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ABSTRACT

Two federal interagency panels convened a research forum for the purpose of reaching consensus on research findings relating to five broad areas of concern for children and youth: health, education, social services, legal considerations, and economic factors. Experts volunteered to write working papers focusing on a single aspect of the broad areas, such as child abuse or divorce, and to identify reliable research findings. This document reports on the discussions of the 50 working papers and summarizes the salient points of agreement, points of inconclusive data, and, in many cases, needed research. Discussions ranged from a very specific focus on biomedical research to the assessment of the impact of public policy on children, youth and families. The document also provides a matrix of the 23 topics discussed across the 50 papers and across the five areas of concern for children and youth. Many of the papers cut across topics and areas: thus, for example, family structure is examined in the areas of health, social services, education, legal issues, and economic issues. More specific topics, such as child abuse or teenage parents, can be found in an appended list of papers. Lists of agencies participating in the panels and research forum participants are also appended. (Author/RH)

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A SUMMARY OF THE RESEARCH FORUM ON CHILDREN AND YOUTH

May 18-19, 1981

Convened in Washington, D.C.

Sponsored by

Federal Interagency Panel on Early Childhood Research and Development

Federal Interagency Panel for Research and Development on Adolescence

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Research, Demonstration and Evaluation Division
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Office of Human Development Services
U.S. Department of Health and Human Services
September 1981

A SUMMARY

OF THE

RESEARCH FORUM

ON

CHILDREN AND YOUTH

May 18-19, 1981

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INTRODUCTION

On May 18-19, 1981, two Federal Interagency Panels* representing 23 agencies and 9 departments convened a Research Forum in Washington, D.C. The purpose of the Forum was to attempt to reach consensus on research findings relating to five broad areas of concern for children and youth: health, education, social services, legal considerations and economic factors. Experts, within and outside of government, volunteered to write for one aspect of the broad areas, such as child abuse or divorce under social services, and to identify reliable research findings. The resulting 50 papers on 23 topics became the working documents of the Research Forum.

The papers are not exhaustive, nor did they cover the complete range of subjects that might well have been included. They are a first effort to bring together research findings and researchers to attempt to arrive at consensus. The value of the effort for researchers, policy makers and the concerned public is to have available some agreed upon findings that will make clearer the status of knowledge to incorporate in planning, research and services for children and youth.

This document reports on the discussions of the 50 working papers during the five parallel Forum sessions and summarizes the salient points of agreement, points of inconclusive data and, in many cases, needed research. The document also includes a Matrix and list of papers.

As will be noted, the discussions ranged from a very specific focus on biomedical research to the assessment of the impact of public policy on children, youth and families. In many instances, the lines separating research findings, interpretations and implications for action became dim. Thus, members of one section noted that, while public policy emphasizes the value of deinstitutionalization and supports research on that process, there is minimal research evidence that institutionalization is generally damaging. According to these researchers, a more desired approach would be to study different forms of care of people to determine what kind of care is best for what individuals.

The relationship between public policy and supported research was noted again and again. And, in many instances, the data generated by research are about programs that are publicly financed. Even biomedical research reflects the effects of public financing of research. Research on cancer, for example, is supported more extensively than research in many other areas because of wide public concern about the disease.

The summary of the Forum section on legal issues reflects less the standard research methodology of the biomedical or the behavioral sciences. Legal research is more a search to identify legal precedents and test new legal interpretations in the courts than to test scientific hypotheses. This fact does not diminish the research methodology of lawyers; it contributes to a better understanding of the variety of approaches possible under the term "research."

The summary of the Forum section on economic issues is largely demographic data. This form of research generally does not involve interpretation or application by the researchers, but provides critical data for those who do interpret or apply data for policy or programs or other research.

*The titles of the Panels are: Federal Interagency Panel on Early Childhood Research and Development, and Federal Interagency Panel for Research and Development on Adolescence. See Appendix C for a list of Member Agencies of the Panels, and Appendix D for a list of Research Forum participants.

The document also provides the reader with a Matrix of the 23 topics referenced by the 50 papers and by the five areas of concern for children and youth. It becomes clear upon quick observation that many of the papers cut across topics and areas, suggesting the limits of approaching a problem area from one perspective only. Thus, family structure is examined under health, social services, education, legal issues and economic issues.

More specific topics, such as child abuse or teen-age parents, can be found in the list of papers following the Matrix. The same topic will be found treated in more than one paper and in more than one area of concern.

The reader may wish to select some papers for further reading. They are available from:

W. Ray Rackley
Administration for Children, Youth and Families
P.O. Box 1182
Washington, D.C. 20013
(202) 472-5790

SUMMARY OF PAPERS AND DISCUSSION
HEALTH SECTION

The 17 papers prepared for the Health Section each dealt with a single health topic and presented the advances that had been made in the past 10 years, how that knowledge has been utilized and recommendations for research during the next 10 years.

Being Well Born – Preventive Health Practices in Pregnancy & Delivery

Jay D. Iams, M.D.

There have been profound changes in both routine and specialized obstetrical care practices in the last decade. These changes affecting perinatal care are, in each case, the product of research efforts that required considerable expenditures of time and money. The ultimate goal of research in this area is the best possible beginning for our newest citizens. This report summarizes some of the principal research advances of the 1970s, and the consequent changes in obstetrical practice.

The process of infant-parent attachment, or bonding, has been studied extensively. The effects of this new knowledge can be seen in hospitals and birthing centers across the country, in expanded family-centered childbirth programs, encouragement of maternal-infant bonding practices, and even in neonatal intensive care units. Adolescent pregnancy, 10 years ago, often was associated with poor outcome; this, in turn, led to the development of adolescent pregnancy programs. The research efforts of these programs have now identified specific reasons, principally social rather than medical, for such adverse outcomes. Early and regular prenatal care can convert these high-risk teens to low-risk status. Prevention, of course, is the most logical approach. Reproductive hazards of tobacco, alcohol and poor nutrition have been further investigated. Although much remains to be learned, these and other environmental factors have been shown to have a significant influence on the health of the fetus.

Prematurely born and low birthweight infants still comprise a disproportionate share of perinatal morbidity and mortality. Prevention of such births, therefore, continues to be a research priority. Our understanding of the mechanisms of normal and abnormal fetal growth, development and labor physiology have progressed greatly since 1970, but there is still a long way to go in this area. More than a decade has passed since the introduction of Rh immune globulin, yet rhesus isoimmunization remains a stubborn problem. The final solution depends again on the research of the 1980s.

Ultrasonography is surely the principal technological advance in perinatal medicine in the 1970s. This technique provides hitherto unobtainable information about the anatomy and physiology of pregnancy. Ultrasound provides the researchers of this decade with an immeasurably useful resource. Research also has altered many aspects of prenatal and intrapartum care. Prenatal diagnosis of more than 100 disorders is possible now, through a combination of screening programs, ultrasound, and amniocentesis. Pregnancies, complicated by such diseases as diabetes or high blood pressure, now are followed very differently than was the case a decade ago, with demonstrable improvements in newborn survival. Evaluation of the health of the infant during labor via electronic fetal heart rate monitoring and fetal blood tests now is available to most labors in this country. Research continues into the most appropriate use of these and other methods of fetal evaluation. Our knowledge of the diagnosis and treatment and, more important, the prevention of perinatal infections has grown considerably since 1970, but many problems remain to be solved.

Many of the advances outlined above are of course expensive and applicable only to selected pregnant women and their infants. A system of regionalized graded levels of perinatal services has been established to provide all necessary care in the most cost effective manner. The initial results of this regionalized network of perinatal care are encouraging; further research is necessary to identify the most appropriate patterns of regionalized care and continuing education.

Many of the health problems of infants and children have their origin in prenatal life or arise during labor and delivery. In some instances, the relationship between a prenatal insult and a childhood handicap is clear, such as maternal rubella or CMV infection. In others, the cause and effect relation is strongly suspect but not yet fully understood; medications and environmental exposures are typical. In still others, such as intrapartum fetal asphyxia, the clear relationship between perinatal insult and childhood disability affects only a small number of births of the many at risk. The best screening methods are not clear. Research in all reproduction related areas, directed at both basic and clinical questions, clearly offers the most cost effective use of limited research dollars in the 1980s.

The papers presented to this Forum on the health needs of infants and children, in almost every instance, include reference to the prenatal or perinatal genesis of the problem discussed. While the health needs of today's children cannot be ignored, perinatal research offers the hope of avoiding many health problems for the children of tomorrow.

Prematurity – A Major Health Problem

Gordon B. Avery, M.D., Ph.D.

Premature birth (less than 37 weeks gestation) and low birthweight (below 2500 grams) are major health problems in the United States. Infants in these categories account for 75% of neonatal deaths and 50% of deaths in the first year of life. Survivors contribute disproportionately to the pool of handicapped children, who require rehabilitative care and may never be competitive individuals. The impact of this disability over time is enormous, as newborns have their entire lifetime ahead of them. Though making up only 7% of live births, infants below 2500 grams birthweight number 250,000 per year in the United States. Hospital bills for individual babies who are small and require prolonged intensive care range up to $100,000, and lifetime care of damaged survivors may exceed $500,000.

Research advances and the availability of perinatal intensive care have resulted in vastly improved survival in the past decade. The weight at which roughly half the babies survive has dropped from 1300 to about 800 grams. Happily, the better care, which has achieved this result, also has been associated with better quality of life in the survivors. The rate of the most common type of cerebral palsy, spastic diplegia, has dropped from 60% to less than 10% in surviving prematures less than 1500 grams birthweight. Better techniques of monitoring and resuscitation, nutritional support, ventilation, temperature control, and metabolic regulation have all contributed to this result. The vast majority of prematures greater than 1000 grams birthweight can be expected to survive, and mean IQ values approach those of the general population.

Unfortunately, the group below 1000 grams does not participate fully in this improved prognosis. Below 750 grams, less than half survive; and a considerable number of the survivors are damaged. Severe problems are common in these babies, of which the most serious include intraventricular hemorrhage (50%), retrolental fibroplasia (10%), sepsis (20%), necrotizing enterocolitis (10%), apneic spells (50%) and chronic lung disease (15%). Even relatively uncomplicated survivors require a hospitalization of perhaps three months of fastidious care to achieve discharge weight.

Ten research areas are identified in which progress would be immensely rewarding. These are: definition of factors causing premature delivery; monitoring and intensive care of the brain; mechanism and control of pulmonary hypertension; early diagnosis of neonatal sepsis; measurement of reserve bilirubin-binding capacity of albumin; etiology and management of necrotizing enterocolitis; nutritional support of the premature including definition of the mechanism of the associated cholestatic jaundice; neonatal pharmacology; the study of high frequency ventilation; and the detection and prevention of early onset Group B streptococcal disease. It is perhaps not too sanguine to hope that funds expended in these investigations could be recouped in the lessened need to care for handicapped survivors in the future.

Birth Defects

Robert L. Brent, M.D., Ph.D.

The problem of birth defects has consumed a greater portion of our health care resources because of the reduction of infectious diseases and our ability to salvage and care for many infants with these defects. Their care costs are conservatively estimated at $20 billion per year.

For every 1350 conceptions there will be 1000 live born, of whom 130 will have genetic or anatomical defects. It is true that many of the genetic defects will not manifest themselves until years later, but many of the anatomical defects will be diagnosed in the neonatal period. A genetic etiology accounts for 25% of anatomical defects (5% cytogenetic, 20% autosomal). The largest group (65%) is believed to be polygenic or multifactorial in origin, although a large portion of this group may be spontaneous intrinsic developmental defects or simply due to unknown causes. Known environmental factors account for only 10% of anatomical malformations, but many of these are due to preventable causes (maternal disease states; maternal infections; intrauterine constraint and constriction problems; and drugs, chemicals, irradiation, hyperthermia). Many physicians and lay individuals are confused about the etiology of birth defects, attributing a much higher proportion to drugs, chemicals and X-irradiation.

The development of the Congenital Malformation Surveillance Branch of the Center for Disease Control has been an important addition to our understanding the incidence of congenital malformations and for testing various hypotheses. A number of agents were demonstrated or reconfirmed to be embryotoxic for the human.

1. Warfarin (Warfarin syndrome)
2. Diethylstilbesterol (Adenosis, associated adenocarcinoma of the vagina)
3. Diphenylhydantoin (Hydantoin syndrome)
4. Tridione
5. Alcohol and cigaret smoking (reconfirmed)

Other agents were suggested to be teratogenic or embryotoxic but the effect is either nonexistent, associated but not causal, or associated but rarely causal. Thus Valium, meprobamate and certain progestational agents fell into this category. Other alleged teratogens that are not associated with birth defects in the human are imipramine, Bendectin and meclizine.

Better management of pregnant women with serious disease has permitted them to remain pregnant, thus increasing the neonatal morbidity. The creation of the high risk group of patients has focused attention on an important group of patients. Advances in amniocentesis, fetoscopy, fetoprotein analysis, ultrasonography, enzyme and biochemical determinations permit both diagnosis and treatment very early in gestation. The training of subspecialists in obstetrics (perinatologists) and pediatrics (neonatologists) as well as the routine use of Rhogam and the induction of lung maturation has increased neonatal survival. The improvement in morbidity, mortality and prognosis following the surgical correction of anatomical malformations has been dramatic.

The emergence of the Group D beta streptococcus and the reporting of other teratogenic viruses offers new but potentially controllable problems. Many intrauterine infections still are diagnosed too late or are untreatable. Hyperthermia and mechanical factors again have been suggested as rare causes of malformations. The field of genetics has made giant strides in the areas of chromosome analysis, gene location, heterozygote identification, intrauterine diagnosis and suggestions for intrauterine therapy.

