PROPOSAL FOR THE ESTABLISHMENT OF

THE CECIL H. and IDA GREEN

CENTER FOR REPRODUCTIVE BIOLOGY SCIENCES

OF THE

UNIVERSITY OF TEXAS SOUTHWESTERN MEDICAL SCHOOL

AT DALLAS, TEXAS

12-14-73

INTRODUCTION

Man's unfettered capacity for procreation signals the advent tomorrow of problems of catastrophic enormity. The human population problem has at least two parts of immediate consequence. The first part is qualitative in nature, far more complex, far less developed conceptually and has, to date, attracted only a small number of advocates. This part of the problem bears directly upon the very quality with which future lives will be lived, individually and collectively.

Perhaps the greatest mandate facing medicine and its collaborative agencies today is the obligation to bring to bear all of their resources to increase the quality of life of each child that is born. Never before in our history has this mandate been so great nor has the failure to address it successfully so horrifying.

QUALITY OF LIFE

Considering further the fact that the quality of life of each newborn will determine not only the health and advancement of future generations but will determine as well many obligatory economic considerations which will be imposed through care of abnormal or mentally retarded children, life long health care problems and failure of contribution through learning deficits, the elimination of biologic evolution through population control represents perhaps the most urgent medical, social, and research dilemma of our time.

Certainly, the magnitude of our collective obligation to insure that each newborn is "well born" has no bounds - particularly as we approach a society of controlled population growth. The obligation to provide the optimal potential for physical and intellectual achievement for each newborn is not singularly the duty of the parent and school but rather it is the collective responsibility (a responsibility which begins even before conception) of medicine through all of its research and clinical disciplines. Based

on the premise that through knowledge and understanding of the intricate and complex mechanisms of genetic pre-selection and of human reproduction will come clinically applicable tools for improving the quality of each pregnancy, and ultimately the generations which follow, a clear mandate for cooperative investigative efforts emerges.

MAINTENANCE OF NUMERICAL CONTROL

The quantitative control of population growth offers no guarantee for the qualitative improvement of the species of man; and, indeed the reverse may be true. This obtains for several reasons. With population control we have shifted the greater proportion of pregnancies to those women having their first child. These women and their fetuses, we know, have far greater risks than those women having the second, third, or fourth child. This is particularly true of the very young, indigent girl such as those we care for at Parkland Memorial Hospital and similar institutions caring for the socio-economically deprived segment of our country.

Only a few short years ago, it was common for a healthy woman to give birth to four, five, six, or more healthy children. For the most part, such women have chosen in recent years to limit markedly their family size such that these healthy women now have one, two, or three healthy children. Contrarily, in the past, those women who because of physical maladies such as diabetes, hypertension, renal disease, heart disease, preeclampsia, genetic aberrations, and a whole host of other physical maladies which placed their developing fetus at extremely high risk, ordinarily limited their family size to one or two children. These women at the present time still seek and are entitled to have their two children and thus the character of the obstetric population in this country has changed markedly in the last ten years. Those women who have complications or disease processes that adversely effect the prospects for their developing fetus, constitute an ever-increasing proportion of the total obstetric population. Accordingly, in large measure, natural human biologic evolution has been eradicated in this country -- at least from the point of view of the well being of the developing fetus who can be compromised so easily by pathologic processes that primarily affect its mother.

While all must accept that population control was mandatory and that its achievement is most meritorious, we cannot fail to recognize the serious implications that may obtain by its successful implementation.

The University of Texas Southwestern Medical School is in a unique position to respond to this mandate because of the existing faculty strength in many of the disciplines pertaining to the study of Human Genetics and Reproduction. It is, therefore, appropriate and timely that the *Center for Reproductive Biology Sciences* has been approved for establishment at this Medical School.

CENTER FOR REPRODUCTIVE BIOLOGY SCIENCES

1. Rationale and Purpose

With the current explosion in knowledge of the biological sciences, an interdisciplinary investigative approach offers the best opportunity of providing meaningful solutions, not only for the investigation of problems at many different levels, but also for the effective communication of new information. Reproductive biology is a subject with such far-reaching ramifications, i.e., sociological, psychological, demographic, clinical, and scientific - that only an environment which provides scientific cross-fertilization and integration of approaches can furnish the setting for finding effective solutions to these complex and interlocking problems.

