islands, does not propose any program to further one of the major aims of P.L. 96-205, the discovery and treatment of those problems caused by the nuclear contamination. In this regard it does almost the same as the other two studies, it ignores special problems caused by the contamination, whereas at least the other two studies recognize problems exist. We represent people who have already had surgical intervention for thyroid problems, not only from the named atolls, but from Wotje, Ailuk, Maloelap, Likiep, Mejit, Ailinglaplap, Namu, Woto, Majuro, Jaluit and Kwajalein amongst others. Our health care authorities inform us that one thyroid removal amongst a population of the size of the Marshall's might be explainable, two would be an epidemic, and the dozens which we have observed there can be explained by nothing other

than the intervention of a causation factor such as the radioactive contamination associated with the atomic testing. This is the problem which was addressed by P.L. 96-205, and has not been addressed adequately by the studies of any of the three groups.

Another area of concern to our clients is the question of who will monitor, educate and care for the people of the Marshall Islands. They are understandably less than pleased with the system as it has been devised so far. The present reports have only added fuel to their fear that the United States may be prepared to continue to ignore the problems caused by the testing, continue to fail to properly monitor all of the atolls to determine the results of that testing, and continue to fail to provide proper health care to the victims of that testing. Such fears are not historically without support, in the August, 1980, report on health affects of low level radiation sustained as a result of the nuclear weapons testing program conducted by the United States government within the United States, a report prepared by the Committee on International and Foreign Commerce, the conclusion reached there notes the less than honest handling of health effects information by the A.E.C. The report also suggests that "similar problems can best be avoided in the future if the responsibility for protecting the people is given to an agency whose main mission is to assure public health, not to advance nuclear development." We likewise feel that the responsibility for the monitoring, education and health care plans in the Marshalls should not be given to the Departments of Energy and/or Defense. We believe that they have a conflict of interest. If any plan is to work in the Marshall Islands, it should have the support not only of the United States government, but also of the Government of the Marshall Islands and of the people of the Marshall Islands. Only if the government and people of the Marshall Islands participate willingly in a plan which they enthusiastically support can any plan hope to begin to undo the terribly wrongful devastation that was wreaked upon these islands and peoples by our atomic testing program.

In summation, we believe that all three reports which were submitted pursuant to the request for proposal are totally inadequate to carry out the intent of Congress. If they are to be used at all, the monitoring and education reports must be expanded to include all other affected atolls and peoples. If the health care plan is to be used at all, it must be totally revised. Those proposing such a plan must recognize the results of the testing upon the health of the persons affected and of their offspring. Special programs must be provided for them, while at the same time taking care of other health problems caused by societal dislocations, dietary changes and other indirect affects.

We wish to thank you again for the opportunity to present these brief thoughts. We hope when the proper future studies are done that we will once again be afforded the opportunity to comment on them, and that our comments can be more favorable at that time.

Respectfully yours,

Jeffrey D. Jefferson

JDJ:mw
Encl.

CC: Richard D. Copaken
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Theodore R. Mitchell
Richard F. Gerry
Gordon A. Stemple
Dr. Hector P. Blejer
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Frederick M. Baron

MARSHALL ISLANDS

RECOMMENDATIONS FOR ADDITIONS TO THE HEALTH CARE PROPOSAL SUBMITTED ON 3 DECEMBER 1980 TO THE U.S. DEPARTMENT OF THE INTERIOR BY LOMA LINDA UNIVERSITY SCHOOL OF HEALTH IN RESPONSE TO P.L. 96-205 AND RFP #14-01-0001-80-R-75

Prepared by

Hector P. Blejer, M.D., D.I.H.
Dante J. Picciano, Ph.D.
Joseph K. Wagoner, S.D. Hyg.

At the request of

MARSHALL ISLANDS ATOMIC TESTING LITIGATION PROJECT

14 December 1980

A Health Care Proposal For The Marshall Islands was submitted on 3 December 1980 to U. S. Department of the Interior by Loma Linda University School of Health in response to Public Law 96-205 and RFP #14-01-0001-80-R-75.

This law directed the Secretary of the Interior to:

> "Provide for the People of the atolls of Bikini, Enewetak, Rongelap, and Utirik and for the people of such other atolls as may be found to be or to have been exposed to radiation from the nuclear weapons testing program, a program of medical care and treatment and environmental research and monitoring for any injury, illness, or condition which may be the result directly or indirectly of such nuclear weapons testing program."