Advances in the birth defects field have moved very fast resulting in diagnostic and therapeutic measures that present psychological, ethical and legal dilemmas. Social scientists may study the development of these controversies and discussions about abortion, the rights of the fetus, the impact of birth defects on the family unit, fetal therapy and fetal research and may be able to offer some advice. For the most part, the solution for these dilemmas will be derived from complex interactions in the social arena and will not be solved by the scientific community alone.

The next decade should bring further advances in the birth defects field. As always, we rely on a substantial foundation of basic science research in many areas of reproductive biology. Important new techniques that will assist the basic scientist in unraveling the mysteries of embryonic development include studies in individual cell function and differentiation (flow cytometry, embryo culture), identification and characterization of proteins (separation science, lectin use, monoclonal immunoglobulins), and gene action and function (recombinant DNA). The potential of basic research is even greater as new tools permit us to ask questions that previously were unanswerable.

The application of computers to both basic and clinical research has made the scientist more productive. This is obvious in the fields of genetics, syndrome delineation, and ultrasound diagnostic equipment. In other areas only minimal information has developed. This is particularly true of nutrition, in spite of the fact that this is an area that has been superficially emphasized. But nutrition knowledge is only as useful as the soundness of the biochemistry on which it is based. Much of nutrition teaching is dogma based on tradition and bias, a reflection of how much more research is needed in this area.

The improved management of maternal disease states and the development of vaccines or effective treatment of intrauterine infections are areas for maximal investment of resources.

There are many investigative areas to concentrate our energies in the next decade in order to decrease the incidence and better manage the problem of birth defects. Social and political issues will be intimately involved in determining which options will be selected. It is very likely that advances in birth defect research and genetic research will permit us to determine with great accuracy the developmental status of every developing human embryo. At the present time our psychological and social development has not proceeded to the point where we know how we will utilize this information.

Handicaps and Developmental Disabilities

Arthur L. Prensky, M.D.

Approximately 8% to 10% of the pediatric population suffers from one or more developmental disabilities. The most common of these are learning disabilities, which include some behavioral problems, such as attention deficit disorders. Cerebral palsy, mental retardation, epilepsy and autism are other disabilities that occur frequently in the pediatric population. While these terms are used as diagnoses, they actually refer to a constellation of symptoms and signs – and not to a disease. Frequently, several of these disorders coexist in the same child, who may have both cerebral palsy, mental retardation and epilepsy, or epilepsy and a learning disability. The nature and severity of these disabilities varies from one individual to another. In fact, each child is unique. One of the major problems for clinical investigators working in the field of developmental disabilities is to define a population of children that is relatively homogeneous, while still accounting for individual variables, in order to evaluate the effects of treatment. In order to do this, the definition of subcategories of developmental disabilities has to be made more strict, and the description of test populations more precise.

In many instances, no cause is found for a developmental disability. In other instances, the end result may be an outcome of multiple causes, some genetically determined or the result of disorders during intrauterine development; and others, the result of external stresses superimposed upon the infant after birth. The ways in which multiple insults interact with one another to produce a deleterious effect on brain structure and function requires further investigation in human populations and in animal models during the next decade. In addition, it is important to study how an advantageous extrauterine environment possibly may ameliorate the effects of genetically determined or intrauterine insults. The study of the effects of multiple insults almost certainly will make use of the concept of critical periods during development. These are limited periods of time during which negative stresses or positive reinforcements may be most potent in modifying the effects of a lesion.

Developmental handicaps result from many diseases that damage the brain, but the symptoms and signs that they cause may be similar. It is possible that a symptom told to the physician – for example, a description of a partial seizure with complex symptomatology – or a sign he notices, such as spasticity, may have a common pathophysiology irrespective of the cause that brought on that symptom or sign.

Past advances in the diagnosis and treatment of developmental disabilities and, in all probability, future progress depend upon: (1) an increased understanding of the causes of this disorder; (2) prevention by treatment of causes; (3) an increased understanding of the pathophysiology of the symptoms and signs that constitute a developmental disability; and (4) realization that, in many instances, the symptoms and signs themselves can be treated by understanding their pathophysiology and without reference to their etiology.

Recently, there have been remarkable advances in understanding the course of some developmental disabilities, notably epilepsy, mental retardation and cerebral palsy. But our knowledge about others, such as learning disabilities and autism, is still very limited. Understanding the damaged brain, that is the source of a developmental disability, is dependent directly upon knowledge of normal brain development. Research into all aspects of normal brain development, such as neuroanatomy; neurophysiology, and neurochemistry, must continue.

Much of our knowledge of the principles of normal brain development comes from the study of animal tissues. Furthermore, animal models are required to study many forms of brain damage, since it is possible to limit variables by restricting the extent or duration of a lesion in an animal and to structure their environment, whereas, lesions in humans are experiments of nature and thus haphazard. However, it is not clear that an external injury inflicted upon an animal is a model for a genetic disease in the human, even if the biochemical or structural changes produced are similar. Much of the future work to be done in the field of developmental disabilities must be done on human populations that suffer from these disorders. Continued intensive epidemiologic investigation is needed of risk factors associated with cerebral palsy, mental retardation, epilepsy, and in particular with autism and learning disabilities. Future epidemiologic studies should emphasize the possible additive effects of multiple risk factors. It is to be expected that further advances in human genetics, especially those in the identification and analysis of chromosomal defects and in intermediary metabolism, will increase the number of treatable or preventable causes of developmental disabilities.

It is even more important to realize that the effects of intervention can only be defined in human populations. What are the effects of early treatment of motor or mental deficits or the prevention of repeated seizures? Only studies of well-defined populations of children who suffer from these disorders can answer these questions. As we indicated, every attempt has to be made to restrict variables and to attempt to define a relatively homogeneous population, but we must accept the fact that we will never find a group of identical children all having exactly the same background and the same handicap. All research concerning the treatment of developmental disabilities over time will require techniques for defining, ordering and manipulating one or more primary and multiple secondary variables. This means that the future study of the treatment of developmental disabilities will become increasingly dependent upon progress in fundamental research in biostatistics.

We have reached a point where we are beginning to translate some of our knowledge of the development of the normal human brain into the treatment of the brain damaged child. Diet, use of chemical cofactors to correct metabolic disorders, early childhood training programs and programs to prevent the causes of developmental disabilities are burgeoning. These disorders are chronic problems that are especially stressful to parents, who, in their frustration and their love for their children, often seek any source of help that offers some hope or the possibility of cure. Past experience shows, however, that this is not a field where there are going to be many remarkable *break throughs.* Reliable, controlled investigation to define causes, to treat them, and to prove the value of a specific therapy in reducing the consequences of a specific symptom or sign is the kind of research that is needed. Given patience and determination, the slow but steady program of the medical, psychological and educational communities will win this race.

Environmental Effects on Health with Special Emphasis on Neurotoxicology

Lynda L. Uphouse, Ph.D.

The environment is an essential aspect of the individual's development. Its contribution may be positive, providing appropriate stimuli necessary for organismic development. On the other hand, certain aspects of the environment may have predominantly negative effects. Although every part of the developing organism is subject to this environmental influence, in recent years considerable emphasis has been placed on the developing nervous system. In the paper, several neurotoxicants, which have been identified and investigated during the past 10 years, have been overviewed. For each of these compounds, both the developing individual and the adult may experience long-term consequences of neurotoxicant exposure. However, for many compounds the consequences of neurotoxicants are not the same in the neonate and adult organism. Consequently, special attention must be paid to the study of the developing organism in any assessment of the consequences of neurotoxic compounds.

Infectious Diseases and Immunizations

John L. Sever, M.D., Ph.D.

Many important advances in research were made in the 1970s in the field of infectious diseases and immunization. Most of these already have been applied to clinical practice in the United States. Some of the advances in infectious diseases include diagnostic methods for detection of hepatitis A and B. These tests make it possible to exclude hepatitis B containing blood and thus prevent serum hepatitis associated with the use of this blood in transfusions. They also facilitate the use of hyperimmune gamma globulin for the protection of newborns exposed to hepatitis B from their mothers. Other advances have resulted in the reduction and almost complete elimination of subacute sclerosing panencephalitis through immunization programs for measles. New antibiotics for life-threatening diseases such as bacterial endocarditis, pneumonia, abdominal infections, bone and joint infections, and neonatal meningitis have been developed. Diagnostic tests for diarrhea in infants and young children caused by rotaviruses have been introduced. Chlamydial infections were found to cause pneumonia in infants as well as urethritis and pelvic infections in older children and adults, and studies were initiated on approaches to diagnose, treat and prevent these diseases. Epstein-Barr virus was recognized as the cause of not only infectious mononucleosis but also childhood malignancy, Burkitt's lymphoma and other lymphomas. Legionnaire's disease was shown to be caused by a microorganism and antibiotics were used for treatment.

In the 1970s immunizations provided great advances in clinical medicine including the eradication of smallpox throughout the entire world and the development of a highly successful rubella immunization program in the United States as well as outstanding measles and polio immunization efforts. These programs resulted in greatly reducing the number of cases of these diseases in the United States.

Meningococcal vaccines were developed for Groups A and C. Mumps vaccine was combined with measles and rubella to provide *triple* protection for children. The release of a pneumococcal vaccine was of particular importance to children over 2 years of age who had sickle cell anemia or nephrotic syndrome. A new human diploid rabies vaccine requiring only five injections was developed. This is only a partial list of the advances of the 1970s in infectious diseases and immunizations that now are available to the children of the 1980s.

Prospects for the 1980s are extremely good. Continued intensive research activities in a number of areas should provide important opportunities for progress. For Reye's syndrome, it will be important to identify cofactors involved in the development of this disease. Kawasaki disease also requires research to uncover the cause of the disease so that effective treatment and prevention can be initiated. Research in antiviral chemotherapy should provide a number of new drugs for treatment of important viral infections, such as herpes encephalitis, congenital herpes, chronic hepatitis and possibly shingles. Hepatitis B testing can be expected to expand along with tests for hepatitis A

and Non-A, Non-B hepatitis. Group B streptococcal disease of newborns will be studied to provide new approaches to treatment and prevention of this disease. New antibiotics will be developed for special needs including highly penetrating antibiotics for infections, such as those caused by Pseudomonas in children with cystic fibrosis. New potent antifungal drugs will be required to provide additional therapeutic approaches for these infections. Rapid viral diagnostic methods will have to be greatly improved so that appropriate antiviral drugs can be selected for patients experiencing certain viral diseases. Increased information will be needed on toxoplasmosis and cytomegalovirus infections during pregnancy to determine the frequency with which these infections cause congenital disease and damage and what methods can be devised for their prevention. Slow virus diseases will be worthy of special study, so that we can learn how these infections are normally controlled, and why in certain patients the virus spreads to cause severe illness and death. The prevention of herpes in the newborn and recurring herpes will be valuable because of the increasing rates of genital herpes in pregnant women. The control of otitis media will be extremely valuable and worthy, since this is a very common infection in children. It will be particularly important to study meningitis caused by Haemophilus influenzae type b in order to develop new antibiotics and possibly vaccines. Rapid tests for sepsis will be needed, so that appropriate treatment with antibiotics will be started early in the course of disease. Improved serological tests for viral antibodies will permit reliable identification of susceptible individuals, immunization of those at risk, and documentation of infections. Methods for prevention of the toxic shock syndrome will be developed and the viruses that cause Non-A, Non-B hepatitis will be studied and probably identified.

Immunizations should receive particular emphasis and support in the 1980s, since they may prevent the occurrence of a number of important diseases. Some of the vaccines that need to be developed include: better influenza A and B vaccines, Group B meningococcal vaccines to control the most frequent type of meningitis in the United States, effective vaccines for respiratory syncytial virus to protect young infants from these severe respiratory infections and enteric viral vaccines for rotaviruses to reduce the frequency of diarrheal disease in infants and young children. Varicella-zoster vaccines now are being evaluated, and their study should be pursued so that potent methods will be available for preventing severe varicella in immunosuppressed children or in children with various types of malignancies. These vaccines also could be of importance in the general population. Vaccines for the control of cytomegalovirus will require study in greater detail to determine if these are effective in the prevention of congenital infection with this virus and in reducing the problem with cytomegalovirus in renal transplants. Vaccines for hepatitis B will be of particular importance in certain parts of the world where horizontal transmission is the means of spreading this infection. Hepatitis A vaccine will be useful in certain populations where transmission is frequent and the disease is a significant medical problem. The development of an effective vaccine for the prevention of gonorrhea is also of prime importance. The major problem of malaria in many parts of the world should be an important target, since development of vaccines against various strains of the malaria parasite would be of great international value. A purified vaccine for pertussis (whooping cough) should be developed to eliminate serious side effects. Lastly, more stable vaccines for polio and measles will be of great value to prevent loss of potency on transport or storage.

The opportunities for the prevention and control of infectious diseases in the 1980s are realistic and ready to be pursued. It will be necessary to have continued adequate funding for both basic and clinical research to support the implementation of the research findings and to take advantage of the medical advances that should come to us in the 1980s.

Nutrition and Growth

George G. Graham, M.D.