The purpose for creation of the *Center for Reproductive Biology Sciences* at the University of Texas Southwestern Medical School was to provide an environment in which investigators, present and future, can most efficiently address these pressing problems, *viz.*, the qualitative assurance as well as quantitative control of human reproduction. The nature of these problems require that coordinated, multifaceted approaches be implemented, ranging from research laboratories engaged in fundamental studies on the biology and chemistry of reproduction to improved patient care and counseling if final success is to be achieved.

The Faculty of The University of Texas Southwestern Medical School is constituted of a group of dedicated investigators, many of whom are conducting imaginative and productive basic and clinical research programs in areas of the reproductive sciences. Presently this work is proceeding on an individual as well as a cooperative basis and will continue.

This current group of faculty provide a distinguished nucleus that created the *Center for Reproductive Biology Sciences*. These investigators are of international renown. The *Center* will provide an educational environment of the first order for pre- and postdoctoral training in the most critical biological issue of our time. In addition, this *Center* will serve as a major research, teaching, and health care resource for the entire Scientific Community.

II. Goals

The establishment of the *Center for Reproductive Biology Sciences* will enjoin the total resources of the medical, biologic, and social sciences to provide the scientific basis through which we can insure the delivery of the optimum quality newborn of each pregnancy.

The specific aims of this *Center* will be:

1. To foster and develop further a physical and intellectual atmosphere that is conducive to the cooperative study of the physiology and pathophysiology of reproduction at all stages.

2. To preserve the multidisciplinary scientific strength which presently exists in this Institution and to enhance the recruitment of meritorious faculty members in related disciplines that are not presently or adequately represented on this campus at this time.

3. To improve the teaching program in reproductive biology by promoting optimum cooperative utilization of the skills of the various disciplines from the basic and clinical faculties and their students.

4. To utilize basic information generated by the *Center* for the improvement of genetic pre-selection, family planning, fetal development, and newborn care.

III. Benefits to the University

The establishment of the *Center for Reproductive Biology Sciences* as a discrete, identifiable entity within the framework of The University of Texas Southwestern Medical School benefits the University in three major categories: a) Academic; b) Sociologic; c) Financial.

A) Academic

First, the *Center* brings together scientists in the Medical School who are working independently on various aspects of reproductive biology. This provides a proper forum for the effective interchange of ideas, encourages mutually beneficial collaborative research, and results in more coherent, coordinated research programs. Second, the *Center* can attract outstanding scientists to work in areas that are not currently represented in the Medical School. This greatly broadens the scientific base for research activities throughout the entire University. Third, the potential for postgraduate training is increased and strengthened greatly. Fourth, reproductive physiology, genetics, family planning, and population control have become increasingly important components of the Medical School curriculum. The *Center* provides the talent and coordination necessary for excellence of this aspect of our curriculum.

B) Sociologic

At a time when society is placing increasing demands on the University for solutions of social problems, it is sometimes difficult to satisfy these expectations in a manner that is compatible with the goals and resources of an academic institution. The *Center,* with its orientation toward major medical, sociologic, and demographic problems provides an ideal means for the University's participation in the solutions of these universal problems common to all of society.

C) Financial

The establishment of the *Center for Reproductive Biology Sciences* at The University of Texas Southwestern Medical School increases the opportunity for effective funding through Program-Project Grants for Interdisciplinary Research. The *Center* will provide financial benefits directly to the programs of the individual investigators. Additionally, the research potential of each investigator will be broadened through the collaborative working relationships established by the *Center* and thereby his competitive position for research funds is enhanced.