In addition, the law directed that the plans for that program set forth :

> "An integrated, comprehensive health care program including primary, secondary and tertiary care with special emphasis upon the biologic effect of ionizing radiation."

The Department of the Interior (DOI) awarded the contract for the RFP to Loma Linda University and upon further clarification stipulated that the contractor prepare two health plans, as follows:

1. "Comprehensive Care (primary, secondary, and tertiary) for the peoples of Rongelap, Utirik, Bikini, and Enewetak),"
2. "Comprehensive Care as in 1..., plus comprehensive care for the peoples of all other atolls of the Marshall Islands."

The contractor submitted to DOI a health care proposal for an "Integrated, comprehensive health care program" with respect to all the peoples of the Marshall Islands. The proposal addresses health care, health care administration, and hospital administration in a comprehensive manner. As such, the proposal does address the general care and needs of all the Marshallese but it does not positively address the radiation related health care needs of those Marshallese who "may be found to be or to have been exposed to radiation from the nuclear weapons testing program" nor does it provide "a program of medical care and treatment... for any injury, illness or condition which may be the result directly or indirectly of such nuclear weapons testing program." In other words, the Loma Linda Proposal does not present an integrated preventive medical program for radiation related health effects and diseases.

Cancer of the breast, lung and thyroid, and of lymphatic tissues, as well as leukemia are well known adverse health effects of ionizing radiation. Other adverse health effects include genetic or mutational outcome, and reproductive effects. Also, radiation is believed to have a causal relationship in the production of other major human health problems, namely heart disease and possibly, aging.

Tables 4 and 5 in the Loma Linda Proposal display data which are strongly suggestive that such radiation related adverse health effects

may be occurring in the Marshallese. In Table 4, of the 17 leading causes of death in the Marshall Islands, 1974 to 1976, cancer and cerebral vascular diseases are tied as the two leading causes of death. Prematurity is the third leading cause of death. Congenital defects accounted for 3.3% of all deaths, indicating the substantial severity of these defects. In Table 5, prematurity, with 22.3%, ranks first among the causes of death in children of ages 0 to 4, 1974 to 1976, and congenital defects and birth related injuries, second with 19.4%, for a combined total of 42% of all deaths. Section V of the report states that "People of Rongelap and Utirik have significantly increased thryroid pathology, undoubtedly radiation related, and manifested by hypothyroidism and an increase in both benign and malignant thyroid tumors." It also adds that "There is the possibility of other radiation related diseases in the Rongelap population (e.g. leukemia)." It is surprising, therefore, that the Loma Linda Report states in the introduction to Section XII "It is increasingly evident that the actual health impact of radiation on even the most directly affected is minimal. This not only further complicates any attempt to distinguish these individuals from others, but also raises the question of the need for maintaining this distinction. In many respects, the categorical separation of the affected and non-affected groups appears to be primarily a political issue."

In part B of the same section, the statement is made that "It is medically impossible to distinguish in any particular individual whether a disease complex or symptom is radiation related or not. Epidemiological studies over time on groups of people can establish increased incidences of particular problems, but this

evidence is not particularly helpful in deciding specific causation in any individual." Both of these statements are incorrect. First, it is well known that epidemiologic studies have documented that radiation not only causes cancer but also that radiation causes cancer of specific histologic type.

In fact, there can be little doubt that, under a wide variety of circumstances, ionizing radiation is carcinogenic and leukomogenic in humans. This conclusion is supported by numerous epidemiologic studies conducted among human populations which have experienced a diversity of exposure to radiation. Epidemiologic studies of uranium miners exposed to alpha and gamma radiation have demonstrated a large excess of bronchogenic cancer. In addition, these studies have demonstrated a preponderance of a specific histologic type of cancer, viz small cell undifferentiated carcinoma, when compared to the general population. Epidemiologic studies of the survivors of the atomic bomb explosions at Hiroshima and Nagasaki provide reliable data on the carcinogenic effects of whole body exposure to gamma rays and neutrons. Among those individuals, an excess of lung, thyroid and breast cancer, as well as leukemia, has been demonstrated. This excess of leukemia was shown to be predominantly of the myelogenous and granulocytic type. Conclusive evidence that therapeutic radiation can be carcinogenic and leukomogenic comes from studies of patients irradiated for ankylosing spondylitis, thymic enlargement and gynecological disorders. In like manner, epidemiologic studies have shown that radiologists exposed to radiation have an excess of leukemia when compared to other physicians not so exposed.

