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ABSTRACT

This report re-evaluates evidence on the issue of age ranges served of handicapped children in Illinois schools, analyzes additional research on the issue, and estimates the cost that would be incurred if the current 3-21 year range were to be lowered to birth. A literature review addresses two broad areas: the identification and effectiveness of services provided to children from birth to 3 years of age (including studies of prevention and early intervention) and special education costs and cost effectiveness (including a comparison among the states). A cost estimation model is presented and used to derive an estimate of costs for expanding the special education age range below 3 years. It is concluded that, pending the results of further studies, the current mandatory age range of 3-21 should remain. (CL)

Supplementary Report

to

Special Education Mandates: A Preliminary Report

Expanding Services to Birth

Illinois State Board of Education

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Expanding Services to Birth

Purpose

In November of 1981 the first of several studies of the mandates placed on elementary and secondary education in the State of Illinois was completed by State Board of Education staff. The first report was on Special Education mandates and included assumptions and methodology for the study, a review of the legislative history for special education, an analysis of the major issues and concepts in special education, and a summary of findings, conclusions, and recommendations for action. Public comment has since been received on the preliminary findings and recommendations provided in the report.

The purpose of this report was to reevaluate the evidence presented in the Preliminary Report on Special Education Mandates regarding the issue of age ranges served, locate and review any additional evidence relating to the issue, and estimate the cost that would be incurred if the present 3 to 21 year age range were lowered to birth. Additionally, the evidence compiled was to be synthesized and used as a basis for critiquing and recommending any modifications of the recommendations and findings regarding age ranges served in the Preliminary Report.

Methodology

The purpose of this investigation was addressed in three ways. First a review of literature covered two broad areas: 1) the identification and effectiveness of services provided to children birth to three and 2) the literature concerning special education finance. Second, the historic use of various age ranges in the Illinois School Code was traced, and information describing mandated services for birth to three year olds in other states was reviewed. Third, a cost estimation model was developed utilizing: (1) 1980 Federal Census Data for Illinois, (2) prevalence rates of various handicapping categories derived from the FACTS (Funding and Child Tracking System) data and (3) estimates of per pupil costs from currently conducted programs for children in this age range and the current average orphanage tuition charges for orphans placed in special education programs in Illinois. The cost estimates are the product of the estimated number of children, ages birth to 3 years, and the per pupil costs.

Literature Review

A. Intervention and Prevention Strategies and Effectiveness Research

Overview.

The two approaches to problems of early developmental disabilities are prevention and a combination of prevention and intervention. The belief in "an ounce of prevention" and "the stitch in time" is very strong in our culture. It is logical that prevention is the best solution to developmental problems. It also seems logical that intervention in developmental problems at the stages of earliest and most rapid growth would be the most effective. McGrady (1980) commented that educators accept without question the premise that early

education is essentially good. Logical rationale, personal observations and limited research bases have led to acceptance of what intuition says is true.

The prevention approach centers around prenatal health management, such as, genetic counseling, amniocentesis, prenatal health care, prevention and treatment of infections, avoidance of drugs and other substances which might harm the development of the fetus, and improved nutrition.

The prevention/intervention approach centers around identifying children with developmental problems for early amelioration, as well as, identifying and intervening with children considered to be "at risk" for developmental problems. These risks include those of: low socioeconomic status, very young mothers, unmarried status of the mother, substance abuse or illness of the mother, prematurity, low birth weight, and medical difficulties pre-, peri-, or post-natally. There is no question that medical intervention with low weight, premature, or distressed babies has been effective. However, some of tnese infants who now survive may have certain visual and hearing impairments as a result of medical intervention. (Atkinson, 1980).

Proponents of early intervention usually cite infant deprivation studies and animal research studies which show that, for at least some species of animals, there is a critical period during which certain learning must occur (Hess, 1959). The sensory deprivation study most often cited is that conducted by Skeels and Dye (1939). Young orphanage children under the age of three who were categorized as mentally retarded were placed on wards where they received much attention from mildly retarded adolescent girls and women. These children were compared with a group of children with somewhat higher intelligence scores but who remained in the unstimulating orphanage. Over a two year period, those 13 children who received stimulation gained considerably in IQ scores while the 12 children in the contrast group showed declines in scores. Skeels (1966) did a follow-up study of these children after 21 years. He found that all of the experimental group children were self-supporting in occupations ranging from professional to domestic service. Four in the contrast groups were still institutionalized and one had died. Six were employed as unskilled laborers. The evidence is convincing that a stimulus deprived environment is detrimental to development. However one of the children in Skeel's contrast group had been placed in an "advantageous" setting as a child. He was employed as a skilled technician and had a stable marriage and four normal children. This suggests that the effects of early deprivation may not be irreversible after early childhood and indicates that the critical period is not stable.

General Research Problems

There are numerous problems in the scientific assessment of these early education/intervention programs.

The same studies are cited by various writers, as both the evidence supporting and not supporting effectiveness. The studies tend to treat "handicapped" as a homeogenous category in generalizing the results. Indeed, Behr and Gallagher (1981, p. 114) defined a handicapped child of this age as:

"A handicapped infant is a child who, from the time of birth (0) to the completion of the third year of life (3), has a high probability of manifesting, in later childhood, a sensory or motor deficit and/or mental handicap which may be the result of birth defect, disease process, trauma, or environmental conditions present during the prenatal and/or postnatal periods. Due to these factors, the infant may be unable to achieve the important developmental milestones necessary for future learning and socialization."