ORGANIZATIONAL STRUCTURE OF THE *CENTER FOR REPRODUCTIVE BIOLOGY SCIENCES*

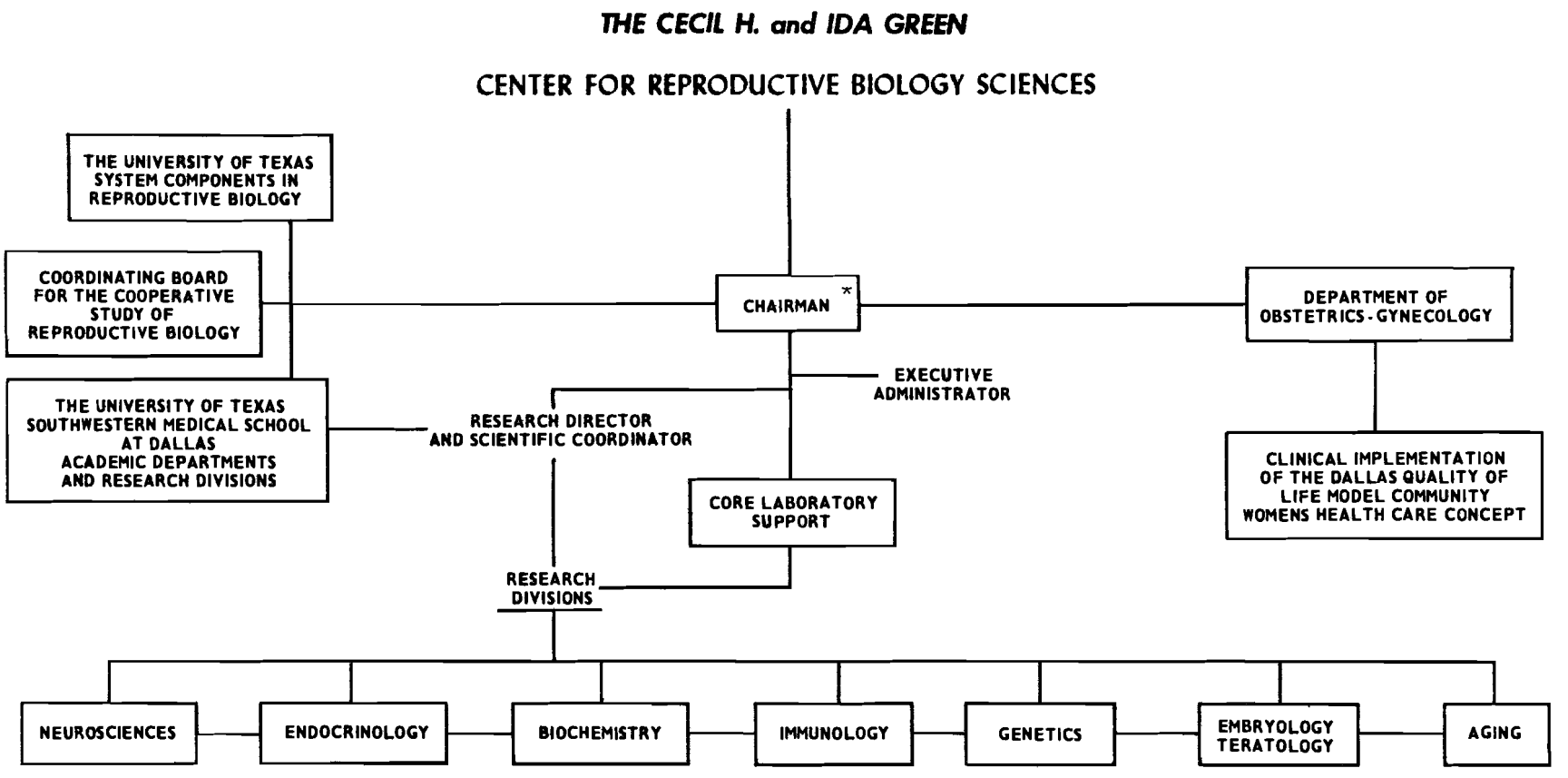
1. The proposed name of the *Center* is the *Cecil H. and Ida Green Center for Reproductive Biology Sciences.*

2. The *Center* is an academic component of the University of Texas Health Science Center's Southwestern Medical School.

3. The administrative responsibility of the *Center* resides in the Chairman, and this position is proposed as the Cecil H. and Ida Green Chair of Reproductive Biology Sciences.

4. The Chairman of the *Center* is responsible to the Dean of Southwestern Medical School, a component of the University of Texas Health Science Center whose chief executive officer is the President of the Health Science Center.

The Research Director assumes the direct responsibility for the promotion and development of the scientific programs of the *Center* and for the efficient coordination of efforts among divisions. This position occupies a key role of responsibility in both the research and educational resources of the *Center*.



* Subsequently, UT Southwestern changed the title of "Center Chairman" to "Center Director" to avoid confusion with departmental chairmen.

