FINAL REPORT OF

THE DEPARTMENT OF MENTAL HEALTH AND MENTAL RETARDATION

ON ORTHOMOLECULAR PSYCHIATRY

TO

THE GOVERNOR

AND

THE GENERAL ASSEMBLY OF VIRGINIA

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Final Report of the
Department of Mental Health and Mental Retardation
On Orthomolecular Psychiatry

To

The Governor and the General Assembly of Virginia

Richmond, Virginia

January 1982

To: The Honorable John N. Dalton, Governor of Virginia

and

The General Assembly of Virginia

I. INTRODUCTION

In February 1981, the General Assembly passed House Joint Resolution No. 258 requesting the Department of Mental Health and Mental Retardation to study orthomolecular psychiatry. That resolution is reproduced on the following page.

AMENDMENT IN THE NATURE OF A SUBSTITUTE FOR HOUSE JOINT RESOLUTION NO. 258

(Proposed by the House Committee on Rules)

(Patron Prior to Substitute–Fickett)

Requesting the Department of Mental Health and Mental Retardation to study orthomolecular psychiatry.

WHEREAS, a small but increasing number of psychiatrists and scientists are contending that schizophrenia is the result of a chemical imbalance or organic malfunction in the body and are gearing their treatment of schizophrenics accordingly; and

WHEREAS, the theory that schizophrenia is a disease resulting from physical rather than mental causes is supported primarily by a group of doctors known as "orthomolecular psychiatrists," who rely heavily on megavitamin therapy and dietary adjustments in their treatment plans; and

WHEREAS, the practice of orthomolecular psychiatry is perceived to be effective in improving the quality of care for persons who are diagnosed as schizophrenic or mentally ill because the manner of treatment allows them to remain at home rather than being institutionalized; now, therefore, be it

RESOLVED by the House of Delegates, the Senate concurring, That the Department of Mental Health and Mental Retardation is requested to conduct a study on orthomolecular psychiatry. The study shall seek to determine the utility of the practice of orthomolecular psychiatry for the treatment of mental illness in the Commonwealth.

The Department shall submit any recommendations it deems appropriate to the Governor and the nineteen hundred eighty-two Session of the General Assembly.

Official Use By Clerks	
Agreed to By The House of Delegates	**Agreed to By The Senate**
without amendment ☐	without amendment ☐
with amendment ☐	with amendment ☐
substitute ☐	substitute ☐
substitute w/amdt ☐	substitute w/amdt ☐
Date: _____	Date: _____
Clerk of the House of Delegates	Clerk of the Senate

II. DISCUSSION

To carry out the study and to develop appropriate policy, the State Mental Health and Mental Retardation Commissioner appointed a Task Force composed of the following members who all displayed their concern and dedication to improving the treatment of the mentally ill: Brian Bouton, M.D., DeJarnette Center for Human Development and Private Practice; Owen Brodie, M.D., Private Practice; Miss Margaret Cavey, R.N., Acting Assistant Commissioner, Rehabilitative Services, Department of Mental Health and Mental Retardation; Mrs. Sam Ferrell, President, Schizophrenia Foundation of Virginia; The Honorable Lewis P. Fickett, Jr., Patron, House Joint Resolution No. 258; David Fitch, Ph.D., Director, Children and Youth Services, Department of Mental Health and Mental Retardation; Mrs. Margaret Foley, Director, Richmond Community Mental Health and Mental Retardation Services Board; Merritt Foster, Jr., M.D., Chairman, State Mental Health and Mental Retardation Board; Blaine Friedlander, Forensic Habilitation, Inc.; Charles W. Gunn, Jr., Administrative Services Director, Department of Mental Health and Mental Retardation; Donald Jones, M.D., Director, Medicolegal Services, Department of Mental Health and Mental Retardation; Miss Betty Joyce Moore, School of Nursing, Medical College of Virginia; Patrick O'Hare, Assistant Attorney General, Department of Mental Health and Mental Retardation; Frank Patterson, Assistant Director, Justice System Services, Department of Mental Health and Mental Retardation; Eric Ralston, Director, Community Services, Central State Hospital; S. Charles Schulz, M.D., Department of Psychiatry, Medical College of Virginia; Robert Strange, M.D., Director, Northern Virginia Mental Health Institute; Miss C. Blackwell Tackney, J.D., Rappahannock Legal Services, Inc.; Toshio Takakuwa, M.D., Director, Health Services, Northern Virginia Training Center; Thomas Updike, Ph.D., Director, Community Mental Health Services, Department of Mental Health and Mental Retardation; Robert Ware, Ph.D., Director of Research, Department of Mental Health and Mental Retardation; and Bernard Williams, M.D., Private Practice. The following persons served as resource members: Elmer Cranton, M.D., President, American Holistic Medical Association; Leonard J. Hippchen, Ph.D., Department of Administration of Justice and Public Safety, Virginia Commonwealth University; and Catherine Smith, M.D., Private Practice.