Datta (1973) commented that many innovative preschool programs have been done by a single dedicated researcher in a single site. Lack of replication by others makes it difficult to distinguish "between the evangelism of the program developer and the effects of other aspects" of the program (p. 7).

It is very difficult to find a control group which is truly comparable to the treatment group, especially for organically handicapped children (Ramey, Trohanis, and Hostler, 1982). If adequate control groups are found, there are ethical issues concerning with-holding services from children identified as in need of services.

Stedman (1977) identified a number of problems with forty longitudinal studies he reviewed, such as: 1) the sample size was too small to justify the amount of credibility placed on the outcomes; 2) most of the studies did not involve the subjects in the intervention program for a long enough time for an adequate test; 3) the low reliability of pre-test scores from high risk children may result in the inference that the gains are greater than they are; 4) the program evauations often over-emphasize IQ measurements and 5) there are often cultural differences among minority groups which lead to differential reactions to intervention programs. In addition, value differences between the subjects and project staffs may lead to inappropriate intervention program components.

Rostler and Hamilton (1982) and Horowitz (1982) noted the difficulty in finding measures of early development suitable for prediction and intervention planning. There is one additional problem inherent in most of the research studies. The studies are done by advocates and are subject to the problems of self-fulling prophecy and examiner expectancy found by Rosenthal (with Jacobson, 1968).

At Risk Studies

The bases of support for the efficacy of early intervention are inferential and empirical (California, 1981). The literature on intervention programs shows no universal agreement on the effectiveness.

Datta (1973, p. 4) stated that while the importance, developmentally, of the period from birth through six has been verified, this verification is balanced by "increasing evidence of substantial plasticity during later childhood, adolescence, and adulthood." Ramey, Trohanis, and Hostler (1982) suggested that intervention presumes the

malleability of the child and the environment and that educators have "often been guilty of overstating their prowess and being naive to the enormity of the task implied."

Infants. Intervention studies with "at risk" infants in the premature or intensive care nursery have centered on decreasing stimulation from the noise, activity and lights or on increasing the stimulation by handling, rocking or adding sounds. Some have tried to simulate the environment of the full term baby and others have tried to simulate the environment of the uterus. Cornell and Gottfried (1976) reviewed these stimulation studies and stated that due to "methodological differences among the studies, speculation as to the mediating mechanisms and causal relationships between stimulation and outcome would be precipitous" (p. 37). Garland et al (1981), on the other hand, concluded that whether understimulation or overstimulation had been the focus for intervention, intervention resulted in "significant advantage" to those infants who received it.

Ramey, Trohanis, and Hostler (1982), after a review by one of the authors of 18 published reports on intervention programs for high-risk infants, stated their "working conclusion" that for socially defined high-risk infants, many different early childhood special education services can have a significant and positive impact on child development.

Badger, Burns, and DeBoer (1982) reported the results of a mother education program for premature infants of low socioeconomic income mothers. Although there were positive outcomes, the infants' mental scores decreased at the second year of testing. They noted that, for mothers who were not overwhelmed with the care of other children, there was ready participation.

Early Childhood. Palmer (1977) reviewed 10 longitudinal studies of early intervention for socioecomonic disadvantaged children. He concluded that intervention at any age prior to school was shown to benefit the child. Stedman (1977) and a group of educators reviewed more than forty longitudinal intervention studies which dealt with high-risk pre-school children. They concluded that preschool education does have important and positive effects on the IQ of children, although the results are often uneven and transient. They did not feel that there was sufficient research to warrant the selection of program components as being the most effective. They also concluded that "programs have been effective with all ages and one cannot specifically support the advantages of any one year versus another. None of the studies reviewed gives support to a well defined critical period as a preference for preschool or early childhood intervention."

Eldaro, Bardley, and Caldwell (1977) did a longitudinal study of the relationship between language development in the child and mother-interaction. They found some correlations but concluded that the complexities of the relationships observed made it difficult to draw strong inferences about the meanings.

Lazar and others (1979) reviewed the findings of longitudinal studies done over a fifteen year period. They found that preschool

significantly reduced special education placements; that children who had received preschool were significantly less likely to be classified as underachievers (defined as assigned to special education classes and/or retained in grade and/or dropped out of school); and were more likely to meet the minimanl standards of their schools. No differences were found after age 13.

Atkinson (1980 p. 8) concluded that there is "a dearth of valid and reliable" research evidence for intervention with socially disadvantaged children, particularly for extending the age downward to the 0 to 3 range. She said that socially disadvantaged children benefit least and regress most and their parents appear not to have the energy or psychological resources to benefit from intervention programs.

Johnson and Griffiths (1981) observed that parents of black handicapped infants often cannot take advantage of the intervention programs available due to lack of transportation and availability of someone to care for their other children. However, Jackson (1982) stated that the data have not borne out an association between minority and low income family infant care practices and cognitive development. She suggested that the problems are poverty, oppression and racism.