The past decade, ushered in by *revelations* of supposedly widespread hunger and malnutrition in the United States, has witnessed an explosive increase in the public's and its elected representatives' concern for nutrition and its impact on growth, health and longevity. This concern has contributed to a healthy revival of interest in nutrient requirements and deficiencies, to the refinement of

inexpensive epidemiologic methods for detection of the latter, and to a gradually increasing implementation of these methods at the national and state levels. It also has resulted in the proliferation and expansion of government-funded programs designed to make certain that all children eat enough of the right foods, and, as a result, grow to their maximum genetic potential; do well in school; and become law-abiding citizens. Lost in the enthusiasm for these programs has been the fact that the 1968-1970 Ten State Nutrition Survey, targeted at the lowest income populations, still failed to confirm the existence of widespread undernutrition and did identify a high prevalence of overnutrition. Subsequent national surveys have generated further evidence of impressive overweight, most notably in those segments of society characterized by dietary surveys as having inadequate total calorie intakes when these are judged against officially sanctioned recommendations. A number of studies has revealed a high prevalence of infantile overweight in the very same populations who are the prime recipients of most food programs. One major United States study carefully designed to measure the effect of two different dietary supplements on the outcome of pregnancy in mothers with expectedly poor reproductive performance resulted in only minimal increases in birthweight, almost exclusively in the smoking mothers who did increase their total food intake. Another major study carried out in Guatemala, where severe maternal undernutrition is the rule, demonstrated that a primarily calorie supplement was as effective as one of calories and protein in improving birthweights and subsequent infant growth. This same study failed to demonstrate any measurable effect on mental development. The assumption that even moderate degrees of undernutrition in early life result in later physical and mental handicaps has been used to create and expand some of the most popular food programs and still is used to promote them. Extensive research has failed to produce convincing evidence to the effect that the inferior intellectual attainments found in children who were severely malnourished in early life are the result of the malnutrition and not of the grossly deprived environments in which the children live. With the growing experience in nutrition surveillance methodologies and with the potential for efficient follow-up of all infants born alive in this country, it should be possible to identify in time the small minority that is not thriving and to take appropriate preventive and remedial steps. It is likely that proper investigation of the causes of poor nutritional status will reveal that broad supplemental food programs are, at best, stopgap measures that constitute one of the less important components of the steps to be taken. There is the danger that exaggerated emphasis on nutrition as a major priority has diverted national attention and resources away from other more pressing problems affecting the health, well-being and future social competence of our children and youth. This analysis assumes that adult obesity is a health hazard and that overweight in infancy and early childhood contributes to its development by increasing the number of fat cells in the body and by creating life-long habits of overeating. The adverse implications of adult overweight, for a long time considered as proven, recently have been questioned: it is apparent that proper clarification of this issue is basic to a proper understanding of the implications of childhood obesity. Other areas discussed include: the role of diet in the genesis of degenerative vascular diseases; the potential role of specific foods, food components, and food additives in the etiology of various malignancies; the essentiality for man of a number of the trace minerals; the identification of normal race- and age-dependent loss of the major intestinal lactase activity; the development of methods and materials for total parenteral alimentation; the well-known association between malnutrition and infection; the dangers of *back-to-nature* food preparation; the increasing reliance of the American people on convenience foods; the human breast milk-artificial feeding controversy; and the need for carefully designed studies of the relationship of food additives or natural components to hyperactivity. It is apparent that, although much has been learned about nutrition and its relationship to growth, we are still far from being able to define the plane of nutrition that will be associated with the greatest useful and healthy longevity. This difficult question deserves major attention despite the enormous problems inherent to long-term studies.

Injuries to Children and Adolescents

Leon S. Robertson, Ph.D.

Injuries are the leading causes of death of noninfant children and adolescents. Motor vehicles, drownings, fires, firearms and poisons, in that order, are the major categories of fatal injury for the child population as a whole. Recognition that the agents of injury are major forms of energy (mechanical, thermal, chemical) has led to an increased focus on the characteristics of energy and factors in children's environments that increase exposure to these agents. A wide range of strategies is available to modify agents and environments that would reduce incidence and severity of injuries – prevention of creation or release of the agents; modification of rates of distribution of the agents; separation of the agents from children in time, space, or with physical barriers; modification of qualities of agents, vehicles and hosts.

A number of principles have emerged from research on behavioral, legal, and administrative systems that must be considered in choice of strategies. Education regarding a hazardous activity may increase the frequency of the activity and thus be harmful. Various forms of persuasion have little or no effect on behavior if the proposed behavioral change involves increased discomfort, inconvenience, cost, or loss of a pleasurable activity. Persuasion is most effective for behaviors that must occur only once or infrequently to be effective; e.g., reducing temperatures in household water heaters to prevent scalds. Requiring the behavior by law is more effective if the behavior is easily observed and enforced by police. Reaction to zealous enforcement, however, sometimes results in repeal of the law as happened with motorcycle helmet laws in many states.

Changes in injurious agents or environments that do not require modification in behavior of the individuals to be protected are usually the most successful strategies for injury reduction. More crashworthy motor vehicles and nonflammable clothing, housing, etc., are examples. Resistance to regulation on economic, political, and ideological grounds, however, may delay or foreclose the use of a given strategy. Attempts at injury control should be researched in relatively small-scale experiments before being adopted on a large scale. Such experiments could rule out the programs that have unanticipated harmful effects or no effects, and give more credence in the economic, social and political arenas to those programs that are effective.

Chronic Diseases in the Pediatric Age Group

Michael Katz, M.D.

On superficial considerations, chronic diseases and pediatrics seem incompatible. The traditional view of the pediatrician as a caretaker of healthy, growing organisms suggests an image that may be contrasted with that of the internist, whose job it is to cuddle the infirm and to stave death. Yet, through the very success of acute pediatric care and through the advances of science and technology, pediatricians have created a large constituency of the chronically ill, consisting of those whose diseases in the past had been incompatible with life. Moreover, a comprehensive view of health care of children and youth now – in contrast to the past tradition – also takes into account a variety of social ailments that appropriately fall into the province of chronic diseases and has a significant impact. Among the 10 leading causes of death for ages 5 through 24 years, six fit the definition of chronic diseases (malignancy, congenital anomalies, cardiovascular disease, suicide, diabetes mellitus, and hereditary anemias). Gathering data relevant to the impact of chronic disease on children is difficult, because the various compendia do not address the issue directly. For example, there is no single index of handicaps that affect children and youth. Many of the statistics that are available tend to lump young adults with the children. Therefore, culling out of pertinent data is difficult. Nevertheless, it is possible to infer that nearly 8 million people under age 19 are victims of some handicap. This estimate misses certain subtleties, such as minor learning disabilities, minor to moderate emotional problems, and social maladjustments. These statistics are flawed even more seriously by the fact that they are based on information about persons *receiving* help; there are no reliable data about those who *need* help. With respect to nonphysical disabilities, the

National Institute of Mental Health estimates that only 10% of those in need are being helped. The problems of chronic diseases – in general – are addressed in the following categories: malignancies, cystic fibrosis, other chronic lung diseases, congenital anomalies, prematurely born and small-for-dates infants, injuries, and changes in social patterns of life. Chronic diseases have assumed a major importance in pediatrics. The future decade will demand of us even greater efforts to solve the problems of management and care of patients in this category. This will require intensification of research and development of appropriate methods of care.

Teenaged Pregnancy
Janet B. Hardy, M.D.C.M.

Teenaged pregnancy in the United States is neither epidemic nor a new phenomenon. Nonetheless, in recent years, it generally has come to be perceived as one of the most pressing, wasteful, repetitive and costly human problems in this country. During recent years, the terms "Teenaged" and "Adolescent Pregnancy" often have been used synonymously. This is unfortunate as it beclouds the issues. The life situation of adolescents (defined as less than 18 years of age) is likely to be very different from that of 18- and 19-year olds, who by definition are still teenagers. Complex issues in teenaged pregnancy have been reviewed: prevalence of pregnancy, fertility rates, sexual activity and marriage, contraceptive use, risk of pregnancy and risk of repeated pregnancy. The consequences of teenaged pregnancy are presented for the young parents, for the child, and for the family of origin. Teenaged pregnancy is noted as an extraordinarily costly social problem. An overriding research need concerns prevention of unintended, and usually unwanted, pregnancy in teenagers. Nonetheless, the secondary prevention of the costly consequences of the many pregnancies that do occur is also of great importance. A judicious mix of research and intervention programs needs to be continued. There has been substantial progress in primary prevention even though the number of sexually active teens has increased. While a substantial part of the preventive efforts has been the prevention of childbirth through use of abortion (some 420,000 in 1978), contraceptive programs have been effective, particularly among older teens. There is need, however, for research in three areas pertaining to primary prevention:

1. Contraceptives that are more effective, acceptable and appropriate to teenaged use are required. The pill and the IUD, while effective and relatively safe, are not optimal for teens whose sexual activity may be unplanned, sporadic, and infrequent. Many teens are concerned about the safety of so-called medical methods of contraception.
2. Effective means of educating teenagers, male as well as female, about sexuality, reproduction, contraception, the risks of pregnancy and STD, and the costs and burdens of premature parenthood are needed. It is clear that technical information, by itself, is not sufficient. A recent review by Greer Fox suggests that premarital sex is less frequent and contraceptive use more responsible when parents have discussed these issues with their children. But, many parents have insufficient knowledge, unhealthy attitudes or are otherwise unable to do so. These parents and their children need the help of good educational programs in the schools and elsewhere. Teenaged women have been targeted for intervention more frequently than young men. Ways of reaching the males with information and encouraging responsible attitudes among them are urgently needed.
3. Attention must be paid to the totally neglected area of virginity for both male and female teenagers. The value of postponing the onset of intercourse until a greater degree of maturity and readiness for family formation has been attained must be recognized and promoted. Many adolescent girls require reassurance that it is *all right* and *normal* to be a virgin. Examination of cultural influences in other countries such as Japan and Sweden, which have far lower pregnancy rates than the United States, might produce useful leads.

With respect to secondary prevention unresolved questions also remain. Understanding of underlying causes and relationships with outcome would benefit not only teenagers but the pregnancy outcome of all women. Among these questions are: the causes and prevention of low birthweight;

the role of the newly identified sexually transmitted diseases and their prevention; the effect of nutrition and physical fitness in improving pregnancy outcome; and the development of effective educational strategies to change lifestyles, prevent smoking, alcohol and nonmedical drug use. Improvement of longer range outcome for the children of teenagers requires research in parenting, mother-child interaction and father-child relationships, the causes of language and cognitive delay and cultural retardation and the development of effective strategies for parenting education. These are difficult and challenging but not insoluble areas. Program evaluation is another area for research. In an era of dwindling resources, the measurement of the effectiveness and impact of prevention and intervention strategies and the determination of cost and benefits and the costs of not doing anything are important questions. Evaluation study designs also should permit, where possible, assessment of the effect of individual program components, so that resources are not expended unnecessarily. With increasing intensity during the past decade, the multifaceted problems of teenaged pregnancy and parenting have been brought to widespread public attention. Much has been accomplished but the problems remain. Teenaged sexual activity and pregnancy are pervasive throughout all socioeconomic groups in the United States, but, because abortion is an option frequently used among the more affluent and highly educated segments of our society, teenaged childbearing is more frequent among the poor, where resources for dealing effectively with the problem often are lacking. We know many of the causes and consequences, but will we, as a society, have the resolve to deal fairly with them and, if so, to make available sufficient resources for effective change? There lie the toughest questions!

Child Abuse: Current Knowledge and Future Needs for Research

Eli H. Newberger, M.D. and Carolyn Moore Newberger, Ed.D.

The imperfect knowledge base to guide clinical action and research on child abuse is reviewed. The design, methods, and findings of current work demonstrate the following flaws that limit their generalizability, scientific validity, and utility for building theory and for guiding practice:

1. Bias of selection favoring poor children
2. Sample size inadequate to form claimed associations
3. Lack of a comparison group
4. Inadequate matching of cases and members of the comparison group on socioeconomic status and other variables, leading to consequent confounding by poverty or other spurious attributes
5. Imprecise definitions of child abuse or neglect
6. Conceptual framework restricted to psychodynamic dimensions

If the knowledge base on the impact of maltreatment on children appears to be insubstantial, there is no paucity of recommendations for intervention and treatment based on current presumptions and fears. The lack of knowledge, or, perhaps more accurately, the inadequate understanding of the state of knowledge promoted by the anxiety that child abuse stimulates in all of us, is translated to recommendations for intervention, many of which are heavy handed, unspecific, and insensitive, and some of which can be downright harmful.

It is in what has come to be called "ecologic theory" that major strides have been made in understanding and dealing with the interrelationships among attributes of child, parent, family, and social setting in child abuse and neglect.

Future research needs include:

1. Theory testing and building
2. Longitudinal studies
3. Samples drawn from nonclinical populations
4. Increased diversity of measurement, instruments and data collection techniques
5. Incidence estimates continue to be confused by a lack of precision in the definitions used in research, policy, law, and practice. Studies of maltreated adolescents suggest different causes and consequences from cases involving younger children.

6. Identification of risk for maltreatment remains statistically unreliable, frustrating attempts at early intervention and prevention.
7. Treatment of child abuse is inadequate, and successful treatment is imperfectly understood. Conventional social work approaches are associated with high rates of reinjury, but low recidivism is reported with innovative and resourceful programs with selected clinical populations.
8. Nearly all treatment efforts focus on parents. Not only are the developmental and health needs of children ignored, but the children may be harmed by interventions that place them in foster home or institutional care settings. Focus on the childhood antecedents, precipitants, and concomitants in research and practice is limited. Poorly differentiated clinical approaches neglect the unique needs of adolescents.
9. Preventive initiatives are largely unexplored, notwithstanding, for example, the suggested potency and cost-effectiveness of facilitating the formation of parent-child attachment at birth.
10. The medium- and long-term consequences of physical and sexual abuse are poorly understood, although experts concur on the increased vulnerability for severe problems in school, in the community, and in later family life. Few longitudinal studies have begun, and these are likely soon to end because of severe constraints on research funding.