Six meetings were held between July 21 and October 20, 1981, to carry out the intent of the House Joint Resolution No. 258. During that time, the Task Force reviewed literature and research pertaining to orthomolecular medicine and held discussions as to the benefits and negative effects of this approach. These discussions resulted in the submission of four major recommendations to the Legislature. The chairman expressed his gratitude to the members of the Task Force for their contributions. The members unanimously thanked Dr. Schulz for his outstanding leadership and expertise as chairman.

III. RECOMMENDATIONS

After preliminary review of the basic scientific and clinical research concerning orthomolecular treatment, the Task Force cannot unanimously recommend the use of this approach at this time. However, enough positive findings exist to warrant the following recommendations:

1. The Task Force should remain together to monitor the research studies it has recommended and to remain abreast of basic scientific and clinical research pertaining to orthomolecular medicine.

2. The Task Force should actively encourage the formation of balanced, impartial research teams to design and implement studies regarding the utility of the orthomolecular approach.

3. Such research teams should be encouraged to report their findings to an advisory committee composed of members of the Task Force to Study Orthomolecular Psychiatry.

4. The advisory committee should then use the findings to develop further recommendations to the Department of Mental Health and Mental Retardation regarding the utility of the orthomolecular approach in Virginia.

IV. ORTHOMOLECULAR PSYCHIATRY

Background

Orthomolecular Psychiatry refers to the treatment and prevention of mental disease by providing the human body with the correct balance of vitamins, minerals, and food substances. The treatments required to optimize the body environment, especially the brain, include vitamins and minerals, both as food and supplement, exercise, and diet, as well as identification of allergens.

The range of interest in orthomolecular medicine extends from some of the neurological conditions, such as multiple sclerosis to psychiatric conditions, such as schizophrenia. According to the psychiatrists and others who support this approach, many conditions which result in mental illness are actually caused by faulty metabolism or imbalance in the patient's body chemistry. Schizophrenia is seen as a brain disorder which is basically expressed in changes in perception and thought. Orthomolecular Psychiatry holds that mental disease is a function of abnormal chemical reaction rates as determined by genetic constitution and environmental factors. According to this theory, significant improvement in mental health of many persons can be achieved by appropriate concentrations of substances normally present in the body.

In the 1920's Dr. Seale Harris studied hypoglycemia. His corrective diet received an award from the American Medical Association, and orthomolecular psychiatrists incorporated his work in their diagnostic and treatment process. Forty years ago approximately ten per cent of the population labeled as schizophrenic in some mental hospitals (chiefly southern) were discovered to be suffering from pellegra--a Vitamin B deficiency disease. In the 1950's, two Canadian psychiatrists (Drs. Hoffer and Osmond) focused on the use of nicotinic acid (Vitamin B3) in the treatment of acute and subacute schizophrenic patients with relapse rate. These types of investigations caught the interest of other physicians who began to explore the utility of diet and vitamin/mineral supplementation in their practices.