Hodges and Cooper (1981) reviewed the research on Head Start programs, including the available follow-up studies. They concluded that the literature suggests at least short-term effectiveness. They point out that the fact that results are achieved in small experimental programs does not mean the results can be duplicated in the field. Page and Grandon (1981) critiqued the "Milwaukee Project" of Heber, Garber and others which is often cited as empirical evidence of intervention effectiveness. They found what they considered serious flaws in the research and concluded that follow-up studies indicate the project was not effective.

Studies on Intervention with Handicapped Children

While the inference that children from low socioeconomic homes are deprived of the stimulation necessary for optimum development is questioned, it is less questionable for sensory impaired children. Fraiberg, Smith, and Adelson (1969) reported on a group of 10 children totally blind at birth. Five also were considered socially "at-risk". All received home intervention during their first year. At 18 months all reached the normal human-object-relations expected. All were educable.

Horton (1978) cited unpublished research by a doctoral student in which 1) six hearing-impaired children (in a regular classroom with services from a resource teacher) who received amplification and whose parents received training before the children were three were compared with 2) five children (in a self-contained classroom) who received amplification and whose parents received training after the children were age three and 3) with six normal hearing children. Results revealed similar language competence in groups 1 and 3. No data were given on pre-treatment hearing levels to indicate that the groups were comparable.

Clunies-Ross (1979) reported on 36 Down's Syndrome children aged 3 to 37 months, and who had been in the program from 4 months to two years. He found that development was accelerated for all ages. No test of significance was reported. He said data suggested that the most rapid development was in those children aged 12-23 months. The trend for the Down's Syndrome infant in a home environment was said to be a progressive decline in development. He contended that these children should enter programs as soon as possible after birth.

Moore, Fredericks, and Baldwin (1981) conducted an ex post facto study of 9 to 11 year olds in trainable mentally retarded programs in Oregon. The language, academics, self-help and motor scores all showed significant differences between those who had had two years of preschool over those who had had none. Differences between those who had had only one year of preschool over those who had had none were not significant. No significant differences were found in socialization scores.

Karnes, Schwedel, Lewis, Ratts, and Estry (1981) stated that, to their knowledge, Skeels and Weikart are the only researchers who have done longitudinal studies on mentally retarded children into adulthood. Karnes did not systematically follow her preschool children who were classified as retarded after they left the program, but for three years, she did assess the children's placement for retardation. None were so placed.

Simmons-Martin (1981) reported a longitudinal study on 44 deaf children over a two and a half year period. They entered the program between the ages of 2 and 3.5 years. A parent training model was used. Language ability scores increased consistently and reliably through all age ranges.

Schweinhart and Weikart (1981) reported on the Perry preschool program which has been referenced in many articles on effectiveness. The children included were considered to be "borderline retarded" and at risk for school failure. They were followed through age 15. The treatment group exceeded the control group in IQ scores for kindergarten and first grade. The groups were equivalent by the end of second grade. The preschool group of children expressed more commitment to school and had higher aspirations. Only half as many required special education as compared to students in the control group.

Denloff (1981) who worked with cerebral palsied infants concluded that the benefits of infant enrichment programs outweigh the disadvantages. Ferry (1981) disagreed, stating that there is no valid evidence that such programs alter neurological development in high-risk or neurologically handicapped children.

A California report (1982) cited a national Handicapped Children's Early Education Program (HCEEP) study done in the mid-1970's which followed 9,600 biologically impaired children with various handicapping conditions and who had participation in preschool programs. The greatest gains were in social skills and the least in motor development. Two thirds were in regular classrooms where their cognitive and social development was teacher-rated to be advanced over children with similar handicaps without preschool.

B. Special Education Costs and Cost-Effectiveness Literature

A number of studies have been undertaken in attempts to identify and estimate the costs of special education, including studies by McLure (1965, 1970), McLure and Henderson (1975), Rossmiller, Hale and Frohreich (1970), and Kakalik, Furry, Thomas and Carney (1981). The results of all of these studies summarized in Table 1, indicate that the costs of providing special education tend to be relatively higher on a per pupil basis than the costs to provide "regular" education, and further indicate that the per pupil costs of special education vary substantially depending upon the types of handicapping conditions involved, the particular types of services and intensity of services provided to the categories of handicapped children, and the numbers of children served within each category of handicapping condition.

These studies, as a group, cite five inherent limitations involved in identifying the costs of special education including: a) an almost continuous change in the applicable definitions of handicapped children which results in reducing the comparability of data from one state to another or within states relative to data from one year to the next; b) a lack of uniformity across the states, and within the states, relative to the institutional and other environments in which special education services are actually delivered. This can significantly influence the consequent costs; c) a lack of uniformity over a period of years regarding precisely what services are considered special education services, which are regular education services, etc.; d) a lack of uniformly applied cost accounting practices; and e) a lack of uniformity in the units of measure used to describe pupils and the services which they receive. All of these limitations affect the accuracy and confidence that can be placed upon cost estimates deduced from the application of cost differentials to standard per pupil cost estimates and estimates of the numbers of pupils to be served by special education (which are generally computed on the basis of prevalence rates of handicapping conditions).