With regard to the methods of early diagnosis and medical treatment of cancer, The National Cancer Institute recently has reported major gains in survival. Specifically, leukemia and breast cancer are among those cancer sites which show the greater gains in survival following therapy.

In light of these facts and because cancer is the leading cause of death amongst the Marshallese, the health care plan for the Marshall Islands must include an intensive cancer control program. This cancer control program should include, as a minimum, the following elements:

1. A Cancer Registry. Current estimates of morbidity and mortality in the Marshall Islands come primarily from hospital discharge and clinic sick call data. Efforts should be made to ensure complete reporting of all cancers. Only by such a registry system can the full extent of cancer incidence and cancer control be fully evaluated.
2. Cancer Screening. This element should be directed toward the early diagnosis of radiation related cancer, i.e. breast, lung, lymphatic and thyroid cancer, as well as leukemia.

In addition, the health care proposal must include a program of genetic screening. This should entail studies involving large scale genetic analysis of the Marshallese and also more diversified, specific studies of those exposed to radiation. Results from both of these efforts would contribute significantly to the interpretation

of and correlation with isolated findings. Presently, genetic screening techniques should be regarded as the best instrument for detecting genetic injury at a stage when corrective action can be taken for the benefit of effected individuals.

The following genetic screening techniques are recommended:

1. Establishment of a Birth Defects Registry.

   The establishment of birth defects registry is necessary to document and systematically classify all congenital abnormalities foreign to the Marshall Islands.

2. Cytogenetic Monitoring of Exposed Population.

   Cytogenetic monitoring of exposed population should be performed as was done in studies of the atomic bomb survivors of Hiroshima and Nagasaki. As in the Japanese studies, comparisons should be made with chromosomal aberration frequencies and cancer incidences in order to identify high risk groups.

3. Establishment of a Genetic Counselling Program.

   Genetic counselling should be made available to all the Marshallese, so that they can assist medical scientists to better investigate radiation effects.

4. Analysis of Amniotic Fluid.

   Amniotic fluid analysis should be performed in all high risk pregnancies for the prenatal detection of radiation effects.

5. Chromosome Monitoring of Newborns.

   Chromosomal monitoring of all newborns would allow for the direct determination of the extent of increased incidences of genetic abnormalities.

DANTE J. PICCIANO, Ph. D. December 14, 1980

With respect to all the peoples of the Marshall Islands, the Loma Linda University Health Care Proposal is an "Integrated, comprehensive health care program," which addresses health care, health care administration, and hospital administration in a comprehensive manner. However, for radiation-related health effects and diseases, the Loma Linda Proposal does not present an integrated preventive medicine program.

It is recommended that the Loma Linda Proposal be enlarged to include both the study of the most obvious health effects of radiation exposure -- namely, cancer, genetic or mutational outcome, and reproductive effects -- and the corresponding preventive measures associated with these public health problems.

Radiation is capable of adversely interacting with the human organism and, as such, presents an increased risk of damage to individuals who are exposed. Radiation interacts with and causes permanent changes in the individual's genetic material or genetic processes. Thus, radiation is a known mutagen, and mutagens are believed to play a causative role in four major human health problems:

1. Hereditary Defects (ranging from minor physical deviations to severe mental retardation);
2. Cancer;
3. Heart Disease and, possibly, aging (atheroselerosis).

After a mutation has occurred, one of three results is possible:

1. The mutation can be repaired;
2. The mutation can lead to cell death; or
3. The mutation can persist through cell division.

It is the last result that is of the greatest concern, because cell division results in increasing the population of new cells. If the mutation occures in somatic (body) cells, there are three possible outcomes: Mutation in the somatic cells of embryos may lead to embryo death (spontaneous abortion or miscarriage), or embryopathy (abnormal development), whereas mutations in adult tissues are believed to result in malignacies and are possibly involved in the aging process. Finally, mutations in gametic cells can lead to abnormal gametes (eggs or sperm cells) or sterility, both of which are forms of reproductive toxicity. If the mutant gametes are viable, the subsequent fertilization can result in embryo death, embryopathy, or some hereditary effects.