The Chairman shall have the overall administrative responsibility of the *Center* and will seek to provide the opportunity for collaborative endeavors of other University of Texas System components with scientific interests and expertise in Reproductive Biology. Additionally, in cooperation with the Research Director, the Chairman will solicit the resources of the other Academic Departments and Research Divisions of the Southwestern Medical School to enjoin, cooperatively, their participation in the activities of the *Center*. Thus a University-wide forum shall exist for the exchange of data, promotion of new concepts and the encouragement of cooperative research activities.

Of especial importance to the Organizational Structure of the *Center* is a close relationship to the Department of Obstetrics and Gynecology of Southwestern Medical School. Basic biomedical research must contain, for a variety of reasons, a clinical correlation capability if the research benefits are to become truly relevant. These include a workable basis for the interchange of ideas and the establishment of priorities between investigator and clinician; the availability for study of complicated or unique biologic or pathologic circumstances in man; the correlation of basic physiology and biochemical phenomena with the physical maladies of man; and, ultimately the implementation of the findings of the research laboratory for meaningful and practical usefulness through its clinical applicability for the enhancement of life's processes.

CLINICAL IMPLEMENTATION

The ultimate long range goal of all medically oriented research is the attainment of knowledge that will have clinical utility in addressing the urgent medical problems of mankind. Such is also the specific aim of the *Center for Reproductive Biology Sciences*. The achievement of this goal can be assessed indirectly by the generation of new scientific data; the formulation of innovative techniques or methods; and, by the training of new and ultimately more sophisticated investigators. But the direct measure of biomedical research success is the clinical implementation of the knowledge achieved from creative basic research.

The *Center for Reproductive Biology Sciences* has a unique opportunity to observe and participate in direct assessments of its endeavors through its association and interrelationship with the Clinical Departments of the Southwestern Medical School.

By contractual agreement, the University of Texas Southwestern Medical School is responsible for the supervisory medical care of the indigent through the Dallas County Hospital District who, in turn, are responsible for the health care of the indigent of Dallas County. Thus, the geographic and demographic dimensions of the University's responsibilities for health care delivery are well defined.

Dallas County represents a geographic area of 892 square miles. Within these geographic boundaries reside 1.5 million people and approximately 1% of the medically indigent population of the United States. Dallas County represents, therefore, for geographic no less than demographic reasons, a potential model for the development of optimum health care for the medically indigent. The potential for the development of this geographic area as a model health care unit is further strengthened by several considerations. Within the disciple of Reproductive Biology Sciences, the clinical responsibilities reside principally within the perview of the Department of Obstetrics-Gynecology. By administrative, no less than intellectual and motivational thrusts, the *Center for Reproductive Biology Sciences* and the Department of Obstetrics and Gynecology share identical goals.

A proper solution of the health care needs of this large medically indigent and widely scattered population would provide a needed system for health care delivery to the indigent citizens of Dallas County; but can provide, additionally, a model system which could be adopted by other geographic areas as well. But the health care delivery system, for its advancement and progress, is inextricably interwoven to and necessarily dependent upon the acquisition of new knowledge. And, conversely, new systems in human biomedical research must ultimately relate to the major problems in medicine and health care delivery.

It is appropriate and correct therefore that basic research and health care delivery be intimately related. For purposes of interdisciplinary communication, i.e., the translation of test tube data to bedside care, the

interdigitation of the intellectual endeavors of the *Center for Reproductive Biology Sciences* and the Department of Obstetrics and Gynecology is fortuitous and meritorious. Each will foster and nurture the endeavors of the other. In turn, the cooperative nature of this interdigitation of endeavors will provide a forum as well as a format. The *Center's* successes will reap rewards directly to our citizens and indirectly, by new information acquisition, to others for practical implementation of health care models.

The resources available for the undertaking of the development of a quality of life model community in Dallas are considerable. During the past seven years these resources have been enhanced, refined, and imbellished in such a way that a true potential for creating a model health care delivery system for women in Dallas County has evolved. The full implementation of the structure and framework of this working model reaps rewards not only for the large indigent population of Dallas County, but through the mechanisms by which this system came to fruition, rewards should accrue through the implementation of similar systems in other areas of the world. Through the contributions which emanate from the research of the *Center for Reproductive Biology Sciences* to the basic understanding of the physiologic and pathologic processes of human reproduction, rewards will accrue even to generations yet unborn.