Prevalence rates are simply percentages of the population that would be expected to exhibit certain handicapping conditions and are frequently used as a means of estimating the numbers of children that would be expected to be found in need of special education services. Appendix A presents six sets of prevalence rates developed by Rossmiller (1970), the Office of Superintendent of Public Instruction in Illinois (1965), and Kashowitz (1977) which have been cited in the literature. Review of these Tables reveals that there are differences in the categories of handicaps for which prevalence rates are presented, as well as substantial differences in the percentages of handicapped children that would be deduced by applying the prevalence rates to any population figures. The prevalence rates range from a total of 6.455% to a high of 19.55%. Thus, as few as 6% or as much as 19% of a population might be expected to reflect one or more handicapping conditions. These data clearly show the uncertainty surrounding the identificaton of the handicapped population; they are significant in that the numbers of children to be served constitute one of the key factors affecting the costs of special education.

Table 1
Special Education Categories and Cost Differentials
from Four Major Sources

Rossmiller 1970	
EMR (EMH)	1.87
TMR (TMH)	2.10
Auditorily Handicapped	2.99
Visually Handicapped	2.97
Speech Impaired	1.18
Physically Handicapped	3.64
Neurological and Special Learning Disorder	2.16
Emotionally Disturbed	2.83
Multiply Handicapped	2.73

Kakalik 1981	
EMR (EMH)	2.30
TMR (TMH)	3.3
Auditorily Handicapped	3.09
Deaf	4.43
Visually Handicapped	2.74
Blind	5.86
Speech Impaired	1.37
Physically Handicapped	2.15
Neurological and Special Learning Disorder	2.74
Emotionally Disturbed	3.81
Multiply Handicapped	4.63

Mclure 1975	
EMH	1.90
TMH	2.80
Behavior Disordered	2.80
Educationally Handicapped	2.80
Learning Disabled	2.80
Physically Handicapped	4.10
Deaf	4.10
Hearing Impaired	4.10
Speech Impaired	4.10
Partially Sighted	5.50
Blind	5.50
Brain Impaired	5.50
Preschool Special Education	4.10
Multiply Handicapped	4.10

Florida Categories	
EMH	2.30
TMH	3.00
Physically Handicapped	3.50
Physical and Occupational Therapy (part-time)	6.00*
Speech and Hearing Therapy (part-time)	10.00*
Deaf	4.00
Visually Handicapped (part-time)	10.00
Visually Handicapped	3.50
Emotionally Disturbed (part-time)	7.50*
Emotionally Disturbed	3.70
Socially Maladjusted	2.30
Learning Disabled (part-time)	7.50*
Learning Disabled	2.30
Home and Hospital Bound (part-time)	15.00*

*Part-time served on an itinerent basis raising the per pupil costs.

A cost-differential is an index number that represents the cost to serve one "typical" handicapped child compared to the cost to serve a "typical" non-handicapped child.

A second source of special education cost estimates includes reports from a number of individual projects serving particular groups of handicapped children, and averages of tuition costs for some groups of children available from state reimbursement records. The costs per child cited in the reports reviewed ranged from a low of $625 per child, reported by a program called Project Sunrise operated by Eastern Montana College, to a high of $3,627 per child reported in the case of two Preschool Model Classrooms operated in conjunction with the Early Lifestyle Program at King's Daughters' School.

These programs and their costs were summarized in a monograph published by the Rural Network (in Garland, et. al. 1981). Per child costs of $2,000 and $2,500 were reported for two programs providing early intervention for handicapped children in Illinois in an unpublished manuscript distributed by the Illinois First Chance Consortium (Hutiger, 1981), while the average cost per pupil indicated by the average per capita tuition charge for orphans in Illinois was $2,750. In each of these cases however, the per pupil costs are applicable to a relatively small group of children, usually 15 to 40, and are limited to a program serving only one particular type of handicapped child.

These per pupil cost estimates do not necessarily provide a valid indication of the per pupil costs that would be experienced in a comprehensive system of special education services to a large and diverse population of handicapped children. Nevertheless, these costs figures provide the best estimates of the per pupil costs that might be expected to be incurred if the age range of the special education mandate were expanded. The cost estimate presented in a later section of this report used these reported per pupil costs in the calculations of total costs to determine the range of possible costs.

Several studies claiming to document the cost-effectiveness of early intervention programs for handicapped children were reviewed, including those by Weiss (1981), Garland, et al (1981) and the California State Department of Education (1982). All of these studies suffer from two basic weaknesses; 1) methodological problems stemming from the assumptions upon which the cost savings due to early intervention are estimated, and 2) the early intervention programs upon which costs are based are limited in scope and do not reflect a comprehensive delivery system of special education services to a diverse population of handicapped children.

These limitations are not surprising given the lack of accurate data detailing the costs of current special education programs and other educational programs and services on the one hand, and the limited data documenting the effectiveness of many special education programs on the other hand. In order to be cost effective, the program must first be proven effective, and then it must be proven that the costs incurred in providing the program result in greater cost savings in subsequent years. Basically such proof entails longitudinal studies which are both difficult and expensive to conduct.