The Loma Linda Proposal presents suggested evidence of radiation-related effects in the Marshallese. As seen in Table 4 of the Proposal, of the 17 leading causes of death in the Marshall Islands, 1974 to 1976, cancer is tied with cerebrovascular diseases as the leading cause of death. Prematurity (a form of embryopathy) is the next and third leading cause of death. In addition congential defects accounted for 3.3% of all deaths, indicating the substantial severity of these defects.

At present, the greatest need is both for studies involving large scale genetic analyses of the Marshallese and for more diversified, specific studies of those exposed. Results from both of these efforts would contribute significantly to the interpretation of and correlation with isolated findings. Presently, genetic screeing techniques should be regarded as the best instrument for detecting genetic injury at a stage when corrective action can be taken for the benefit of affected individuals.

The following specific genetic screening techniques are recommended:

1. Establishment of a Birth Defects Registry.

   The establishment of a birth defects registry is necessary to document and systematically classify all congenital abnormalities foreign to the Marshall Islands.

2. Cytogenetic Monitoring of Exposed Population.

   Cytogenetic monitoring of exposed populations should be performed as was done in studies of the atomic bomb survivors of Hiroshima and Nagasaki. As in the Japanese studies, comparisons should be made with chromosomal aberration frequencies and cancer incidences in order to identify high risk groups.

3. Establishment of a Genetic Counselling Program.

   Genetic counselling should be made available to all the Marshallese, so that they can assist medical scientists to better investigate radiation effects.

4. Analysis of Amniotic Fluid.

   Amniotic fluid analysis should be performed in all high risk pregnancies for the prenatal detection of radiation effects.

5. Chromosome Monitoring of Newborns.

   Chromosomal monitoring of all newborns would allow for the direct determination of the extent of increased incidences of genetic abnormalities.

DR. JOSEPH WAGONER, S.D.Hyg. December 14, 1980

Loma Linda University School of Health submitted to DOI a Marshall Islandshealth care plan. While that plan does address the general health care needs of the people of the Marshall Islands, it does not positively address the needs of those people with regard to illnesses which are known to be associated with radiation. As such, the plan for the people of the Marshall Islands should be enlarged to include health care activities specifically directed toward carcinogenic, genetic and reproductive effects.

There can be little doubt that under a wide variety of circumstances, ionizing radiation is carcinogenic and leukemogenic in humans. This conclusion is attested to by numerous epidemiologic studies conducted among human populations experiencing a diversity of exposure to radiation. Epidemiologic studies of uranium minors exposed to alpha and gamma radiation have demonstrated a large excess of bronchogenic cancer. In addition, these studies have demonstrated a preponderance of a specific histologic type of cancer, i.e., small cell undifferentiated carcinoma, when compared to the general population. Epidemiologic studies of the survivors of the atomic-bomb explosions at Hiroshima and Nagasaki provide reliable data on the carcinogenic effects of whole body exposure to gamma rays and neutrons. Among those individuals, an excess of lung, thyroid and breast cancer, as well as leukemia, has been demonstrated. This excess of leukemia was shown to be predominantly of the myelogenous and granulocytic type. Conclu-

sive evidence that therapeutic radiation can be carcinogenic and leukemogenic comes from studies of patients irradiated for ankylosing spondylitis, enlargement of the thymus, and gynecological disorders. In like manner, epidemiologic studies have shown that radiologists have an excess of leukemia when compared to other physicians.

These epidemiologic studies document that radiation not only causes various forms of cancer but also causes cancer of a (radiation) specific histologic type.

With regard to the benefits of cancer screening, early diagnosis and early medical treatment, the National Cancer Institute recently has reported major gains in survival. In fact, leukemia and breast cancer are among those sites of cancer showing the greatest gains in survival following therapy.

In light of these facts and because cancer is the leading cause of death among the Marshallese, the health care plan for the Marshall Islands must include an intensive program of cancer control. This cancer control should include, as a minimum, the following elements:

1) A Cancer Registry. Current estimates of morbidity and mortality in the Marshall Islands came primarily from hospital discharge and clinic sick call data. Efforts should be made to ensure complete reporting of all cancers. Only by such a registry system can the full

extent of cancer incidence and cancer control be fully evaluated.