THE STRUCTURAL COMPONENTS OF THE DALLAS QUALITY OF LIFE MODEL CENTER

The University of Texas Health Science Center at Dallas

A. The *Cecil H. and Ida Green Center for Reproductive Biology Sciences*
   1. Scientific Divisions
   2. Cooperative Research and Education
B. The McDermott Center for Human Growth and Development
C. Medical School Departments with Action Bases
   1. The Department of Obstetrics and Gynecology
      a. Greater Dallas Family Planning Division
      b. Community Women's Clinics
      c. Perinatal Research Center
   2. The Department of Pediatrics
      a. Childrens Hospital
      b. Parkland Memorial Hospital, Children's Division
D. Other Action Bases
   1. Dallas County Hospital District Facilities
   2. Dallas City and County Health Departments

QUALITY OF LIFE MODEL CENTER

The nature of the geographic and demographic aspects as well as the academic-research components of the Quality of Life Model Center are pictorally depicted on the accompanying map.

1. For example, each of the "dots" on the map represent the home address sites of 10 women who delivered a child in the Dallas County Hospital District's Parkland Memorial Hospital last year.

2. In consideration of the density in certain geographic areas of the residences of these indigent reproductive age group women, a Community Womens Clinic System (whose sites are represented by the encircled red stars), was established. In 1969 through a Federal Grant made possible by the philanthropic provision of local matching funds the program was initiated. The clinics are located as indicated on the map in appropriate neighborhood areas of greatest population densities.

3. The numbers adjacent to the clinic sites (in white background) indicate the number of clinic sessions provided each week at each clinic location whereas those numbers in brackets represent the sessions with physicians in attendance.

Through this system more than 125,000 patient visits will be accommodated in 1973, thus providing family planning, puerperal and antepartum obstetric care -- indeed primary ambulatory care for a very large segment of the indigent women of Dallas County.

In only 4 years the establishment of this Quality of Life Health Care System in Dallas has resulted in the following accomplishments:

1. The reduction of failure of puerperal medical follow-up from 90% to less than 10%.

2. A 50% reduction in the occurrence of asymptomatic carrier gonorrhea among over 3000 women screened each month.

3. The achievement, by the provision of the opportunity to these women for quality medical family planning methods, of near-zero population growth among the indigent of this large urban area -- an event unparalleled in the history of any other urban area in the World!

4. A 30% reduction in perinatal mortality rate at Parkland Memorial Hospital. In 1972 alone 70 babies lived that formerly would not have survived. Countless hundreds others began life better equipped physically and mentally than had they been born only a few years earlier.

In large measure, the reduction in perinatal mortality is attributable to improved prenatal health care through the Community Womens Clinic System and the establishment of an in-patient, high risk obstetric unit of 30 beds at Woodlawn Hospital [(WLH) on the map].