Clinical approaches to child abuse remain constrained by an inadequate foundation of theory and knowledge. Advances in research are not yet assembled into a set of useful guideposts for practice and policy. Well-conceived, controlled, longitudinal studies hold great promise for prevention and treatment of child abuse.

Mental Health in Infancy

Sally Provence, M.D.

In the first part of the paper the author describes three currently active and promising research approaches that have in common an emphasis on the complexity of development and the study of the interaction of biological and psychosocial factors in infant development. Examples used are: (1) Cohen's multivariate interactional model as an approach to understanding how physiology and experience interact and are reflected in behavior. (2) Sander's studies of temporal organization in the neonate and the synchrony of infant-caregiver interaction, introducing perspectives from biology. The study adaptation and *fitting together* of child and environment as a living system is one goal of this approach. (3) Studies of affect development – especially those of Emde which emphasize the need for a re-examination of affect theory and a broadening of the scope of study to include greater emphasis on innate factors and the adaptive nature of affects.

In the remainder of the paper selected studies are cited for their relevance for infant mental health under the following headings: Congenital Characteristics and Individual Tendencies, Vulnerability and Resilience, Competence and Effectance Motivation, Separation-Individuation, Deprivation, Separation and Loss, Parent-Infant Interaction, Speech Development, Attachment, and finally, Early Intervention.

The author closes with a comment on the importance of continuing interaction between research in theoretical and clinical practice issues and their mutual enrichment.

Mental Health in Childhood

Donald J. Cohen, M.D.; Barbara K. Caparulo, M.S.; and Bennet A. Shaywitz, M.D.

The neuropsychiatric disorders of childhood are a cluster of serious developmental disabilities, such as autism, attentional disorders, cognitive and linguistic processing disturbances, and atypical development. These disorders emerge during the first years of life, tend to persist into adulthood, and cause enormous burdens for children and families. During the past decade, there have been important advances in understanding the biological correlates, natural history, and approach to their

intervention; as yet, there are no cures or preventions. Perhaps the most impressive change in relation to these disorders during the past decade has been one of attitude. Two generalizations increasingly have become accepted. First, these disorders reflect the interaction between biological and experiential factors, with different weightings of biology and experience for different syndromes and for different aspects of a particular disorder; and second, further understanding will depend on the systematic application of methods from various disciplines.

The early-onset neuropsychiatric disturbances are not rare conditions. Taken as a group, perhaps 1% of all children are afflicted with serious difficulties that will interfere with their educational, social, and vocational capacities. The costs to families and to society are extremely high. For special education in a day program, tuition may range from $8,000 to $12,000 annually. For residential programs for the most severely handicapped children, costs may reach $35,000 a year, or higher. Multiplied by the number of years in a normal life span, and the *hidden* costs to parents and siblings, the social expense of a serious disorder, such as autism, is awesome.

Gains in understanding the neuropsychiatric disorders have arisen in the following areas: the development of broadly accepted diagnostic criteria, knowledge of the natural history, new methods of genetic analysis, neurochemistry, a better understanding of the development of the cognitive processes, and a recognition of the impact of social development. Multiple approaches to intervention are now recognized as optimal treatment for most disturbances: the development of broadly accepted diagnostic criteria, knowledge of natural history, new methods of genetic analysis, neurochemistry, understanding the development of cognitive processes, social development, and multiple approaches to intervention.

The contemporary approach to neuropsychiatric disorders of childhood is exemplified in detail by three quite different, serious disturbances: attention deficit disorders, autism, and the syndrome of chronic multiple tics of Gilles de la Tourette.

Adolescent Mental Health: Delinquency

Joan McCord

Research about the adolescent problem of delinquency may be organized around three questions: Who are delinquents? Why is there delinquency? and How can delinquency be stopped?

Two basic approaches to answering the first question have resulted in conflicting conclusions. Use of official records indicated proportionate over-representation of the disadvantaged; use of self-reports failed to confirm the concentration of crime among either the lower classes or minority groups. With attention directed to understanding this disparity, small but disturbing police and court biases were discovered. Problems of differential honesty and recall, though not apparently debilitating, have affected self-report studies; additionally, self-report measures of crime contained distortions, so that minor transgressions were confused with major crimes and occasional mischief was confounded with repetitive delinquency. With these defects removed, the self-report technique essentially replicated official records in demonstrating a prevalence of crime in lower classes.

A variety of answers to the second question has been proposed. Theories of delinquency have attributed crime to desires for status that could not be achieved, to labelling that implied expectations for antisocial actions, to drives and insufficient resolution of the Oedipus complex, and to psychologically impoverished home environments.

Studies of aspirations and school dropouts have shown, however, that status-frustration yields a poor account of crime. High rates of delinquency precede dropping out of school.

Evidence about self-concepts and effects of diversion programs suggest the inadequacies of labelling theory. Evaluations of diversion programs have not confirmed the assumption that official labelling increases crime, though some evidence suggests that public labelling may reduce the motive of concealment. Studies of self-concepts have failed to link delinquent identities with official processing, although official processing was found to be related to pro-delinquent attitudes.

Despite some evidence that *over-control* may produce dangerous aggressive outbursts, longitudinal studies of delinquents have shown that aggression is a frequent precursor of criminal behavior. This finding, together with results of studies analyzing effects of paternal absence, provide grounds for judging Freudian assumptions about the causes of delinquency to be wrong.

Investigation of the apparent link between broken homes and crime has shown that this relationship is spurious. Intact homes that are filled with conflict seem to be a greater force in the production of crime.

Studies of the home life of adolescents show that delinquents tend to have rejecting, deviant parents and tend to be exposed to parental conflict and inadequate discipline. These results are robust across methods and samples. Further research should be aimed at learning why these backgrounds contribute to delinquency.

Perhaps the most significant finding in recent research came from studies evaluating attempts to stop delinquency. Each theory about the causes of delinquency carried with it some theory about prevention. Evaluations of the intervention strategies indicated that none showed consistent beneficial results. More important, several studies suggested that clients, who received counseling or other forms of professional assistance, risked being harmed by the process. Preliminary evidence suggests that a punitive policy might increase – rather than decrease – criminality. Therefore, before a crime prevention program is instituted on a large scale, pilot projects, which have been evaluated for safety as well as efficacy, should be required.

Epidemiology of Adolescent Drug Use and Abuse

Lee N. Robins

This paper discusses age at first use, popularity of different drug classes, motivations for use, heavy drug use, trends in use, correlates and predictors of drug use, and socioeconomic status. Other topics reviewed include studies of drug users compared with delinquents. The significance of recent drug trends shows a troubling picture. Adolescent drug use often occurs in young people whose early school records look promising, who get along well with their peers, who have better-than-average IQs, who are not economically disadvantaged, and who are interested in social issues. Despite these advantages, their adolescent and adult pictures look very much like those of the typical child with conduct disorders, who has a slightly low IQ, comes from a lower status family, has problems in getting along with peers, and has experienced truancy and failure in elementary school. One must wonder, therefore, if illicit drugs might have lasting consequences when used by immature persons. Studies of young black men and Vietnam veterans indicated that drug use with late onset (after age 19) had little prognostic significance. Men beginning drug use late typically either did not become dependent or did so only transiently without later adverse social effects. One cannot, however, be so sanguine about the use of drugs and alcohol beginning early. This is of special concern, because studies have shown that drug use is becoming steadily more pervasive and reaching down into younger age groups. Of course, it may be that the adverse adolescent and adult outcomes found are not the effects of drugs themselves but only of some underlying set of predispositions and attitudes that have not yet been measured. Until one has evidence that this *is* the case, however, one can only recommend a cautious approach: that governments and families attempt to limit adolescents' access to drugs, whether licit or illicit.

Dental Diseases of Children and Youth

Anthony A. Rizzo

Oral disorders affecting children include dental caries, malocclusion, cleft lip and/or palate, traumatic injuries, periodontal diseases, and oral ulcerations. Because these diseases also may be detrimental to the mental well-being of the individual, they may and often do inhibit social development. Since the oral health status of the adult is determined by childhood experiences, children

should be taught the value of prevention and prompt treatment of oral diseases. Research progress also must be maintained.

Dental caries affect more than 95% of youth over age 12, with those in the 12- to 17-year-old range averaging more than six decayed permanent teeth. In the caries process, bacteria ferment dietary sugars and produce acids that dissolve the tooth. Research, therefore, is based on the following strategies: combat the bacteria, increase tooth resistance, modify the diet, and improve the delivery and acceptance of preventive methods. Scientists have identified the principal causative organisms (*Streptococcus mutans*) and have shown how they cause decay. Moreover, they recently purified an enzyme from these bacteria and injected it into rats as a vaccine; as a result, the animals had less tooth decay. Human volunteers who had ingested a capsule containing *S. mutans* produced antibodies in the saliva and were able to clear the organism from their mouths faster than before vaccination.

Since only half of the U.S. population benefits from having the optimum amount of fluoride in their drinking water, scientists from the National Institute of Dental Research (NIDR) have sought additional ways of making fluoride available. After first showing that school programs involving weekly mouth-rinsing were effective, they initiated a large-scale demonstration project in 256 schools. Subsequently, the NIDR promoted this approach and other school-based fluoride preventive measures. Twelve million children are now obtaining the benefits of these preventive programs. During the past decade tooth decay in the U.S. has been reduced by at least 25%.

Since the chewing surfaces of the teeth are not as well protected against decay by fluoride as are the others, scientists developed a method of coating them with plastic. Because this method was not cost effective as a public health measure, it was recommended only for use by private dentists. In developing a basis for the prevention of tooth decay by modifying the diet, scientists have studied the cariogenicity of different types of food in animal models. These studies showed that the number of feedings per day was more important than the amount of sugar in the food.

The term "malocclusion" includes protruding upper or lower jaw, cross-bite, and such malpositions of the teeth as outward displacement, rotation, or crowding and overlapping. These conditions often become a functional and social handicap to the child and a financial burden for the family. In the U.S., 29% (6.5 million) of the 22 million youths ages 12 to 17 have malocclusion that requires treatment. Causes include genetic factors, growth defects, and habits like tongue thrusting and thumb sucking. Research has emphasized facial growth patterns primarily, but also has achieved improvements in the design of orthodontic appliances and materials.

Clefting of the lip or palate occurs in 6,000 newborn infants each year in the U.S. The affected child usually presents a complex medical, dental, emotional, social, educational, and vocational problem. Etiologic factors include heredity and such environmental influences as nutritional deficiencies, stress, infectious diseases, X-irradiation, and drug ingestion during pregnancy. Prevention is accomplished through preconception counseling for those with a positive family history and the avoidance of suspected etiologic factors during pregnancy. Research has resulted in improved surgical techniques that enable cleft children to achieve normal growth, speech development and improved appearance.

Damage to the mouth and teeth often results from automobile collisions, child abuse, fighting, and contact sports activities. In a recent study, dental injuries made up almost 8% of all school injuries.

Periodontal diseases, which affect the tissues supporting the teeth, attack more than 75% of adults and are the major cause of tooth loss in adults in the U.S. Young persons are affected mainly by gingivitis, a reversible condition. Since research has shown that bacterial plaque causes the disease, children should be taught to practice daily oral hygiene as a lifetime routine.

Recurrent aphthous ulcers, or canker sores, are painful, persistent mouth ulcerations that occur in children as well as adults. The etiology is unknown and treatment is palliative only.

Primary herpes simplex virus Type I infections occur in 50% to 75% of the U.S. population, usually before age 20. The most frequent problem is the common recurrent cold sore. This virus persists in

a latent state in a nerve ganglion, and, from time to time, is stimulated to cause new cold sores by such conditions as sun exposure, trauma, illness or emotional stress. Since infection with herpes simplex is widespread and may have serious consequences, preventive measures are badly needed. Prospective approaches include vaccination, chemotherapy, and interferon.

Although oral cancer is rare in children and youth, it is linked to behavior patterns begun in adolescence. Thus, preventive programs should include education on the long-term effects of tobacco and alcohol.

The cost of dental care in the U.S. is nearly 15 billion dollars per year, but many citizens still do not receive treatment because of the cost, the patient's level of education, fear and anxiety regarding dental care as well as the availability of health providers.

Methods and Systems for Delivering Maternal and Child Health Care: Research Contributions

Robert J. Haggerty, M.D.

Health services research should place greater emphasis upon cumulative studies that build on past advances and do more *total system* studies, rather than isolated and focussed studies.

There should be further emphasis upon development of methods to measure more precisely the outcome of health care by the use of profiles and measures of function and impact upon the family, as well as the input or independence variable.

The excellent existing data from the National Center for Health Statistics, should be supplemented with selected community-wide studies repeated every few years, as well as a few longitudinal studies of individual children and their changing need for health services. The lack of stability in children at high risk suggests that our child health system must avoid an overly-targeted approach. Implementation of linked birth and death certificates and adaptation of the uniform ambulatory and hospital discharge abstract would help to monitor changes in health services.

Programs of financing and organizing medical care for the poor, organized in the 1960s and 1970s, have nearly equalized the use of health services by the poor, as compared to other children, but health needs remain greater among the lower social class. Continued efforts must be made to expand the services for the poor, and address research to the underlying causes of greater illness among poor children.