Comparisons Among the States

Six states (Iowa, Maryland, Michigan, Nebraska, South Dakota and Wyoming) mandate special education services from birth, Virginia

mandates services at age 2, ten states including Illinois mandate services from age 3, six states mandate services at age 4; sixteen states mandate services at age 5, ten states mandate services at age 6, and New Mexico has no mandatory age range for services. Many states have a provision for permission service for handicapped children below age three. In addition some young handicapped children are served through private and charitable institutions and other state programs. Illinois has a number of these programs (Hubinger, 1981). Appendix B lists for each state, the type of special education funding approach used; the types of mechanism and categories used to distribute funds for special education; the mandatory age ranges served by special educaton, and other special provisions regarding persons to be or who may be served by special education.

Information concerning four of the states that mandate special education services from birth (Iowa, Maryland, Michigan, and Nebraska) was compiled by Anderson and Black (1981). The mandate is administered differently in each state. Iowa is divided into fifteen Area Education Agencies (AEAs) which have the major responsibility for the quality of special education in the state. In Maryland the SEA administers the program. In Michigan the services are coordinated at the local level and monitored by the SEA. In Nebraska primary responsibility is with local education agencies who report numbers served to the SEA.

In Iowa the eligible handicapping conditions are hearing impairment, visual impairment, learning disability, emotional disability, severe/profound handicap, or communication or mental disability. A child can be given a "deferred diagnosis" if considered in need of early intervention but the specific handicapping condition has not been determined. This category can be used only to age three. In Maryland children with any of eleven handicapping conditions enumberated under Maryland law are eligible from birth. In Michigan eligible handicapping categories are severe multiple impairment, severe mental impairment, speech/language impairment, or pre-primary impairment. This last classification is for children under five who have impairment in development equal to fifty percent of what is expected for their age. In Nebraska eligibility is essentially the same as for older children. There is no provision for "at risk" infants.

Both Iowa and Maryland fund their programs through State funds, P.L. 94-142 Part B funds, and local funds. Michigan programs are funded through state and local monies funds and in Nebraska almost all services are paid for by P.L. 94-142 Part B funds. All four of these states mainly use a home-centered program with parent training.

Analysis of Data

Cost Fstimate of Expansion on Age Range Served in Illinois

In order to estimate the cost of expanding the lower age limit for special education to birth, a three stage design was followed. The first stage was to the estimate of the number of children between the ages of birth and 3 years who would require special education services. The second stage was to the estimate of the costs involved in serving various types or categories of special education needs. The third stage was to estimate of the cost of expanding the special education mandate to include children from birth.

The data necessary to support this study were obtained from the FACTS computer file for 1982, and from corresponding special education appropriations and claim data obtained from the Finance and Reimbursements Section of the State Board of Education.

The methodology for computing both the estimate of the numbers of eligible children and the per pupil costs of services involved adoption of two basic assumptions. First, it was assumed that the 3 to 5 year age range of current special education pupils would accurately reflect the proportions of children under age 3 that would require special education services. Second, it was assumed that the current per pupil costs of special education services would provide the best estimate of per pupil costs applicable to the zero to 3 year age range. Given these assumptions the estimation of the cost to expand the special education age range below the current 3 year old limit was a matter of simple computation. These computations are shown in the following section.

1. How many children, ranging in age from birth to three years old, could be expected to require special education services?

   In the absence of reliable data describing the numbers and characteristics of children under 3 years of age who would require specialized educational services, the number of such children must be estimated. The number of children receiving special education services between the ages of 3 and 5 years appears to provide the best basis for such an estimate since this group of children is physically, psychologically and developmentally the nearest to the 0 to 3 year age range. Table 2 displays the numbers of 3 to 5 year olds grouped according to the various special education categories currently in use. It is presumed that equal proportions of 0 to 3 year olds would exhibit the characteristics of the 3 to 5 year old age groups, resulting in the numbers of children in each category of special education as shown in Table 3. There is, however, some question regarding the extent to which current practices actually identify all handicapped 3 and 4 year olds, based upon comparisons of FACTS and Census data.

   Table 4 shows that in 1980 only 8,458 of approximately 227,655 three and four year olds (2.51%) currently receive special education services. In contrast, 135,906 children between ages 5 and 13 or 11.28% of the population approximately 111,605 received special education services.

   Minorities, especially, appear to be under-represented. Tables 5 and 6, which expand upon the pre-kindergarten and elementary level data presented in Table 4, show the detail of the special education child counts by handicapping category as well as racial/ethnic group. About 82.1% of the pre-K special education population are white, while only 76.1% of the elementary level special education population are white. The most striking examples from these tables is found to be the EMH category, where among 3 and 4 year olds, 73.2% are white and 22.4% are black. Among elementary level special education students, the corresponding percentages are 48.7% and 46.3% for white and black children respectively. These data raise questions regarding how effective current practices are in identifying handicapped 3 and 4 year olds in general and handicapped minority children in particular.