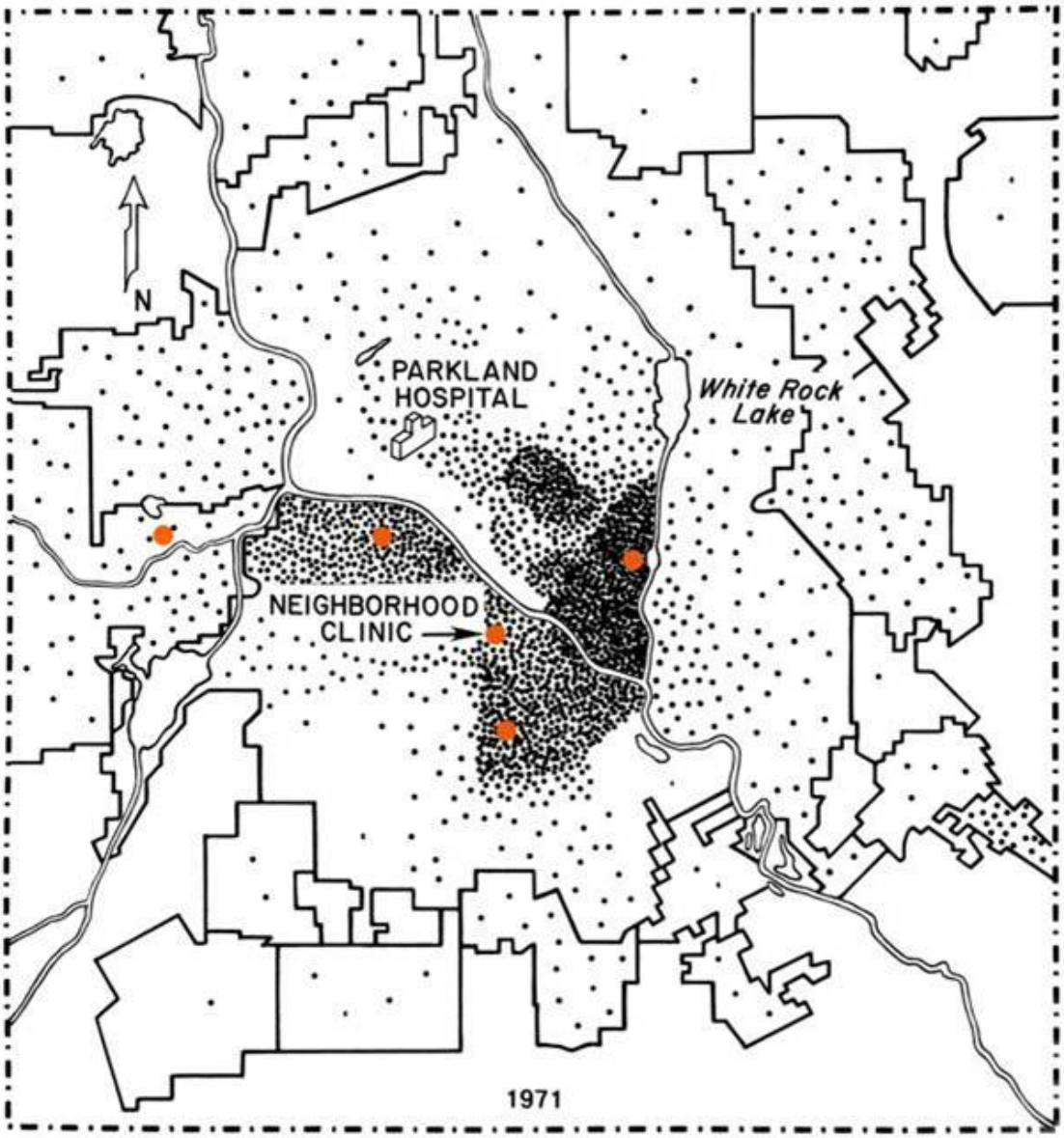
Of particular significance, too, is the construction of the Perinatal Research Center [(PRC) on the map] built adjacent to Parkland Memorial Hospital at a cost of $315,000. This funding was contributed from the savings from the earnings of 17 years of the dedicated faculty of the Department of Obstetrics-Gynecology of the University of Texas Southwestern Medical School. This center provides for the most sophisticated of prenatal diagnosis through perinatal laboratories which include an ultrasound (sonography) laboratory for evaluation of the developing fetus, amniocentesis laboratories, obstetric endocrinology and hematology laboratories and coordinating spaces for the associated issues of social services, family planning, cancer screening and venereal disease control.

The intimate relationship for the *Center for Reproductive Biology Sciences* to the Quality of Life Model Center is apparent. Residing on the campus of the Medical School and contiguous to the clinical facilities of the Hospital District, the *Center* occupies a central role in fostering progress in basic research and providing an opportunity for the implementation of the data so engendered in a sophisticated health care delivery system.

The ultimate benefit of the successes of the *Cecil H. and Ida Green Center for Reproductive Biology Sciences* for mankind and children yet unborn is, indeed, incalculable!