Regionalization of newborn care, bonding, home nurse visiting, and infant stimulation programs have shown efficacy in small settings. The next challenge to research is to translate these to larger scale projects and measure their effectiveness. Before widespread application of any new technology, there should be careful evaluation of its effectiveness.

After the newborn period, in both the preschool and school age group, the greatest needs today are to study how to reduce the burden of accidents, to determine the most effective and efficient methods and timing of screening tests, to study the long-term effects of behavior problems, and to learn how to intervene effectively.

Health services research has made major contributions to our understanding of what works and what doesn't. Implementation, however, has been limited by political considerations, thereby suggesting greater emphasis should be placed on research to understand how to implement the results of the research.

Integration of social, educational and health problems and research to evaluate such integration across strong disciplinary barriers needs emphasis.

High priority should be given to studies of how to help adolescents develop healthy lifestyles and how to intervene more effectively in family dysfunction problems.

Major questions among organizers of health services are: When are targeted services best? When are general or comprehensive services crucial? Research on this issue will be essential over the next decade.

Strong efforts should be made to train a cadre of skilled investigators and provide research support during their early careers. Lack of such researchers may be the most important problem to overcome before the outlined research agenda can be successfully addressed.

The paper summarized below was not presented at the Research Forum. It was prepared in response to the discussion, which indicated a need for additional information on the topic of drug treatment research.

A Survey of the Last Decade of Drug Abuse Treatment Research

Harold M. Ginzburg, M.D., M.P.H., Robert L. Hubbard, Ph.D., J. Valley Rachal

The Federal Government recognizes the serious and pervasive nature of drug abuse and misuse. More than a decade ago it began an active campaign to reduce the morbidity and mortality associated with inappropriate drug use. Drug abuse remains a major social, economic and political problem and continues to receive a significant amount of attention from policy makers and researchers. Treatment facilities have vastly expanded their capabilities over the years. Accepted treatment techniques continue to be refined and new techniques developed.

Drug abusers are a dynamic population, constantly changing their substances of abuse, their folklore and their membership. Teenagers are the principle source for recruitment of new members to the drug abusing and misusing populations. It must be recognized that use of alcoholic beverages by teenagers less than 18 years of age, in almost all states, is as illegal as the use of marijuana in the same states. The legal and social sanctions for the illegal and inappropriate use of these two substances are not equal. The patterns of drug use in the teenage population have increased and become more complex over the past decade. Teenagers are experimenting with more substances, at an earlier age, and using them in greater amounts. Thus, we have an adolescent population using sophisticated combinations and permutations of psychoactive substances that may cause serious adverse medical and psychological effects with resultant permanent brain damage and death. Inhalants (glue, gasoline, turpentine, etc.) are used to produce transient hypoxia and an allegedly pleasant lightheadedness. Inhalants are often organic solvents that are extremely toxic to brain tissue – they dissolve the lipoprotein covering of nerve cell endings leading to nerve death and brain damage. Hallucinogens alter an individual's perception of reality. Not infrequently, they precipitate frank psychosis in susceptible individuals, and these individuals are then unable to regain contact with reality when the direct effects of the drug are anticipated to cease – they remain psychotic.

In the four years, 1970-1973, "Federal expenditures for drug treatment and rehabilitation increased nearly thirteen-fold" (National Commission on Marijuana and Drug Abuse, 1973, pp. 301-302). The proliferation of programs was accompanied by a large number of studies that examined the impact of individual treatment programs.

President Carter's 1977 message to Congress called for a reorientation of the Federal drug treatment effort to include persons dependent on other drugs. In addition, recent Federal strategy also has emphasized the need for a broader perspective in drug treatment program services to include the *nontraditional* clients whose drug or alcohol consumption is contributory to other problems. (Strategy Council on Drug Abuse, 1979, pp. 23-24).

Major outcome behaviors have been examined in the past. These results are:

(1) Drug and Alcohol Use: Drug consumption is noted to decrease while the client is in treatment. However, alcohol and marijuana use do not decrease significantly while the clients are receiving treatment in outpatient methadone maintenance or outpatient drug free treatment programs.

(2) Criminal Behavior: Criminal behavior, that is, both self-reported criminal activities and arrests decrease while the client is in treatment. Clients receiving treatment in methadone maintenance treatment programs for 6 months or longer are less likely to revert to the pretreatment levels of criminal behavior. Clients receiving shorter term treatment, in either methadone maintenance or drug free outpatient modalities are reported to reach their prior arrest rates subsequent to treatment.

(3) Employment: Drug abusers or addicts entering a drug treatment program appear to experience a modest increment in employment during and after treatment. Because insufficient background data on work histories prior to treatment were found, it is difficult to determine how much of this increment would have occurred in the absence of treatment.

(4) Depression: Depression is noted to be a common clinical finding among clients entering treatment programs for drug and alcohol related problems. The effects of treatment on depression are confounded by issues surrounding detoxification, substance substitution and retention.

(5) Retention: Three-fourths of clients entering treatment leave before treatment staff considers treatment to have been completed. Fifty percent of all clients leave treatment within 3 months of initiating treatment. The longer a client remains in treatment, the longer the effects of treatment, that is, decreased drug use and decreased criminal activities are demonstrated.

These findings are being re-examined currently in the ongoing Treatment Prospective Study (TOPS), a long-term longitudinal study of clients entering methadone detoxification and maintenance programs, and drug free outpatient and residential programs (therapeutic programs). The findings indicate that more females, whites and younger clients are entering drug free outpatient treatment programs. These programs admit significant numbers of individuals who ostensively report that they have no primary drug of abuse – they are in treatment in response to the social and familial and legal pressures.

A large proportion of clients have had prior treatment experiences, report symptoms of depression and heavy criminal activity in the months prior to admission to treatment. They have not been successful in finding and maintaining employment.

Retention varies by primary drug of abuse, the kinds of treatment services received and the basic demographic variables of age-sex-race.

Negative behavior (drug use, illegal activity, depression) decreased *during* treatment and positive behavior (employment) increased.

Conclusions: These data are indicative of the multiple and complex problems of drug abuse that continue to evolve and evoke significant social concern. Drug users in the last decade, entering Federally-funded or other governmentally funded treatment programs, appear to continue to have multiple contacts with the social service, health service and criminal justice system. They continue to be a significant and visible population whose needs are extraordinary and whose pathology has yet to be totally accepted as being either psychopathologic, requiring medical/psychological/social intervention; or sociopathic, requiring law enforcement and criminal justice intervention. The initial results of TOPS support the earlier finding: treatment doses have a positive impact on behavior.

SUMMARY OF PAPERS AND DISCUSSION
EDUCATION SECTION

In addition to discussion of such basic educational issues as curriculum and instruction, a wide range of related issues also were dealt with. An ecological perspective has become prominent in recent education research and has brought with it a recognition of the need for closer collaboration between educators and community resources.

Day Care and Early Childhood Education

Interest in early childhood development, learning, and child care have led to large amounts of research over the past two decades. Questions about the impact of child care experience on young children are answered partially by the research findings. Research on emotional development has demonstrated that when young children interact with adults in a day care program, their basic emotional relationship with their mother is not jeopardized. Socially, peer interaction has been shown to add a new dimension to children's lives when they enter a day care environment. Both positive and negative effects on social development have been found, which are related to a program's objectives and philosophy. Research on early intervention programs and parent-child relationships has demonstrated several ways in which socialization is affected. Parent education and training programs positively affect parents' childrearing skills as well as the development of children. Parent participation in preschool programs has been shown to increase positive interaction between parents and children. Studies of the effects of preschool intervention programs have shown improvement in the child's social behavior and awareness as well as in later school performance. Some programs have developed effective techniques for controlling aggression, exciting curiosity, initiating creativity and maximizing questioning skills. The mainstreaming of handicapped children has been found to have positive effects on the child's motoric, self-help, social, academic and communication skills.

Parent-School Relations

Studies indicate that successful home-school-community involvement occurs in school districts that identify action-oriented tasks with attainable results. An apparently critical component is the commitment by the school system to attack problems before a particular need is identified. In terms of the impact of parent participation on school achievement, results indicate that parent involvement does not directly produce gains in a child's achievement, but rather involvement tends to produce in a parent a sense of efficacy, competence and importance which can create a family environment that stimulates and reinforces achievement.

Reading and Writing

The inadequacy of reading skills in certain children continues to be a problem. Studies have found relationships between reading problems and motivation, physical health, parental attitudes, socioeconomic status, teacher personality and classroom organization. Basic research and theorizing on the nature of the reading comprehension process and its development is needed. Writing skills are also a source of concern. Recent research shows that writing instruction in elementary grades focuses more heavily on reading than on writing, and even in high school English classes, only 3% of class time is available for writing assignments that require more than one paragraph. The current emphasis on testing in English, which requires mechanical use of writing (e.g., short answers, fill-in blanks, exercises and drills), has the unfortunate characteristic of focusing on products (i.e., assignments written only for evaluation purposes). The teaching and learning of writing would be improved by an increased focus on writing processes, such as prewriting planning activities, composing and revising.

Dropouts

Factors associated with dropping out of school have been found to include deteriorating family relationships, history of low grades and poor academic performance, and needs for independence. Prior to dropping out, many youths have achieved high grades in courses they liked but have had difficulty relating to the high school curriculum. While most dropouts believe that education is an important factor in getting ahead, at the time of dropping out they tend to be too alienated or overwhelmed by personal and/or school circumstances to be able to focus on the consequences of dropping out.

Alternative (in-school or out-of-school) high school programs offer a choice to the potential dropout. Research on the effectiveness of alternative programs indicate they should be varied, offering courses in basic skills and practical school-to-work transition skills. The curriculum should be geared to the needs of the individual. Classes should be small with an emphasis on student/teacher interaction. High expectations should be set for student achievement.

Out-of-School Learning

Education policy advisors have recognized the value of out-of-school learning, particularly for academically less talented students. Policy recommendations for work experience during adolescence have been based on the assumption that out-of-school settings provide an opportunity for young people to learn to take responsibility, to maintain contact with adults, to learn new skills not taught in school, to practice skills previously acquired through formal schooling, and to develop healthy attitudes toward work. Research has demonstrated that part-time work for in-school youth does provide opportunities to exercise and develop personal responsibility, but there tends to be little opportunity to experience cooperation in tasks and only limited contact with adults. Nevertheless, school/work programs can be effective in getting students back into public schools or in encouraging them to pursue alternative high school completion programs.

Special Education

Studies indicate that many students with special educational needs have benefited from placement in regular classes. More effective procedures, however, are needed to improve their social status and social interactions in such settings. Also needed are procedures to identify handicapped children who are more likely to benefit from being placed in less restrictive environments.

Safety

Safety in schools and school crime are two issues of immense concern in education today. A 1978 national study reports that 11% of this nation's secondary school students had something of value stolen from them in a typical month, 1.3% were attacked physically, and .5% were robbed in the same period. The experience of teachers with personal crime is similar to that of students. Available evidence suggests that acts of violence and property destruction increased through the 1960s to the early 1970s but leveled off after that and even improved somewhat in urban areas. Although still a serious problem, it apparently is not a growing one.

Minority and Disadvantaged Groups

Over the past decade and more, a variety of programs have been developed for minority children; these include bilingual, black studies, and early intervention programs. Despite documented successes of some of these programs, certain problems remain – particularly the need for nonbiased assessment measures and the fact of disproportionate representation of minority students in special education classes, in groups of suspended or expelled students, and among dropouts.

There are some schools serving disadvantaged populations in urban areas that are unusually effective in raising the achievement levels of their students. Studies of these schools stress the need for an orderly, businesslike environment and high expectations that permit teachers and students to devote

time and energy to teaching and learning academic content. The need for mechanisms for systematically and frequently assessing student performance in the basic skills, which provides feedback to both teachers and pupils regarding their success, is identified in both effective school studies and effective classroom instruction studies.

Desegregation

Numerous studies of the effects of desegregation indicate that the quality of education a child receives is a more important determinant than is segregation/integration. Factors affecting quality of education include level of competence and training of teaching personnel, quality of the education environment, class size, teacher-pupil expectations and behavior, teacher knowledge and sensitivity to minority cultures, and the degree of parental involvement. Successful integration requires cross-racial acceptance, equal access to high status academic and social positions in schools, and inclusion of elements of minority as well as majority subcultures in curriculum and activities. Research has shown that counselors play a critical role in encouraging minority students to gain additional education, higher status occupations and higher incomes. Research is needed to identify and describe successful counseling strategies. It was suggested that staff development efforts may be effective in dealing with many desegregation/integration problems; staff may be assisted in helping to provide a positive classroom atmosphere, encouraging interracial friendships, increasing teacher knowledge and understanding of student culture, and involving parents cooperatively in the educational process.

Sex Education

Sex education is available from many sources – parents, teachers, peers, clergy, and medical and social service professionals. Peers and the media are identified as primary sources of sex education by youth, while parents and schools generally are considered inadequate and unsatisfactory by young people.

A number of studies have been conducted to determine the effect of sex education on young people's knowledge, attitudes and behaviors. These studies do not support societal fears that sex education encourages young people to become sexually active or to experiment with new sexual behaviors. Particularly intriguing is the research on parent-child communication. Generally, parents, and fathers in particular, are perceived by children as being inadequate and unsatisfactory sex educators. Parents, who have participated in a sex education program, find that such programs help them in their efforts to communicate openly with their children about sexual issues. A number of research studies support the finding that children who discuss sex with their parents tend to be effective users of birth control. A persistent problem with research on sex education, however, is that very few sex education programs have been evaluated adequately in an effort to determine their effectiveness.