TABLE 2

NUMBER OF SPECIAL EDUCATION CHILDREN SERVED, AGES 3 AND 4

1980 AGES 3 AND 4	IN PUBLIC SCHOOL	% OF TOTAL 3-4	IN PRIVATE FACILITIES	% OF TOTAL 3-4	PRIVATE FACILITY PLACEMENT: IN STATE DAY	% OF TOTAL 3-4	IN STATE RESIDENT	% OF TOTAL 3-4
TRAINABLE MENTALLY H.	269	0.08	108	0.03	79	0.02	29	0.01
EDUCABLE MENTALLY H.	324	0.10	4	0.00	4	0.00		0.00
PHYSICALLY HANDICAPPED	370	0.11	56	0.02	38	0.01	18	0.01
LEARNING DISABLED	1022	0.31		0.00		0.00		0.00
VISUALLY IMPAIRED	54	0.02	10	0.00	9	0.00	1	0.00
DEAF	122	0.04	2	0.00		0.00	2	0.00
DEAF/BLIND	8	0.00		0.00		0.00		0.00
HARD OF HEARING	97	0.03		0.00		0.00		0.00
SPEECH/LANGUAGE	4547	1.40	23	0.01	20	0.01	3	0.00
EDUCATIONALLY H.	259	0.08	1	0.00	1	0.00		0.00
BEHAVIOR DISORDERED	322	0.10	21	0.01	20	0.01	1	0.00
OTHER HEALTH IMPAIRED	177	0.05	16	0.00	11	0.00	5	0.00
MULTI-HANDICAPPED	203	0.06		0.00		0.00		0.00
TOTAL	7774	2.39	241	0.07	182	0.06	59	0.02

TOTAL PUBLIC/PRIVATE PLACEMENT: 8015
TOTAL POPULATION AGES 3 AND 4: 325687 TOTAL % 2.46

TABLE 3

PROJECTED NUMBER OF SPECIAL EDUCATION CHILDREN AGED 0 TO 3

FOR BIRTH TO AGE 3	PROJECTED IN PUBLIC SCHOOL	PROJECTED IN PRIVATE FACILITIES	PROJECTED IN STATE DAY	PROJECTED IN STATE RESIDENT
TRAINABLE MENTALLY H.	427	171	125	46
EDUCABLE MENTALLY H.	514	6	6	0
PHYSICALLY HANDICAPPED	587	89	60	29
LEARNING DISABLED	1621	0	0	0
VISUALLY IMPAIRED	86	16	14	2
DEAF	193	3	0	3
DEAF/BLIND	13	0	0	0
HARD OF HEARING	154	0	0	0
SPEECH/LANGUAGE	7212	36	32	5
EDUCATIONALLY H.	411	2	2	0
BEHAVIOR DISORDERED	511	33	32	2
OTHER HEALTH IMPAIRED	281	25	17	8
MULTI-HANDICAPPED	322	0	0	0
TOTAL	12330	382	289	94

TOTAL PROJECTED PUBLIC/PRIVATE PLACEMENTS: 12712
TOTAL POPULATION, 0 TO 3: 516554

TABLE 4

1980 ILLINOIS POPULATION ESTIMATES BY RACE AND AGE LEVEL COMPARED WITH STUDENTS RECEIVING SPECIAL EDUCATIONAL PROGRAMS, 1980 (FACTS)+

AGE/LEVEL: 3 AND 4 YEARS OF AGE

RACE	WHITE	%	BLACK	%	HISP	%	OTHER	%	TOTALS	%
POPULATION	227655	67.62	63750	18.94	33420	9.93	11824	3.51	336650	
FACTS	6946	82.12	1163	13.75	258	3.05	91	1.08	8458	2.51

AGE/LEVEL: 5 THROUGH 13

RACE	WHITE	%	BLACK	%	HISP	%	OTHER	%	TOTALS	%
POPULATION	1116058	70.46	303588	19.17	121715	7.68	42646	2.69	1584007	
FACTS	135906	76.10	33291	18.64	6825	3.82	2575	1.44	178597	11.28

AGE/LEVEL: 14 THROUGH 18

RACE	WHITE	%	BLACK	%	HISP	%	OTHER	%	TOTALS	%
POPULATION	740879	74.11	174128	17.42	64217	6.42	20510	2.05	999734	
FACTS	30583	71.42	10362	24.20	1391	3.25	483	1.13	42819	4.28

AGE/LEVEL: 19 THROUGH 21

RACE	WHITE	%	BLACK	%	HISP	%	OTHER	%	TOTALS	%
POPULATION	384156	74.71	81469	15.84	35926	6.99	12678	2.47	514230	
FACTS	6380	69.44	2396	26.08	301	3.28	111	1.21	9188	1.79
STATE TOTL	2468748	71.88	622935	18.14	255279	7.43	87658	2.55	3434620	
FACTS TOTL	179815	75.22	47212	19.75	8775	3.67	3260	1.36	239062	6.96

+ POPULATIONS ESTIMATES FROM U. S. BUREAU OF CENSUS DATA
SPECIAL EDUCATION DATA FROM FACTS FORM ISBE 34-30
PERCENTAGES MAY NOT EQUAL 100% DUE TO ROUNDING.

NOTE: NUMBERS VARY BETWEEN TABLES SHOWING SPECIAL EDUCATION DATA DUE TO COUNTS DONE ON DIFFERENT DATES.