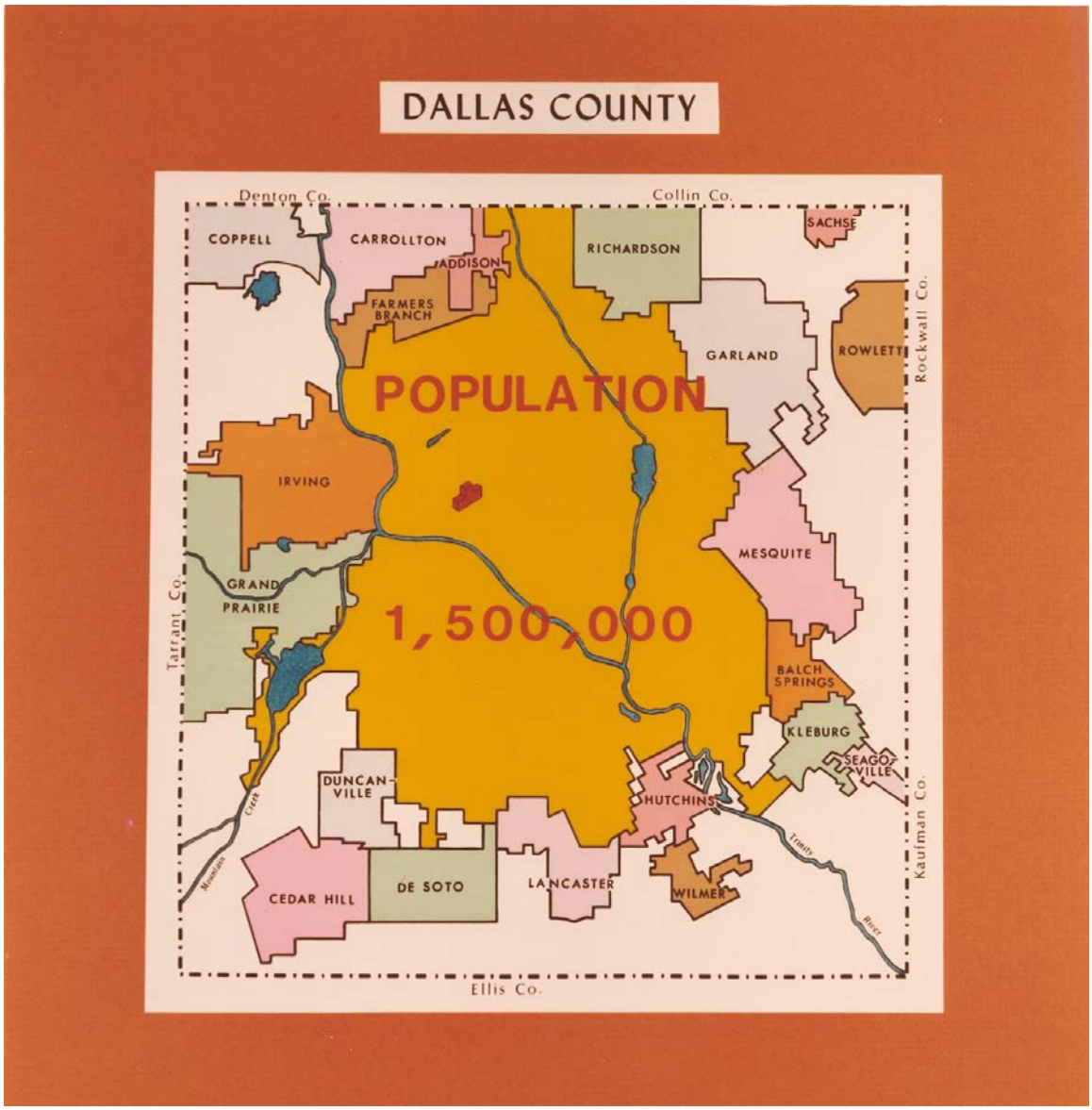
Addenda

The **Quality of Life Model Center** description included in the revision does not appear to have been part of the original proposal – although its structural components were mentioned. The revised proposal detailing the Quality of Life Model Center included a map with dots, each representing 10 patients who delivered at Parkland Memorial Hospital the previous year and showed the location of the newly established neighborhood clinics.



PRENATAL PATIENTS
PARKLAND MEMORIAL HOSPITAL

Another map of the period shows Dallas County which had a population of 1,500,000 in the early 1970s. Parkland Hospital is depicted to the left of center.



Coordinating Board: The original proposal called for establishment of a coordinating board. In the revision marked 12-14-73 and attached to Dr Sprague's letter to Mr. and Mrs. Green, the paragraph below was omitted.

> To ensure that the activities of the *Center* will not be isolated to nor direction limited by confinement within a single University System, it is proposed that a Coordinating Board be established. The Board will be constituted of Distinguished Investigators from around the world whose interests reside in the cooperative study of Reproductive biology. The Coordinating Board will serve as an advisory body as well as an International forum for the cooperative exchange of new data and the generation of new and innovative hypotheses which can be subjected to verification.