2) Cancer Screening. A program should be directed toward the early diagnosis of radiation-related cancer, i.e., breast, lung, lymphatic and thyroid cancer as well as leukemia.

CURRICULUM VITAE

Dante James Picciano

ADDRESS: PRIVACY ACT MATERIAL REMOVED

TELEPHONE NUMBER:

BORN: Palmerton, Pennsylvania

DEGREES:

1966, Bachelor of Science, Zoology
George Washington University

1969, Master of Science, Zoology
George Washington University

1973, Doctor of Philosophy, Genetics
George Washington University

PROFESSIONAL EXPERIENCE:

1980, Scientific Director, Biogenics Corporation, Houston, Texas.

1979, Director, Genetic Toxicology Center, Inc., Vienna, Virginia.

1978-1979, Deputy Director, Office of Carcinogen Identification and Classification, Occupational Safety and Health Administration, Washington, D.C.

1974-1978, Head, Medical Research Group, Department of Occupational Health and Medical Research, Dow Chemical USA, Freeport, Texas.

1974, Postdoctoral Training in Biochemistry, National Heart, Lung and Blood Institute, Bethesda, Maryland.

1973, Postdoctoral Training in Experimental Embryology, Oxford University, England.

1970-1973, Doctoral Training in Genetics, National Heart, Lung and Blood Institute, Bethesda, Maryland.

1970-1972, Consultant, Cytogenetics Laboratory, Children's Hospital, Washington, D.C.

PRIVACY ACT MATERIAL REMOVED

1967-1970, Chief Technologist, Cytogenetics Laboratory, Children's Hospital, Washington, D.C.

APPOINTMENTS:

1978, Associate Professorial Lecturer in Biological Sciences, George Washington University, Washington, D.C.

1978, Adjunct Associate Professor of Genetics, George Washington University, Washington, D.C.

1978-1979, Liaison Member, U.S. Department of Health, Education, and Welfare Subcommittee on Environmental Mutagenesis, National Institute for Environmental Health Sciences, Bethesda, Maryland.

1976-1980, Visiting Lecturer, Principles and Practice of Genetic Toxicology, University of Texas Medical Branch, Galveston, Texas.

1975-1978, Adjunct Assistant Professor of Cell Biology, Baylor College of Medicine, Houston, Texas.

MEMBERSHIPS:

American Association for the Advancement of Science
American Society of Human Genetics
Environmental Mutagen Society
Society for Occupational and Environmental Health
Society of Sigma Xi

AWARDS:

1975, Outstanding Employee, Departments of Industrial Health, Preventive Medicine, and Biomedical Research, Dow Chemical USA, Freeport, Texas.

1969, Sigma Xi Award for Outstanding Research in the Biological Sciences, George Washington University, Washington,D.C.

RESEARCH INTERESTS:

Human Cytogenetics
Chemical Mutagenesis
Genetic Toxicology

PROFESSIONAL EXPERIENCE (EXPANDED):

1980

As Scientific Director of the Biogenics Corporation, Houston, Texas, I was in charge of the toxicology, clinical genetics and basic research divisions. We provided expertise in the performance and conduct of genetic toxicology and clinical genetic research for government, industry, and the medical professionals. We were also involved in the investigation of the application of basic genetic discoveries for public utilization and the production of products for use in genetic research, e.g., fetal bovine serum and enzymes.

1979

As Director of the Genetic Toxicology Center, Inc., Vienna, Virginia, I was responsible for the supervision and conduct of the research, laboratory, and consulting services. We provided authoritative research and consultation in genetic and reproductive toxicology to both government and industrial health specialists and other professionals engaged in the development of health decisions. Laboratory responsibilities included the supervision of cytogenetic studies on human blood cells or sperm, the chromosomal analysis of prepared slides of blood or bone marrow of animals, selection of study populations, collection of samples and pertinent medical histories, microscopy and photomicroscopy, statistical analysis of data, and interpretation of results.