Adolescent Pregnancy

About 1.1 million American teenagers become pregnant every year; approximately half of these pregnancies end in abortion or miscarriage and half in live births. Research on the social and economic impact of a teenager becoming a young mother indicates that her schooling is likely to be interrupted and fore-shortened. She often has additional children soon after the first. Her job opportunities are limited because of her educational deficit and parenting responsibilities, and her risk of being poor is increased. The incidence of poverty rises substantially as the age at which women become mothers falls. The earlier the age of first birth, the greater is cumulated fertility. If a woman marries as a teenager, her husband is also likely to have relatively low earnings and there is a high probability that the marriage will dissolve. It was agreed that special programs for pregnant adolescents and mothers are necessary. Though costly in the short-term, such programs are likely to pay off economically as adolescent parents increase their wage earning capacity through completion of education programs.

Parenting Education

The educational system has long been faulted for neglecting to provide young people with preparation for a crucial role in society — that of parent. Young parents state that their preferred sources of knowledge about parenting are health professionals, family, friends, and personal experiences. Studies of experimental parent education programs and their participants indicate that discussion groups may have the combined benefit of widening the social network and providing appropriate information at a time when the parent is ready to utilize it. Males, ever an afterthought when parenting education programs are planned, may be helped to feel more competent and comfortable about their fathering skills.

SUMMARY OF PAPERS AND DISCUSSION
SOCIAL SERVICES SECTION

The Forum section that considered research findings on social services to children and their families included a wide variety of topics and concerns. This summary cannot do justice to the whole of that meeting, but rather, selects some major topics discussed.

An important concern was the fragmentation of services that tend to be organized by problems and specialities rather than by families. As a result, the consumers of social services often are unable to find their way to the combination of services that their family situation requires. The problems of coordination of services are confounded by the constraints within child welfare agencies.

A variety of constraints plague child welfare agencies (e.g., insufficient funding/staffing, lack of access to community resources, inadequate staff development and training, low pay) which contribute to staff turnover. This results in fewer and less experienced staff, who are faced with increasingly difficult case management responsibilities, including the need for coordination of services. One effective solution is an increased support for inservice training that helps to retain staff and improve other provision of services. To reduce fragmentation of services and increase coordination of community resources (1) service delivery personnel must have access to up-to-date information about community resources, (2) there must be a way to coordinate referrals, (3) to provide case continuity and feedback on client progress, (4) to utilize interagency agreements where appropriate, and (5) there must be public-private cooperation aimed at supporting improved capabilities of community resources.

There has been a history of fragmentation of services. For example, since the 1950s, it has been known that a minority of families (approximately 10%) absorb the majority of the services (approximately 80%). The members of these families suffer from a range of developmental, health, and interactional problems that are usually addressed by providing services to individual family members. Such individually focused services often are not mutually supportive and easily may be counterproductive. Recent research suggests it is more effective and cheaper in the long run to assign a caseworker to the entire family. This case manager assesses needed services for the family, arranges for the services, and follows up to insure that the family and its members have received needed services.

Another development in social work to increase coordination of services is the employment of social workers in health and education agencies. These social workers serve to bring family concerns to bear in the health care and education of children. They serve as interpreters for families to the service systems, and as a link between subcultural family concerns and general professional practice.

Poverty, Low-income and Social Services

Certain families are especially at risk and in need of preventive and rehabilitative services. Unemployment places families in especially precarious circumstances. Families who do not have access to social services and supports, or who do not use them during unemployment, are particularly vulnerable to related health and social problems.

Poverty rates are distributed differently, depending on race, ethnic identity and sex. In 1977, 50% of all children lived in households headed by females, and 40% of all black children lived in poverty. Both blacks and women continue to face discrimination in jobs and salary. Women and blacks are concentrated in low-paying occupations, and even within the same occupation and with equivalent education, are paid less than white males. Thus, children are affected indirectly and are potentially at risk because of discrimination against their mothers.

Poor children are more likely to be in poor health or have handicapping conditions than are children in families with adequate incomes. Poor children who need more health care do not have as much care as nonpoor children, nor do they have the same continuity of care because they use clinics where professional staff changes. Racial and ethnic minorities use services less frequently than whites; at the same time they are at greater risk. Children who qualify for health and developmental screening and services do not always receive them. When there is an outreach program, such as Head Start, a much higher percentage of children receive the screening and services.

Family Support Systems

Changing demographics require changes in services and supports for families. Inflation and unemployment, particularly among minorities, single parents and youth, add great stress to families and affect family living patterns. Support systems for families must utilize the natural structure in which families are involved and ideally should be available close to where families live. Families need to learn how to identify their problems so they may make early contact with needed services. They may benefit from educational experience and family-focused services designed to enhance their own skills and prevent deterioration. Policies must provide opportunities for consumers of services to have input into the way services are provided. Policies relating to families may contribute to continuity, care and support, to sound childrearing, and to balancing optimal family functioning with societal concerns.

Divorce/Single Parenthood

From 1970 to 1979, while the total number of families increased by 12%, the number of single-parent families are headed by women, with only about 10% headed by men. However, there is increased acceptance of men heading single-parent families.

The single-parent family today is largely a family produced by separation and divorce. Separated and divorced single-parent families are likely to be confronted by housing and food bills not much different from what they had been when the parents were married, while income is only slightly more than half what it had been. This fact often puts the family in a state of poverty.

Although public assistance is a necessary supplement for many separated and divorced mothers, it does not add significantly to their income. Public assistance tends to be more nearly a resource in an emergency than a permanent support. The primary income source for divorced mothers and (to a much lesser degree) women who are separated but not divorced, is their own employment. Since many single parents cannot call on relatives for child care, child care needs emerge. The problems associated with the new single-parent family occur at a time when the single parent is least resilient. Educational and supportive services for individuals just becoming single parents would seem desirable.

Social Services to Families and Children

Reviews of records in a representative sample of 315 public social service departments in the nation during 1977 revealed certain demographic and social characteristics of children receiving services. The median age of children served was 9.2 years. Of the children whose race was identified in the study, 62% was white, 28% was black, 7% was Hispanic and 1% each was Asian-Pacific and Indian-Alaskan. The proportion of children living with parents decreases as age increases beyond age 6, while the proportion of children living with relatives stays constant over time and the proportion in foster care rises. Although there are children of all ages in adoptive homes, the largest percentage is under a year of age.

Parents had legal custody of 65% of the children in placement. Most of the others (30%) were in the custody of an agency, usually by court order.

Of the children served by public social service departments in 1977, 33% received protective services; 26% received health services; 25% received foster family care; 24% received counseling;

16% received day care; 11% received transportation; 11% received educational services; and 10% received mental health services.

Children and Youth at Risk

Current research suggests that divorce, per se, need not place a child at risk. Indeed, many children appear to be better off with a single parent who cares for them and are not under the severe personal stress that they were when both parents were in continual conflict with each other and were unhappy and distraught. Further, many cases of maltreatment of children appear to be a *spillover* from parental conflict.

Of course, divorce is also traumatic for many other children. Research on the process by which many people decide to marry as well as to divorce has never received sufficient attention. With such research we could learn better ways to help people avoid marital choices likely to end in divorce.

This is not to say that one-parent families cannot or do not serve as effective settings for the development of competent, stable, happy children, but the stress and the lack of support systems confronted by single-parent families may impose additional burdens on their members. Most research has viewed the one-parent family as a pathogenic family, and has failed to focus on how positive family functioning and support systems can facilitate the development and resiliency of social, emotional and intellectual competence in children in one-parent families. More research and demonstrations are needed that are oriented toward the identification and facilitation of patterns of family functioning and support systems, which help in coping with changes and stress associated with divorce, and which help to make the increasingly common period of single parenting less traumatic.

Maltreatment of Children and Youth

A higher incidence of maltreatment of children occurs in lower socioeconomic groups, with poor white children more at risk than poor blacks. The fact that one-half of fathers experienced unemployment in the year preceding abuse of their children suggests that the powerlessness experienced when the father no longer functions as the family provider might fuel intrafamily violence. The incidence of adolescent abuse and neglect is more than double the rate of younger children, thus highlighting the need to view teenagers as especially at risk regarding maltreatment. Increases in abuse and neglect are related to the emergence of stresses on the nuclear family, including social isolation and lack of relief in parenting. Open and diffuse definitions and criteria for child maltreatment often lead to unsystematic collection of data and subjectivity in interpretation of evidence of maltreatment. A uniform definition of maltreatment should consider families and children in terms of strengths as well as pathology.

The kind of staff dealing with child abuse cases often determines the outcome. Cases investigated and dealt with by trained social workers, for example, are far less likely to result in removal of the children from the home than are cases dealt with by the police or other workers not trained to work with troubled families. The success of the Parents Anonymous program, modeled on Alcoholics Anonymous, however, has pointed out the value of self-help groups.

Runaways

During the past 10 years, running away has been viewed as a sign of family turmoil and as a critique of a society that offers its young people few useful roles and little hope for the future. Through the use of runaway houses, efforts have been made to help young runaways use their departure as a catalyst to individual and family change. These runaway houses provide food, housing and comprehensive crisis-oriented, individual, group and family counseling to 50,000 runaways, and nonresidential services to approximately one-quarter million young people and their families each year.

Recently, concern for reducing the economic and social passivity of young people has prompted runaway houses to create vocational training programs. Attention also has been given to the special needs of rape victims and to the complex problems of Third World young people.

Runaway houses cannot, of course, deal with the family, community, and social and economic conditions that may have propelled the child from his home. They may, however, continue to offer large numbers of young people, who each year leave their homes seeking a time and a place for themselves, a chance to take a critical and often compassionate look at the families with which they have been struggling, and an opportunity to make the difficult transition to adulthood in the company of older people who care.

Adoption

Recent research indicates that successful adoption is linked to the motivation of the adoptive parent or parents. Adoptive parents, who are eager to adopt and are motivated to love and support the adopted child, are more successful as adoptive parents than those not so motivated. Cross-ethnic adoptions have become increasingly common; its success is, to a considerable extent, a function of community acceptance of the child. The major problem in adoption remains the placement of children over 6 years of age, children who are handicapped, and minority children. Recent changes in the Child Protection laws are designed to increase the permanent placement of these children. The growing move to open adoption records has not yet been studied for its effects on both placement and adoption.

Children in Institutions and Foster Care

The high number of children held for property or minor offenses in adult jails (estimated at 500,000) is a continuing problem. The high juvenile suicide rate in jails is attributable to environmental and staffing conditions present in most jails and lockups. Authorities estimate that more than half the detained children can be released to more secure settings, reducing harm to this group. Child care institutions, group homes and foster families are important resources for helping troubled children, depending on their quality and selective use. Large numbers of children appear to be placed in foster family care inappropriately. Other large numbers of children in need of placement remain at home. Perhaps more disconcerting is that upwards of two-thirds of all children in placement are there for problems other than their own, reflecting a gross lack of preplacement prevention services directed toward families. Expediency, rather than suitability, appears to be the operational standard in many placement actions involving both initial placement and retention in care.

The appropriateness of various placement offerings is very difficult to determine on the basis of available data. The state-of-the-art in assessing children's needs and placement offering is either rudimentary or not well employed in practice, or both. The result is that large numbers of children are inappropriately placed and/or placement settings are being utilized inappropriately. Thus, it is difficult to demonstrate, drawing on the existing data base, that one placement mode or another is more suitable for one kind of child or another.

While there have been convincing demonstrations of effective deinstitutionalization of retarded and of severely mentally ill children, the aftercare provided in those demonstrations is not typical of services offered in most states. The long-term effects of the virtual emptying of institutions for retarded children and for the mentally ill will not be known for at least another decade.

Safety

In 1980, the Surgeon General identified children's accidents as a national concern and highlighted traffic accidents as a major source of injury and death to young Americans. Children are involved most frequently in accidents as passengers, pedestrians or *pedal cyclists* (bicycles, tricycles, *Big Wheels,* or mopeds).

In a 1979 survey in 19 U.S. cities, child restraint devices (CRDs) were used with 45.3% of the infants and 8.7% of the small children. In a program that loaned CRDs to mothers, feedback from users indicated that the loaner program was a good idea and said that their friends would use its services. Mothers who were offered CRDs through the loaner program acquired CRDs more frequently than did mothers who had to pay for them.

Training techniques have reduced unsafe street-crossing behavior in children. When behavior of children is difficult to change, changes in the environment may decrease accidents. Public education may influence the behavior of pedestrians and may be a viable countermeasure for accidents involving pedestrians. An analysis of 700 motor vehicle/bicycle accidents established that the principal cause of these accidents was human error, with the bicyclist making the majority of errors. The younger age groups of the bicyclists were statistically over-represented, suggesting that developmental factors may be involved in accidents.

The sense of the group, which discussed social services for children and families, was that many of the recently developed models of services appear to be effectively meeting current needs, but that continued experimentation is clearly indicated in the coordination of services, in the delivery of services across specialties to whole families, and in measuring the outcomes of services. Because many of the more promising ways of providing effective family supports are also more demanding of the workers, inservice training is an essential tool in the introduction of more effective services. While both the papers and the discussions revealed that there is now a greater range of knowledge and service alternatives than was available a decade ago, and a much greater focus on the family as a principal base for the prevention of individual dependency and social disability, new research questions emerged.