International associations of orthomolecular psychiatrists and allied professionals have been established: The Academy of Orthomolecular Psychiatry, the Huxley Institute for Bio-Social Research, and the American Holistic Medical Association. It is further important to note that there are a number of groups and associations who support the orthomolecular approach for the treatment of schizophrenia. Such organizations as the Schizophrenia Foundation of Virginia, the Schizophrenia Association of Greater Washington, D.C., and Pathways to Independence have voiced their support of this endeavor. At least two state legislatures have considered legislation pertaining to orthomolecular medicine.

The orthomolecular approach has not been widely adopted by mental health practitioners. However, in the last decade, increasing numbers of medical practitioners have incorporated both orthomolecular and holistic approaches.

The Scope of the Problems of Schizophrenia and Mental Illness

The prevalence of schizophrenia in populations where the necessary statistics have been reported has consistently held to approximately one per cent of the population. If mental illnesses that involve schizophrenic symptoms to a lesser extent are added, the prevalence of schizophrenia-related mental illness rises substantially.

In Virginia, which had a population count of 5,346,279 in the 1980 census, one would expect more than 50,000 persons to suffer from schizophrenia during their lifetimes. At least 5,000 receive treatment each year in hospitals. In fact, the statistics available, though limited in certain respects, suggest that the 50,000 plus number is probably correct. Public facility statistics are from two sources: the state mental hospitals and the community mental health centers. Statistics are not readily available from private institutions, but it is believed, on the basis of national statistics, that one-third as many of the mentally ill are treated in private psychiatric institutions as are treated in state facilities. The proportion with schizophrenia, if consistent with the national figures for private psychiatric hospitals, would be between 20 and 25 per cent. On the basis of national statistics, it seems probable also that psychiatric patients are seen in general hospitals slightly more often than in mental hospitals.

As of June 30, 1980, there were 1,763 patients in the state mental health facilities of the Commonwealth who had been diagnosed as schizophrenic. These patients were the largest number included in any single diagnostic catergory applied to the total population of 4,746 on that date. Thus, schizophrenics comprised 37 per cent of the total population in the state facilities. Moreover, schizophrenics as a group had longer hospital stays than other patients.

It should also be noted that the state institutions seem to have a fairly rapid turnover. That is, though there were 4,746 patients in all categories on June 30, 1980, a total of 10,513 had been admitted in the preceeding year. In assessing the scope of the problem of serious mental illness in Virginia, one would have to consider not only the number in state institutions at any one time, but also the number who are treated and released over the course of a year.

It is probably safe to assume that individuals treated in community-based facilities, taken as a group, were not as seriously ill as individuals in state mental institutions, taken as a group.

However, if even 20 per cent of the individuals treated at community-based mental health centers were classified as schizophrenic, a figure that would be below the national average for mental institutions and general hospitals, one would conclude that perhaps as many as 30,000 Virginians were treated for schizophrenia in the community centers last year. Taking into account the fact that, at any given time, many schizophrenics probably are receiving no treatment, it is probably safe to assume that, indeed, Virginia's schizophrenic population is in excess of 50,000 persons.

To appreciate the scope of the problem, one must also realize that the Commonwealth appropriated $81,709,140 for state mental hospitals in 1979-80 and $18,324,540 in funding the community services boards. These figures, furthermore, fail to take into account the indirect costs associated with mental illness: the loss of productivity of the mentally ill persons as well as the transfer of caretakers from more productive employment; administrative costs and research and educational costs associated with mental illness; loss of life, suffering, and loss of property as a result of mental illness.

At least two Task Force members were of the opinion that, just as biological factors controllable by nutrition or other physiological factors are, in their view, a very important fact in mental illness, so too are physiological factors a very important, if not the most important, factor in criminal behavior. One orthomolecular practitioner and researcher has found criminals, as a group, to fall between the seriously mentally ill and the normal population on a scale of physical and mental "wellness."