TABLE 5

DISTRIBUTION OF 3 AND 4 YEAR OLD SPECIAL EDUCATION STUDENTS BY RACE AND HANDICAP

HANDICAP	WHITE	%	BLACK	%	HISP	%	OTHER	%	TOTAL
TRAINABLE MENTALLY HANDCPD.	300	78.95	53	13.95	22	5.79	5	1.32	380
EDUCABLE MENTALLY HANDCPD.	320	73.23	98	22.43	12	2.75	7	1.60	437
PHYSICALLY HANDICAPPED	366	85.92	40	9.39	13	3.05	7	1.64	426
LEARNING DISABLED	1090	86.85	114	9.08	37	2.95	14	1.12	1255
VISUALLY IMPAIRED	51	77.27	6	9.09	8	12.12	1	1.52	66
HARD OF HEARING	91	91.92	4	4.04	3	3.03	1	1.01	99
DEAF	116	93.55	6	4.84	2	1.61	0	0.00	124
DEAF/BLIND	7	87.50	1	12.50	0	0.00	0	0.00	8
SPEECH/LANGUAGE IMPAIRED	3698	80.48	722	15.71	128	2.79	47	1.02	4595
EDUCATIONALLY HANDICAPPED	252	83.17	36	11.88	13	4.29	2	0.66	303
BEHAVIORAL DISORDED	313	83.47	47	12.53	11	2.93	4	1.07	375
OTHER HEALTH IMPAIRED	152	81.28	25	13.37	8	4.28	2	1.07	187
MULTI-HANDICAPPED	190	93.60	11	5.42	1	0.49	1	0.49	203
FACTS TOTALS	6946	82.12	1163	13.75	258	3.05	91	1.08	8458
POPULATION %		67.62		18.94		9.93		3.51	

POPULATION TOTAL: 336650 % POPULATION SERVED: 2.51%

TABLE 6

DISTRIBUTION OF 5 TO 14 YEAR OLD SPECIAL EDUCATION STUDENTS BY RACE AND HANDICAP*

HANDICAP	WHITE	%	BLACK	%	HISP	%	OTHER	%	TOTAL
TRAINABLE MENTALLY HANDCPD.	3011	78.86	616	16.13	149	3.90	42	1.10	3818
EDUCABLE MENTALLY HANDCPD.	9277	48.71	8821	46.32	804	4.22	142	0.75	19044
PHYSICALLY HANDICAPPED	1891	86.58	214	9.80	58	2.66	21	0.96	2184
LEARNING DISABLED	53109	79.99	10264	15.46	2481	3.74	538	0.81	66392
VISUALLY IMPAIRED	715	74.40	176	18.31	54	5.62	16	1.66	961
HARD OF HEARING	1106	80.55	178	12.96	67	4.88	22	1.60	1373
DEAF	643	87.01	70	9.47	18	2.44	8	1.08	739
DEAF/BLIND	23	95.83	0	0.00	0	0.00	1	4.17	24
SPEECH/LANGUAGE IMPAIRED	54295	80.54	8802	13.06	2688	3.99	1627	2.41	67412
EDUCATIONALLY HANDICAPPED	3216	65.49	1423	28.98	194	3.95	78	1.59	4911
BEHAVIORAL DISORDED	7486	71.94	2580	24.79	269	2.59	71	0.68	10406
OTHER HEALTH IMPAIRED	805	85.73	103	10.97	22	2.34	9	0.96	939
MULTI-HANDICAPPED	329	83.50	44	11.17	21	5.33	0	0.00	394
FACTS TOTALS	135906	76.10	33291	18.64	6825	3.82	2575	1.44	178597
POPULATION %		70.46		19.17		7.68		2.69	

POPULATION TOTAL: 1116058 % POPULATION SERVED: 11.28%

*FROM FUNDING AND CHILD TRACKING SYSTEM (ISBE 34-30) COUNTS, 1980.

2. What is the current cost per special education child for the services which the zero to three year old population would be expected to require?

The cost of providing special education services for one child varies substantially, as it depends upon whether the child requires extraordinary special educational services or regular special education services. Current costs for extraordinary special education services range from $6.00 per child to $61,000 per child. Costs for regular special education services, based upon the per capita costs used in computing tuition chargebacks, average $2,752.65 per child. Table 7 displays the average per child costs of regular special education services, and other per pupil costs as previously cited.

3. How much would it cost to expand the current special education age range below these years?

Given the estimated number of children below age three as shown in Table 3, and the costs per pupil as shown in Table 7. The same broad spectrum of services now provided to 3 to 5 year old is assumed. The expected cost of expanding the age range of the special education mandate ranges from a low value of $24,660,000 ($2,000 x 12,330 pupils) to a high value of $33,907,500 ($2,750 x 12,330 pupils). Given the uncertainty in both the estimated number of children and in the per pupil costs, the high figure of $33,907,500 seems to be the better estimate.