Recommendations for Future Research

A number of research questions surfaced during the discussions on each paper. While the general area of research concerns has been identified in the summary, more specific research questions included:

1. How effective are in-home services?
2. What kind of crisis intervention is effective?
3. For what populations is community care better than residential care?
4. What is the effect of economic stress on family life?
5. What is the development of families over time?
6. What would be the pattern of needed services if services were keyed to demographic data of the total population?
7. How does the family interface with other institutions?
8. What is the followup to divorced families and blended families?
9. What is the best way to plan for continuous care for a child?

Finally, the group identified gaps and weaknesses in the papers as well as in the status of research on social services. These included:

1. lack of interdisciplinary studies
2. overemphasis on foster care and adoption
3. lack of description of population and methodology of studies
4. weakness of user surveys rather than household surveys
5. lack of data on ongoing studies
6. lack of studies relating to school social services
7. insufficient studies on coordination of social services
8. need to focus on the recipient of services rather than the delivery system.

SUMMARY OF PAPERS AND DISCUSSION
LEGAL ISSUES SECTION

The two days of discussion were based on the findings and interpretations presented in a single comprehensive paper on children's legal issues.

Juvenile Justice

The juvenile justice system encompasses every kind of situation in which a child is brought under the jurisdiction of the juvenile court. The court is intended to be civil and nonpunitive in nature with emphasis on rehabilitation. Theoretically, proceedings are confidential, and court records, together with police records are nonpublic, subject to sealing when the juvenile obtains the age of majority. The charge of delinquency is reserved for minors who violate adult criminal statutes. The charge of incorrigibility is reserved for those children whose acts constitute offenses solely because of age and would not be viewed as offenses if committed by an adult.

The Supreme Court stated that placing a child in the adult criminal court is not preferred but is sometimes necessary because of the child's rehabilitative needs. In adult court, the child loses the confidentiality found in the juvenile court.

At detention hearings it is determined whether a child will be detained pending the fact-finding hearing. The application of specific factors in making the detention decision is often highly discretionary. A few states have no bail or bond program provided for these juveniles.

The Supreme Court gave juveniles the right to notice of charges, the right to counsel, the right to invoke the Fifth Amendment, and the right to cross-examine witnesses. There has been a problem determining which elements of due process, over and above the ones mentioned, are essential to fairness and should be incorporated into the juvenile law. Further legislation has determined that preponderance of the evidence, the civil standard of proof of the commission of an illegal act, was inadequate. In delinquency cases, the juvenile is entitled to have applied the *proof beyond a reasonable doubt* standard.

Psychiatric evaluations frequently are ordered by courts. The length and content of these evaluations vary greatly from jurisdiction to jurisdiction.

The juvenile court judge has vast discretionary power to order appropriate treatment for the child. The indeterminate sentence, which allows the court jurisdiction over a child until he is 18, is a unique characteristic of the juvenile process. A recent approach has been for states to create statutory minimums and maximums for confinement. Even though the juvenile justice system is expected to render treatment, there is lack of treatment for mentally retarded juvenile offenders. Another problem is in providing alternative placements for status offenders so that they are not housed with delinquents.

Regarding search and seizure, the courts have refused to make all the guarantees of the adult criminal process applicable to juveniles. Generally, lower courts have determined that the Fourth Amendment and the exclusionary rule (that is, illegally seized evidence may not be used at trial) apply to juveniles.

The Miranda requirements must be followed in the juvenile court process. There is a question as to the capability of a child to understand the implications of waiving his or her right to remain silent.

Divorce and Custody

Traditionally, the Tender Years Doctrine is embedded in statute in some jurisdictions, while others often reflect it in their case or common law. Modern thought is coming to reject the idea that a mother is presumed to be the more nurturing parent.

The court in many jurisdictions determines custody in accordance with the best interest of the child. There are questions as to the ability of psychologists, social workers and other experts in the social service arena, or even the judge, to be able to determine the child's best interest with the little investment of time that is given to the process.

Courts traditionally disfavor joint custody, with parents sharing legal custody of the child while physical custody alternates according to agreement between parents. There are no legal guidelines.

Many jurisdictions accept that, upon divorce, the father must continue his function of supporting the child. Decisions now are being made requiring the noncustodial mother to contribute to the support of her child, as she may have equal, or even better, earning power than her former spouse.

Visitation is frequently a problem. The custodial parent often will deny the former spouse the formally agreed upon visiting times with the children, in order to hurt the noncustodial parent or to ensure support payments.

Some courts allow a child to stay with the custodial parent, even though the custodial environment may include alternate lifestyles, unless it can be clearly demonstrated that the conduct is detrimental to the physical, mental and/or emotional health of the child. Other courts do not allow the child to remain with a parent who is living an alternative lifestyle, because they feel the child will be harmed.

Children of separated or divorced parents may be living with one parent and yet have the other parent snatch and take them to another state where another court can be petitioned for custody. The Parental Kidnapping Prevention Act of 1980 represented the first federal bill designed to deter child snatching, labeling the snatching a misdemeanor with federal consequences. Custodial parents who have had their child snatched may use the Federal Parent Locator Service to help locate the child.

Abuse and Neglect

Two kinds of abuse statutes exist, those that fall within provisions of the criminal code, and those that fall under a state's juvenile or family code. For gross situations the criminal code applies; otherwise, the latter code is used, which emphasizes rehabilitation. Vagueness of many statutes may increase the likelihood of their misuse against the poor and those from different cultural backgrounds.

Child abuse is assumed when evidence of injury exists that cannot be explained as being accidental by the available medical evidence. This includes physical, sexual and emotional abuse. An ongoing problem is the failure of many professionals to report possible abuse cases.

Neglect is an act of omission by parents, which causes harm or injury to the child. Most neglect statutes are vague; they provide the courts with too much discretion and provide inadequate information to parents as to what constitutes neglect.

The ethical question confronting Protective Services workers is whether to respect the right of parents to deny them entry into their home (Fourth Amendment). Many authorities feel that parents should have the right to know that the professional investigating the home may have to testify in a court of law as to statements the parents make concerning the treatment of the child (Fifth Amendment).

In adjudicatory hearings, the parents' rights include adequate and timely notice of the hearing and allegations against them and right to confront and cross-examine witnesses. Right to counsel is not a settled issue. The child's interest may be in conflict with both the parents and the state. In most jurisdictions, the child is assigned a *guardian ad litem* to represent his best interest in abuse cases.

Foster Care

For many children, no plan is made for permanent placement. Frequently, when a child remains with one foster family over a long period of time, the foster parents become emotionally attached

to the child, leading to custody disputes between the parents and foster parents. The issue of who is the *psychological parent* is a key factor. The Supreme Court concluded that, while foster parents may have standing to come into court to challenge removal of their foster child to another foster home, they do not have a right to expect the child to remain with them when the biological parents have been rehabilitated.

Adoption

There are two kinds of termination statutes – involuntary and voluntary. Although parents usually are granted an opportunity to challenge the termination, the right to counsel has not yet been recognized as a constitutional requirement. The most important concern in voluntary termination is whether statutes adequately protect the biological parents from coercion when they intend to relinquish the child.

The state must show that all reasonable attempts have been made to provide notice of adoption. Because of difficulties in identifying and locating unwed fathers at the time of the baby's birth, the adoption process often is impeded.

Independent adoptions may or may not involve payment of the mother's expenses. A fine line often exists between paying for the mother's expenses and paying for the baby in these adoptions, hence, the term, "gray market adoption." Though these adoptions are legally permissible in many jurisdictions, some states have outlawed all independent adoptions except to a relative. The legal rights of the individuals involved frequently are unprotected. The child's interests may not be protected adequately when the prospective adoptive parents have not been screened. Further, the child will not be guaranteed a permanent placement if the legality of the adoption is questioned and a custody battle ensues. Finally, the adoptive parents have no knowledge of the child's background. They, too, stand the chance of losing their right to the child if the legality of the adoption is challenged.

The interlocutory decree states that during the 6 months after the child is placed with adoptive parents, the social service agency must further investigate the progress of parents and child. Many authorities feel this is unnecessary and prevents the natural bonding process from occurring because of the parents' fear that the child might be taken.

Adult adoptees who wish to gain access to information about their adoption have encountered a host of legal difficulties. Most attempts have met with failure, unless there has been good cause or a compelling reason to allow an adoptee access to the records.

Medical Care

There is reluctance of the law to interfere with the parental duty to provide for a child's welfare. Emergency medical care is the exception. Parental consent is required before a physician may legally treat a child, although in some jurisdictions, some minors may get emergency treatment. Drug, venereal disease, and contraceptive counseling are allowed generally to minors. Recently, the Supreme Court insured the right to privacy in connection with decisions affecting procreation extends to minors. Parental consent is not necessary for abortion as long as the pregnant girl and her doctor have concluded abortion is in her best interests. Recently, however, notice of the abortion may be given to the parents. Regarding defective newborns and nontreatment, decisions to deny an infant's right to life by withholding treatment frequently are made by parents and physicians when the prognosis for meaningful life is considered extremely poor or hopeless. Currently, there are many states that consider the withholding of treatment as neglect, while other states afford the parents the right to make this determination.

As a result of a recent Supreme Court decision, a parent may commit his minor to a state operated mental hospital with the approval of an admitting psychiatrist, psychologist, or other neutral expert fact finder.

Education

The Supreme Court has rejected the conclusion that the right to an education is fundamental under the Constitution. Specific laws regarding education are promulgated by the state statutes, therefore, it cannot be successfully argued that every child in the state is entitled to the same resources with regard to his education. This is because financial determinations are a matter of local school board concern.

Both discrimination and bilingual education have been addressed by the Supreme Court. In *Brown vs. Board of Education,* the Supreme Court struck down the doctrine of *separate but equal* schools and ordered integration. The Supreme Court holds that a school district receiving federal aid must provide special instruction for non-English speaking students whose education is severely hampered by a language barrier, at least when there is a substantial number of such students within the district.

In 1975, Congress enacted *Education for All Handicapped Children Act,* P.L. 94-142 requiring states to place handicapped children in regular public school classrooms wherever it is found that the child's best interest would be served. Where this is not the case, the Act requires that handicapped children be educated in accordance with individual plans tailored to meet their particular needs and capacities. This does not include children with learning problems that result from their socioeconomic background.

Competency testing has been implemented in many jurisdictions to provide that children are not graduated from high school without demonstrating basic knowledge of minimum educational requirements.

Students' Rights

Regarding First Amendment rights, where there is no finding or showing that engaging in the forbidden conduct would materially and substantially interfere with the requirements of discipline in the operation of the school, the prohibition against freedom of expression cannot be sustained from students. The First Amendment also protects students' rights to publish and circulate materials in school, including articles that are critical of school personnel.

Students are accorded some freedom from illegal search and seizure. In order to preserve the health and safety of all students, school authorities have broad powers and, as such, school officials have been allowed to search the school lockers. The question often arises as to whether school officials can turn the evidence over to police. The Fourth Amendment guarantees apply more stringently when a student is bodily searched.

The state statutes and common laws regarding the use of corporal punishment support and officially sanction its use in most states. The *Ingraham Decision* determined that corporal punishment was not viewed as cruel and unusual punishment. The permissibility of corporal punishment is to be determined at the local or state level. Parents have a right to sue teachers who are extreme in their use of punishment.

A Supreme Court decision guarantees students very minimal due process rights before suspension. The student has the right to confront the principal to explain his side of the story, but this does not prevent teachers or administrators from acting in emergency situations by sending students home and holding a hearing later. The trend is away from expulsion. The emphasis is on suspensions and the need to find alternative education for the child who can no longer attend his neighborhood school because he presents a behavioral problem.

SUMMARY OF PAPERS AND DISCUSSION
ECONOMICS SECTION

The three presented papers and the ensuing discussion addressed the employment perspectives of teenage workers and recent data on working mothers.

Employment Perspectives of the Teenage Worker

Labor force-participation. The labor force participation rate of 16- to 19-year olds has risen steadily from 48.3% in 1968 to 58.1% in 1979, as the baby-boom generation entered the labor force with greater frequency than their counterparts before them. There has been a drop in labor force participation rates of blacks and other minorities. The drop is particularly pronounced among young black men. Their employment-population ratio has fallen steadily from 52% in 1954 to 30% in 1979.

Employment. The sharp differences in the occupational distributions for men and women run along traditional lines. More than half of the young males were employed in blue-collar jobs in each of the three broad geographic areas, mostly as nonfarm laborers. Almost three-fourths of all females were engaged in either clerical or service work in all areas. These occupational patterns support the finding that the jobs offered to and taken by teenagers are determined to a much greater extent by sex than by race. Put another way, if the sex of an individual is taken into account, there is little difference in the levels of first jobs obtained by whites and blacks in their teenage years. Occupations of teenagers appear to be determined largely by the type of area of residence. As a corollary, teenage occupational differences by race stem, to a great extent, from geographical differences rather than from other considerations.

Unemployment. Black teenagers, in particular, experience very high jobless levels. The average number of unemployed black teenagers in 1979 was 320,000 and their rate of unemployment was 36.5%. White teenagers had a corresponding rate of 13.9%, less than half that of their black counterparts.

A strong relationship exists between unemployment and dropping out of high school; the incidence of unemployment among teenage dropouts in October 1978 was 23.8%, while that for high school graduates was 11.5%, and for students was 15.3%. Ten percent of whites and 18% of blacks leave school without a diploma. "Stay in School" campaigns are well-founded because schooling improves chances for labor market success.