1978

As Deputy Director of the Office of Carcinogen Identification and Classification, Occupational Safety and Health Administration, U.S. Department of Labor, I served as the Senior Genetic Toxicologist for the Occupational Safety and Health Administration. In this capacity, I provided authoritative consultation in genetic toxicology related to the identification and classification of industrial agents concerning carcinogenicity, mutagenicity, and teratogenicity. In addition, my duties and responsibilities included providing professional assistance, advice, and leadership to occupational health decisions particularly on subjects involving identification and classification of carcinogenic agents. I also participated as Senior Oncologist in liaison with other agencies concerned with the cause and prevention of cancer.

1974-1978

I was Head of the Medical Research Group, Department of Occupational Health and Medical Research, Dow Chemical USA, Freeport, Texas. The primary effort of my group was the cytogenetic monitoring of chemically-exposed workers as a means of detecting persons in contact with mutagenic/carcinogenic agents. I supervised the research of eight technicians, and we screened over 1,000 workers annually (5,000 workers total). Other projects revolved around our ability to detect mutagenic/carcinogenic compounds in animal test systems and the development of additional genetic test systems. I also supervised collaborative research projects with several universities.

1973-1974

Postdoctoral Training in Biochemistry in the Molecular Hematology Branch, National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, Maryland. Training included the study of cell-free transcription of mammalian chromatin, the mechanism of action of ribonucleic acid-directed deoxyribonucleic acid polymerase (reverse transcriptase), ribonucleic acid-deoxyribonucleic acid hybridization studies, nucleic acid sizing techniques on polyacrylamide gels, and the cytogenetic evaluation of human marrow-mouse erythroleukemia hybrid cells.

1973

Postdoctoral Training in Experimental Embryology in the Department of Zoology, Oxford University, England. Training included the study of the recovery, isolation and culture of mammalian eggs at varying stages of development.

1970-1973

Doctoral Training in Genetics in the Molecular Hematology Branch, National Heart, Lung and Blood Institute, National Institutes of Health, Bethesda, Maryland. Training included the preparation of rabbit reticulocyte and liver ribosomes, the corresponding protein synthesis initiation factors, globin messenger ribonucleic acid, E. coli and rabbit transfer ribonucleic acids, reticulocyte aminoacyl-transfer ribonucleic acid synthetases; investigation of molecular weight estimations by gel filtration chromatography, sucrose density gradient centrifugation, protein and nucleic acid content determinations; study of eukaryotic protein biosynthetic initiation and elongation factors, and ribosomal-bound protein kinase; and the examination of the tissue specificity of the protein synthesis initiation factors.

1970-1972

Employed as Special Consultant, Cytogenetics Laboratory, Department of Neurology, Children's Hospital, Washington, D.C. Consultative responsibilities were directed toward the functioning of the cytogenetic program as outlined when employed as Chief Technologist.

1967-1970

Employed as Chief Technologist, Cytogenetics Laboratory, Department of Neurology, Children's Hospital, Washington, D.C. I directed the operation of the clinical cytogenetic program including the supervision of three technicians and a research medical student. Major responsibilities included the acquisition of biopsies, clinical analysis of patient data, tissue culture preparations, slide preparations, photomicroscopy, and cytogenetic analysis. Other responsibilities included the direction of buccal smear studies, cytogenetic evaluation of amniotic fluid, initiation of fibroblast tissue culture from necroscopic samples, autoradiographic analyses, and dermatoglyphic studies. Peripheral teaching responsibilities included lecturing to nurses, medical students, and house staff, and graduate courses in the Department of Obstetrics and Gynecology, George Washington University Medical School, Washington, D.C.

PUBLICATIONS:

1. McClure, H.M., Belden, K.H., Peiper, W.A., Jacobson, C.B., and Picciano, D.J., Cytogenetic studies and observations in the Yerkes great ape colony, Proceedings of the Second Conference on Experimental Medicine and Surgery in Primates, New York, September 1969, Karger Publishing Co., Basel, Switzerland.

2. Lehrnbecher, W., Lucas, G.J., Picciano, D.J., and Jacobson, C.B., Progressive neuromuscular and skeletal disorders in a male with an acrocentric supernumerary chromosome, Nature 227: 612-613, 1970.

3. Hung, W., Verghese, K.P., Picciano, D.J., Jacobson, C.B., and Chandra, R., Mixed gonadal dysgenesis with XO/XY mosaicism in multiple tissues, Obstetrics and Gynecology 36: 373-376, 1970.