The societal costs of crime, of course, approach or exceed the very high costs to society of mental illness. Maintaining the adult state prison systems alone in 1979-80 cost the Commonwealth $78,057,897 or $9,602 for each prisoner. For juveniles the figures were $15,225,055 or $17,480 per capita. The average daily population for adult state penal institutions for the fiscal year June 30, 1980, was 8,478; for juveniles, it was 1,022. Add to those costs the losses to the victims of crime, the costs of investigation and prosecution of crime and maintenance of police forces, the cost of incarceration in county jails, and for parole and probation and the bill is truly staggering. There is, finally, the immeasurable cost of the loss of human life and suffering occasioned by violence and loss of property.

Classification and Phenomenology of Schizophrenia

The classification of mental illness has been a troublesome topic for centuries. In the middle ages when mental illness was not considered a physical ailment but a possession by the devil, the classification was usually made by such mechanisms as burning the person at the stake and observing which way the smoke went.

Near the end of the 19th Century, Kraepelin began to divide those people with manic depressive disorder from those with what he termed dementia praecox.

At this time, two criteria for classification, the Diagnostic and Statistical Manual III (DSM-III) and the World Health Organization Symptoms Checklist, have undergone serious field trials both in the United States and throughout the world. As a result, the criteria for classification are more reliable than was available to researchers before 1965. They form the basis by which recognized journals evaluate investigations of putative treatments of schizophrenia.

Despite some agreement on the description of the symptoms of schizophrenia that lead to its correct classification, it is clear that there is no external validation, such as a laboratory test that would lead one to say that one had diagnosed diabetes mellitus. However, the collection of behaviors in the DSM-III and World Health Organization Symptoms Checklist are the basis for biological research of the future. One other tool that is conceptually used to understand investigative research with schizophrenia is the concept of "heterogeneity." By understanding that there may be many causes for what is now known as schizophrenia, numerous investigators now are very interested in teasing out etiologies of schizophrenia. This means there may be certain people with schizophrenia who respond to neuroleptics while there may be another group who better responds to pranolol.

Natural Course and Placebo Response

In doing research with patients with schizophrenia, two additional points need to be made clear. One of these is that the natural history of schizophrenia is one that characteristically has an undulating course. Winokur, from Iowa, has demonstrated that 50 per cent of schizophrenic patients with hallucinations and delusions lose these symptoms after five years from onset while some of the so-called "negative" symptoms, such as memory disturbance, flattened affect, and anhedonia, begin later in the illness and are predominant. In considering the results of research over the long haul, one cannot claim that an intervention has led to the decrease in hallucinations and delusions five or six years after the intervention has been made unless an appropriate control group has been selected and the statistically significant difference determined. Another aspect of schizophrenia that needs to be considered is that it has been repeatedly demonstrated that there is a so-called spontaneous remission of symptoms in 15-16 per cent of the cases. This has been noted since Kraepelin's time. Lastly, in evaluation of research on treatment intervention for schizophrenia, it has been demonstrated repeatedly and recently that schizophrenic patients can have a so-called "placebo response." In recent years two such interventions have been used: intravenous beta-endorphin,

which in double-blind studies was not successful, and hemodialysis, which had no positive experience in double-blind studies, even though early reports suggested five out of six patients would be made better.

Megavitamins and Schizophrenia: A Cautionary Note

As is known from numerous publications, the use of Vitamin B3 has been extant for a little over 40 years in the treatment of mental symptoms, usually associated with its specific deficiency. In the early 1950's there were interesting and dramatic reports of the use of nicotinic acid and related compounds in relationship to schizophrenia. These works were mainly conducted by Hoffer and Osmond. Reports of the use of vitamins in the treatment of schizophrenia have been published in the Journal of Orthomolecular Psychiatry. Many of the reported studies included nicotinic acid or its related compounds and also trials with neuroleptics, Dilantin, and other vitamins. It is not the purpose of this section to discuss the positive reports of the use of megavitamins, but to point out that numerous investigations exist in which double-blind studies have been performed without clinical change in schizophrenic patients. The point of this section is not to say that there is no schizophrenic alive who would not respond to vitamin treatment, but to point out that no replication for the initial report exists.