White, black and Hispanic youth who are central city residents had the most difficulty in obtaining jobs; employment opportunities were about the same for those living in either the suburban or nonmetropolitan areas. The unemployment rate for black teenagers was more than twice that of their white peers and close to double that of Hispanic youth, regardless of area of residence.

Much of measured youth unemployment may be attributed to the job search effort associated with voluntary job turnover, interruptions in employment caused by school and other activities, and initial labor market entry. A sizeable number of young persons either are unable to work or choose not to work. During 1979, over two-fifths of all teenagers were outside the labor force; most of these, about three-fourths, cited school attendance as their reason for nonparticipation. A small proportion of the teenagers not in the labor force express the desire to work but, for a variety of personal or job-market-related reasons, are not seeking employment. One group of these individuals is of particular importance; those who want a job *now* but are not actively looking for work because they believe that no jobs are available -- the discouraged workers.

Transition from school to work. There is a distinct connection between formal schooling and labor market activity. Generally, labor force participation rates are higher and unemployment rates are lower for persons with greater education.

For the most part, by the time workers are 25 years old, labor force participation has risen, work is predominantly full-time, and unemployment rates have fallen. Thus, while the transition process often may be painful, and in some cases never satisfactorily achieved, the majority of youth is able to make the transition successfully.

The earnings differential between white and black workers increases with age. Black and white teenagers both earned close to $140 per week in 1979. White adult earnings, however, are almost double those of white teenagers at almost $280, while those of black adults were only one and one-half times the earnings of black teenagers, at $217.

Children, Working Mothers and Their Families

Two unforeseen developments of the 1970s interacted to affect the lives of America's children, youth and parents. During the past decade, fewer women bore children, and those who did had only one or two children, on average, instead of the two-to-three child norm of the '60s. Concurrently, the labor force participation rates of mothers with children under age 18 surged upward. At the outset of the 1980s, over half of all children had working mothers.

Throughout the 1970s, the number of children living in two-parent families plummeted, while the number in one-parent families increased steadily. The number of women maintaining their own families, often with young children in the home, rose to the highest level ever recorded.

These trends emerged in a setting marked by many economic and social changes, including three recessions (1969-70, 1973-75, and 1980), the onset of the highest rates of inflation in several decades, the end of the Vietnam War, and delay or postponement of family formation.

These events have had more impact on certain sections of the population than others. Racial differences emerge. Half of all black children live in single-parent families. These youngsters are less likely than white children in comparable families to have a working mother, 55% versus 67%, in March 1980. Smaller proportions of Hispanic children than either white or black children have working mothers.

Mothers in two-parent families. During the 1970s, increasing numbers of wives with children under 18 were in the labor force. Participation in the labor force has been influenced by later marriage, postponement of childbearing and smaller family size. The higher the educational level achieved by the mother, the more likely she is to be in the labor force. The gap between the labor force participation rates of black and white married mothers has decreased throughout the '70s.

Attachment. The labor force participation rate of a particular group of individuals does not show the job attachment of those individuals. To identify how strongly attached a person is to her work is determined by the number of weeks that person worked during an entire calendar year. The proportion of working mothers who were employed full-time, all year, has increased.

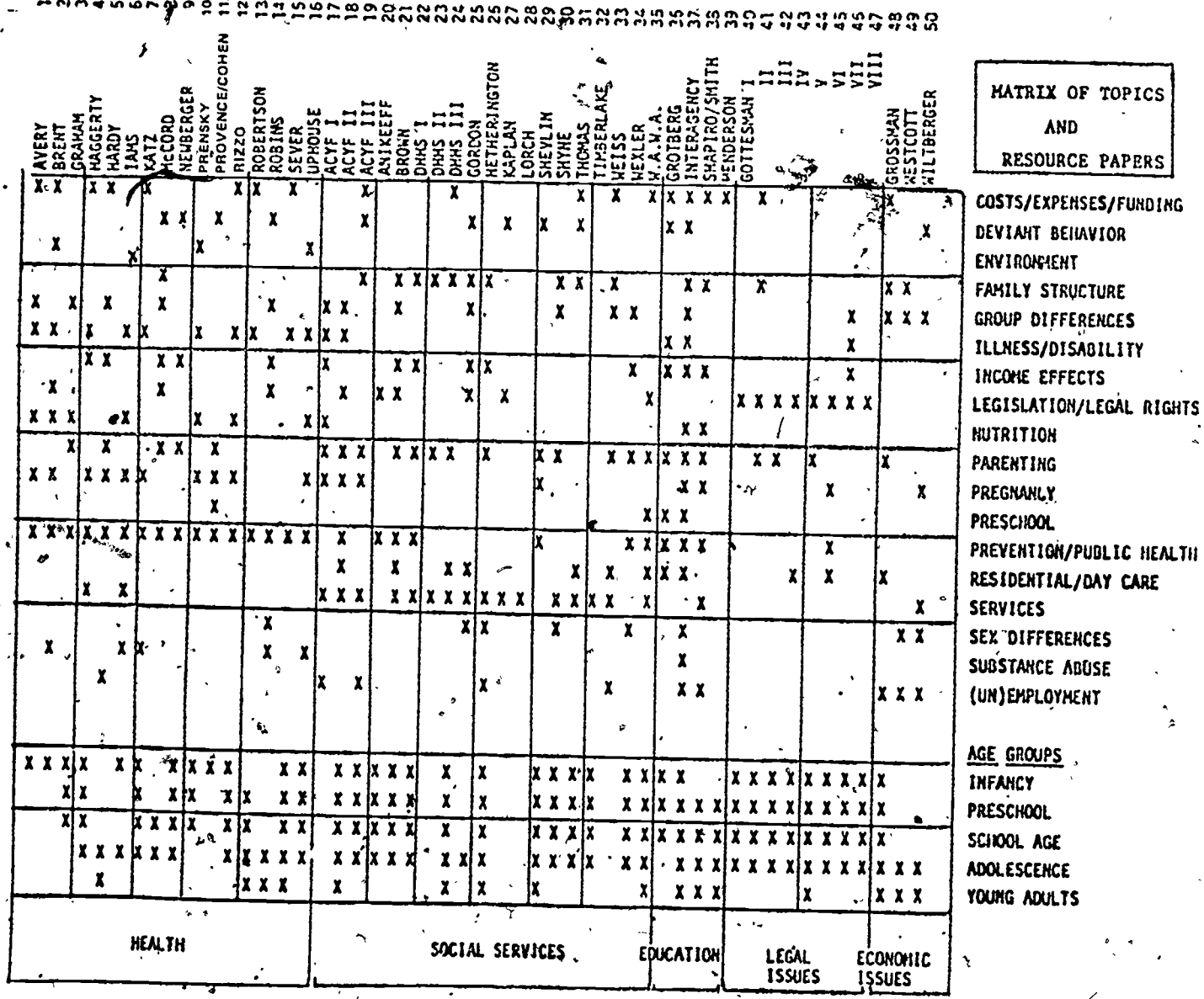
Contribution to family income. Working mothers have contributed significantly to family income.

Wives without children. A large proportion of wives without children are of ages where labor force participation is declining. As a result, more married mothers were looking for work than were wives without children. Age for age, young wives without children were more likely than those with children to be in the labor force.

Single-parent families. Since 1970, the number of one-parent families has increased substantially. In March 1980, one of every five families with children under 18 was maintained by a single parent compared to one of nine families in 1970. The accelerated growth in the number of one-parent families between 1970 and 1980 (an increase of nearly 3 million) was far greater than that registered during the preceding two decades. These 6.2 million single-parent families are of special concern, because two of every five have incomes below the poverty level, compared to one of every 17 two-parent families.

One-parent families are largely maintained by mothers; the 10% that are maintained by fathers rarely faces the economic difficulties encountered by families with a mother only.

The most prominent reasons for the increase in single-parent families during the 1970s were the rising incidence of marital breakup and the increasing number of children born to never-married women. Since 1970, the divorce rate has increased from 3.5 per thousand population to 5.3 per thousand. Also, the number of births outside marriage has increased; by 1975, unmarried women gave birth to 14% of all babies, compared with 4% in 1950. In part, this reflects increased childbearing among teenagers. In 1950, women under 20 bore 12% of all children, but by 1975, the proportion was 19%.



MATRIX OF TOPICS AND RESOURCE PAPERS

- COSTS/EXPENSES/FUNDING
- DEVIANT BEHAVIOR
- ENVIRONMENT
- FAMILY STRUCTURE
- GROUP DIFFERENCES
- ILLNESS/DISABILITY
- INCOME EFFECTS
- LEGISLATION/LEGAL RIGHTS
- NUTRITION
- PARENTING
- PREGNANCY
- PRESCHOOL
- PREVENTION/PUBLIC HEALTH
- RESIDENTIAL/DAY CARE
- SERVICES
- SEX DIFFERENCES
- SUBSTANCE ABUSE
- (UN)EMPLOYMENT

AGE GROUPS

- INFANCY
- PRESCHOOL
- SCHOOL AGE
- ADOLESCENCE
- YOUNG ADULTS

APPENDIX B

RESEARCH FORUM ON CHILDREN AND YOUTH

LIST OF RESEARCH FORUM PAPERS

Health Section

1. Prematurity: A Major Health Problem
   Gordon B. Avery

2. Report to the Interagency Panel on Early Childhood Research and Development: Birth Defects
   Robert L. Brent

3. Nutrition and Growth: Recent Research Findings and Research Priorities
   George G. Graham

4. Methods and Systems for Delivering Maternal and Child Health Care: Research Contributions
   Robert J. Haggerty

5. Teenaged Pregnancy
   Janet B. Hardy

6. Being Well-Born: Preventive Health Practices in Pregnancy and Delivery
   Jay D. Iams

7. Report on Chronic Diseases in the Pediatric Age Group
   Michael Katz.

8. Adolescent Mental Health: Delinquency
   Joan McCord

9. Child Abuse: Current Knowledge and Future Needs for Research
   Eli H. Newberger and Carolyn Moore Newberger

10. Handicaps and Developmental Disabilities
    Arthur L. Prensky

11A. Research on Infancy of Special Relevance for Mental Health
    Sally Provence

11B. Neuropsychiatric Disorders of Childhood
    Donald J. Cohen, Barbara K. Caparulo, and Bennet A. Shaywitz

12. Dental Diseases of Children and Youth
    Anthony A. Rizzo

13. Injuries to Children and Adolescents
    Leon S. Robertson

14. Epidemiology of Adolescent Drug Use and Abuse
    Lee N. Robins

15. Infectious Diseases and Immunizations
John L. Sever

16. Environmental Effects of Health with Special Emphasis on the Nervous System
Lynda L. Uphouse

Social Services Section

17. Poverty, Low Income, and Social Services
ACYF I

18. Research on Social Services
ACYF II

19. Support Systems for Families
ACYF III

20. Children and Traffic Accidents
Pamela T. Anikeeff

21. Children and Youth at Risk: A Synthesis of the Research and Comments
Frederick H. Brown

22. Children and Youth at Risk
DHHS Staff

23. Research Related to Divorce
DHHS Staff

24. Short-Term Residential Program for Female Headed Families
DHHS Staff

25. Running Away: Reaction or Revolution
James S. Gordon

26. Children and Divorce
Mavis E. Hetherington

27. Social Services and the Judicial System: A Research Summary
Janet G. Kaplan

28. Coordination of Social Services
Steven Lorch

29. Empirical Research in Social Work Health Practice with Children
Kathleen M. Shevlin, Jane E. Karkalits, and Mary O. Holden

30. National Study of Social Services to Children and Their Families: Demographic Data
Ann W. Shyne and Anita G. Schroeder

31. The Appropriateness of Treatment Modalities: Institutionalization and Foster Care
George Thomas

32. Empirical Research in School Social Work Practice
Elizabeth M. Timberlake and Chris Anlauf Sabatino

33. Single Parents
Robert S. Weiss

34. Child Abuse and Neglect
Joseph Wexler

35. Women's Alternative Center: A Residential Treatment Program for Female Headed Households with Serious Problems
A Social and Cost Analysis
Women's Association for Women's Alternatives, Inc.

Education Section

36. Research on Child Care
Edith H. Grotberg and Bernard Brown

37. Research on School Age Children and Youth
Interagency Contributions

38. Sex Education for Children and Youth
Constance Shapiro
and
Adolescent Pregnancy: A Review of the Research in Education
James F. Smith

39. Remedies for Segregation: Some Lessons from Research
Ronald D. Henderson, Mary von Euler, and Jeffrey M. Schneider

Legal Issues Section

40. Children's Legal Issues: Juvenile Justice
41. Children's Legal Issues: Divorce and Custody
42. Children's Legal Issues: Abuse and Neglect
43. Children's Legal Issues: Foster Care
44. Children's Legal Issues: Adoption
45. Children's Legal Issues: Medical Care
46. Children's Legal Issues: Education
47. Children's Legal Issues: Students' Rights
Roberta Gottesman

Economics Section

48. Children, Working Mothers, and Their Families
A.S. Grossman, H. Hayghe, and B.L. Johnson

49. An Employment Perspective of the Teenage Mother
Diane N. Westcott

50. Selections from Youth Employment Study
Heather Wiltberger

APPENDIX C

RESEARCH FORUM ON CHILDREN AND YOUTH

LIST OF MEMBER AGENCIES OF THE PANELS

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Education, U.S. Department of
Health and Human Services, U.S. Department of
Justice, U.S. Department of
Labor, U.S. Department of
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RESEARCH FORUM ON CHILDREN AND YOUTH

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