4. Prichard, P.M., Picciano, D.J., Laycock, D.G., and Anderson, W.F., Translation of exogenous messenger RNA for hemaglobin on reticulocyte and liver ribosomes, Proc. Nat. Acad. Sci. USA 68: 2752-2756, 1971.

5. Crystal, R.D., Nienhuis, A.W., Prichard, P.M., Picciano, D. J., Elson, N.A., Merrick, W.C., Graf, H., Shafritz, D.A., Laycock, D.G., Last, J.A., and Andreson, W.F., Initiation of globin synthesis, FEBS LETTERS 24: 310-314, 1972.

6. Fontana, J.A., Picciano, D.J., and Lovenberg, W., The identification and characterization of a cyclic AMP dependent protein kinase on rabbit reticulocyte ribosomes, Biochem. Biophys. Res. Commun. 49: 1225-1232, 1972.

7. Picciano, D.J., Berlin, C.M., Davenport, S.L.H., and Jacobson, C.B., Human ring chromosomes: A report of five cases, Annales de Genetique 15: 241-247, 1972.

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9. Picciano, D.J. and Anderson, W.F., Preparation of protein synthesis initiation factors from rabbit liver, Methods in Enzymology 30: 171-180, 1974.

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12. Falvey, A.K., Kantor, J.A., Robert-Guroff, M.G., Picciano, D.J., Weiss, G.B., Vavich, J.M., and Anderson, W.F., Mechanism of action of ribonucleic acid-directed deoxyribonucleic acid polymerase I. Transcription of globin messenger ribonucleic acid, J. Biol. Chem. 249: 7049-7056, 1974.

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14. Velez, R., Kantor, J.A., Picciano, D.J., Anderson, W.F., and Nienhuis, A.W., Alpha- and beta-globin complementary deoxyribonucleic acids of human and rabbit. Specificity of hybridization, J. Biol. Chem. 250: 3193-3198, 1975.

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24. Picciano, D., Monitoring industrial populations by cytogenetic procedures, Proceedings of the Society for Occupational and Environmental Health's Workshop on Methodology for Assessing Reproductive Hazards in the Workplace, Bethesda, Maryland, April 19-22, 1978, in press.

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28. McKinnell, R.G., Picciano, D.J., and Schaad, J.W., Dominant lethality in frog embryos after paternal treatment with triethylenemelamine: Cytogenetics, morphology, and swimming capability, Environmental Mutagenesis 1: 221-231, 1979.

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30. Picciano, D., A pilot cytogenetic study of the residents living near Love Canal, a hazardous waste site, Mammalian Chromosomes Newsletter 21: 86-93, 1980.

CURRICULUM VITAE

Joseph K. Wagoner, S.D.Hyg.

PRIVACY ACT MATERIAL REMOVED

DATE AND PLACE OF BIRTH:

Northfield, Minnesota

EDUCATION:

Institution	Major	Minor	Degree	Years
College of St. Thomas St. Paul, Minnesota	Chemistry Zoology		B.S.	1953-1957
University of Minnesota School of Public Health Minneapolis, Minnesota	Biostatistics	Bacteriology	M.S.	1957-1960
Harvard University School of Public Health Boston, Massachusetts	Epidemiology and Biostatistics	Radiation Biology	S.D. Hyg.	1965-1970

PROFESSIONAL CAREER:

Organization	Title	Dates
Epidemiology Branch National Cancer Institute NIH, USPHS, DHEW Bethesda, Maryland	Biostatistician	1960-1968
Western Area Occupational Health Laboratory National Institute for Occupational Safety and Health, CDC, DHEW Salt Lake City, Utah	Coordinator for Uranium	1969-1971
Division of Field Studies and Clinical Investigations National Institute for Occupational Safety and Health, CDC, DHEW Cincinnati, Ohio	Director	1971-1976
Industrywide Studies Branch Division of Surveillance, Hazard Evaluation and Field Studies National Institute for Occupational Safety and Health, CDC, DHEW Cincinnati, Ohio	Chief	1976-1977