Open reports of the use of megavitamins continue to make this theory of treatment tantalizing. However, one must greet these studies with a great deal of caution when making a recommendation for treatment. In all branches of medicine corroboration of results by independent laboratories is needed before treatment can be accepted. It appears there is a great amount of data, both in the basic sciences, such as Pauling's work with vitamin use in schizophrenia, which hopefully might have some bearing on the clinical status; however, this remains to be demonstrated.

Current Status of the Controversy

The controversy between the American Psychiatric Association (APA) and the Association of Orthomolecular Psychiatrists is exemplified by two major documents: "Megavitamins and Orthomolecular Therapy in Psychiatry," (APA, 1973) and "Megavitamin Therapy" (Canadian Schizophrenia Foundation, 1976).

The essence of the APA position is that studies with Vitamin B3, which earlier was seen as a crucial variable, have not confirmed earlier studies by the advocates of orthomolecular psychiatry. They also state that the methodology of later reports makes it impossible to determine the curative factors because of mixtures of vitamins, antipsychotics, et cetera. The orthomolecular psychiatrists, on

the other hand, contend that the APA replication studies failed to use proper patient selection methods or to use all of the components of an effective treatment program.

A major conflict between the two groups concerns what constitutes sufficient proof. The APA and other national groups tend to insist on the use of double-blind studies with testing of single variables. The orthomolecular group, in contrast, tends to use multiple variables which are different for each patient, depending on individual needs. This makes control of the variables for a group difficult for scientific purposes.

The upshot of this controversy at present is that neither group has been able to prove its point. The APA replication attempts have been thwarted by operational difficulties involved with controlling multiple, individualized treatments, and the orthomolecular group can report case-by-case effectiveness in many instances but not with proof in a scientifically vigorous fashion.

V. CONCLUSIONS

It was recognized by the members of the Task Force that schizophrenia and some of the severe mental illnesses are clearly biological disorders with genetic and environmental components leading to marked suffering and debilitation. Because of the unknown etiology, severity, and chronic nature of these disorders, current treatment strategies are not adequate. In addition, discrimination against this clearly biological illness when compared with attitudes toward and assistance for other medical diseases compounds an already disturbing situation. As stated earlier in this report, the resultant difficulties in providing successful and humane treatment have provided an atmosphere for numerous unproven treatments in the past, such as insulin coma treatment and lobotomy.

Because of mixed results of clinical trials performed to date, the Task Force cannot unanimously recommend at this time, on the basis of presently available scientific evidence, the use of megavitamins as a proven treatment of schizophrenia. The clinical utility of this intervention should be studied further.

After preliminary review of the basic scientific and clinical research concerning megavitamin and orthomolecular treatment of schizophrenia and some other mental illnesses, such as autism and hyperactivity syndrome, the conclusions of the Task Force are that enough scientific evidence exists for the recommendation of experimental studies into the use of orthomolecular treatments for schizophrenia, autism, and hyperactivity. As noted in the earlier parts of this report, positive clinical findings exist in these areas. However, the interpretation and clinical application of these findings still remain unclear. The results of research projects in this area can best achieve utility by use of balanced research teams. If such studies were to be carried out, they could make a significant contribution in understanding the utility of orthomolecular treatments in this state.

Lastly, the Task Force recommends that it remain together to monitor the research studies it has recommended and to remain abreast of basic scientific and clinical research performed outside of the Commonwealth of Virginia.

Respectfully submitted,

Joseph J. Bevilacqua, Ph.D., Commissioner