PRIVACY ACT MATERIAL REMOVED

Office of Assistant Secretary Occupational Safety and Health Administration, DOL Washington, D.C.	Special Assistant for Occupational Carcinogenesis	1977-1979
Office of Director National Institute for Occupational Safety and Health CDC, DHEW Rockville, Maryland	Senior Epidemiologist	1979-1979
Environmental Defense Fund Washington, D.C.	Research Epidemiologist (on detail from NIOSH, CDC, DHEW)	1979-1980

PROFESSIONAL SOCIETIES:

Society for Occupational and Environmental Health	1972 -
American Society for Preventive Oncology	1976 -
Rachel Carson Trust for the Living Environment	1976 -

GUEST LECTURER:

Universities - Arizona, California, Case Western, Cincinnati, Harvard Illinois, Iowa, Paris, UCLA, Utah, Virginia, Wisconsin, Yale and New Mexico.
Societies, Academies and Associations - American Society of Anesthesiology, Connecticut Thoracic Society, International Academy of Pathology, National Academy of Sciences, New York Academy of Medicine, New York Academy of Sciences, American Association for Cancer Research, Health Physics Society, United Nations

HONORS:

United States Public Health Service Commendation Award - 1972
Cincinnati Post Young Leaders In Medicine and Health Care Award - 1974
Cincinnati Federal Executive Board Certificate of Merit Award - 1974
President of Society for Occupational and Environmental Health - 1977-1978
Board of Directors of Rachel Carson Trust For the Living Environment 1976 -
Co-Editor of Occupational Carcinogenesis, Ann. N.Y. Acad. Sci. Vol. 271. 1976
Consulting Editor of American Journal of Occupational Medicine
Chairman of Epidemiology Working Group, Interagency Regulatory Liaison Group, 1977-1979

COMMITTEES:

Department of Labor Asbestos Advisory Committee
Department of Labor Carcinogen Advisory Committee
American-Japanese Joint Panel on Environmental Mutagenesis and Carcinogenesis
Interagency Testing Committee of Toxic Substance Control Administration
March of Dimes Birth Defects Foundation Advisory Committee on Reproductive Hazards in the Workplace

International Agency for Research on Cancer Work Group on the Evaluation of the Carcinogenic Risk of Chemicals to Man: Vinyl Chloride - 1975; Cadmium and Nickel - 1975; Asbestos - 1976; Plastics and Synthetic Elastomers, Some Monomers, Homoploymers and Copoymers - 1978; Halogenated Hydrocarbons - 1978; Twenty-six Chemicals - 1979

Society for Occupational and Environmental Health Advisory Committees for:

Conference on Health Effects of Occupational Exposure to Lead and Arsenic, Chicago, Illinois, Febraury 24-25, 1975;

Conference on Women and the Workplace, Washington, D.C., June 17-19, 1976;

Conference on Implication of the OSHA Proposal on Carcinogen Regulation, Washington, D.C., June 2, 1977;

Conference on Occupational Exposure to Fibrous and Particulate Dust and Their Extension into the Environment, Washington, D.C., December 4-7, 1977;

Conference on Methodology for Assessing Reproductive Hazards in the Workplace, Bethesda, Maryland, April 19-22, 1978;

Conference on Health Hazards in the Arts and Crafts, Washington, D.C., October 19-20, 1978;

Conference on Pesticides and Human Health, Washington, D.C., December 10-13, 1979;

Conference on Health Implications of New Energy Technologies, Park City, Utah, April 4-7, 1979;

Conference on Epidemiologic Methods for Occupational and Environmental Health Studies, Washington, D.C., December 2-5, 1979.

International Metalworkers Federation Scientific Advisory Committee for International Conference on Health Hazards in Metalworking Industries, Oslo, Norway, August 16-19, 1976

New York Academy of Sciences Advisory Committee for Science Week: The Scientific Basis For the Public Health Control of Environmental Hazards, New York, June 21-30, 1978

University of Massachusetts Advisory Committee for Conference on Pollutants and High Risk Groups: The Biological Basis of Hypersusceptibility to Environmental and Industrial Pollutants, Amherst, Mass., June 5-6, 1978

PUBLICATIONS:

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Waxweiler, R. J., Stringer, W., Wagoner, J. K., Jones, J., Falk, H. and Carter, C. 1976. Neoplastic risk among workers exposed to vinyl chloride. Ann. N. Y. Acad. Sci. 271: 40-48.

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