Table 7

Cost/Pupil	Source
$ 2,000	Hutinger (1981)
$ 2,500	Hutinger (1981)
$ 2,750	FY 81 Orphan's Tuition Claims Under Section 14-7.03 of the School Code
$ 6.00	Minimum Education Cost Claimed Under Section 14-7.02 of School Code from FACTS file for FY
$61,000	Maximum Education Cost Claimed Under Section 14-7.02 of School Code from FACTS file FY

Summary of Cost Findings

Based upon analysis of estimated pupil data and cost data, it was concluded that the most reasonable estimate of the cost to expand the special education age range below three years of age was $33,907,500. Estimated costs ranged from as low as $24.6 million to as high as $33.9 million. The wide range in cost estimates resulted from uncertainty with respect to both the numbers of children that would be involved and the associated per pupil costs. Not included in these estimated cost figures are transportation costs or costs for extra-ordinary care since

these costs depend upon the type of delivery system used in the former instance and upon specific identification criteria in the latter instance.

Findings, Conclusions and Recommendations

Findings

Findings from a review of the literature are summarized as follows:

1. There is some research which indicates at least short-term effectiveness under particular conditions for intervention with certain handicaps, such as Down's syndrome and sensory impairment. The research does not support the broad generalization that early intervention, especially in infancy, is effective across the full spectrum of handicapping conditions that might be encompassed by expanding the age range served from three years to birth. Long term effectiveness has not been established nor has optimum age or type of intervention program. There is no evidence that the results can be replicated in the field on a large scale. "Handicapped" has been used as a generic term with little consideration given to type and severity of handicap. The tendency to generalize to broad, loosely defined handicapped populations is not valid. In many cases examiner expectancy appears to be in effect, i.e., infant intervention studies show effectiveness whether stimulation is increased or decreased.

2. Special education pupil counts submitted to the Illinois State Board of Education suggest that handicapped children between the ages of 3 and 5 years of age may be underserved even though these children fall within the purview of the existing mandate. Approximately 2.5% of this age range is served through special education programs compared to 11.3% of Illinois children ages 5 to 14.

3. Expansion of the mandatory age range served from 3 years of age to birth was estimated to involve additional costs of from $24.6 million to $33.9 million exclusive of transportation costs or costs for extraordinary care.

4. An indeterminent number of children ranging in age from birth to three years are currently being served by private and charitable institutions and providers as well as through some programs operated by state agencies.

Conclusions

Based on these findings, most of the language regarding ages served presented in the findings and conclusions of the Preliminary Report on Special Education Mandates on page 45 is appropriate. However, it is recommended that the conclusion be modified to read as follows:

The feasibility and effectiveness of lowering the required age range from 3 years to birth, and requiring increased child find screening efforts, should be examined. The benefits of schooling realized by handicapped students at the upper end of the age range should be studied, and this limit considered as a part of the Board's later analysis of the general issue of school age mandates. Pending the results of these studies, and a comprehensive evaluation of state health, welfare and education programs and policies for children in general, the current mandatory age range of 3 to 21 years should remain.

Recommendations

As a result of the findings and cost estimates presented above, the following recommendations seem warranted:

1. That research into the effectiveness of special education programs and services, across the full age range from birth through 21 years, and focusing upon both short-term and long-term effectiveness be undertaken by the special education research community.

2. That research into current cost accounting practices of special education providers, and the feasibility of standardizing cost accounting and reporting practices, be conducted jointly by staff representing the state agencies and private agencies currently providing services.

3. That a conference be convened or commission charged with reevaluating and articulating state policies and each state agency's responsibilities for provision of health, education and welfare services on behalf of all children, and the most appropriate means of delivering and financing the various services.

APPENDIX A

Estimates of the Prevalence of Various Types of Handicaps

Category	Estimated Prevalence (%) I[a]	II[b]	III[c]
Educable Mentally Handicapped	1.3	4.0	2.0
Trainable Mentally Handicapped	.24	.3	.25
Auditorily Handicapped	.10	2.0	.1
Visually Handicapped	.05	.25	.1
Speech Handicapped	3.6	7.8	5.0
Physically Handicapped	.21	1.0	.2
Learning Disabled	1.12	2.0	1.0
Behaviorally Handicapped	2.00	2.2	2.0
Multiply Handicapped	.07	NE	.05
Home/Hospital Care			.25
TOTAL	8.69	19.55	10.95

N.E. – No estimate

a. Estimates used by Rossmiller *et al* for the NEFP study.

b. Liberal estimates compiled by Rossmiller *et al* from U.S. Office of Education data.

c. Estimates used by the Task Force. These do not include students served only by school social workers or psychologists who are not in special educational programs.

Source: Estimates from Columns I and II from Richard A. Rossmiller, "Resource Configurations and Costs in Educational Programs for Exceptional Children" in National Educational Finance Project, vol. 3, p. 61.
Column III: Adapted from OSPI *Special Education – Guidelines for County Advisory Committees*, 1965, p. 7.

Incidence Estimates: Range of Estimated National Rates by Major Handicapping Disability for Children of School Age (Ages 6-17 Inclusive)

Major Handicapping Disability	Range of Prevalence Rates (per 100 Children) Low	High	BEH Estimate (Ages 6-19)
Mentally Retarded	1.3	2.3	2.3
Hard of Hearing	0.3	0.5	0.5
Deaf	0.075	0.135	0.075
Speech Impaired	2.4	4.0	3.5
Visually Handicapped	0.05	0.16	0.1
Emotionally Disturbed	1.2	2.0	2.0
Orthopedically Impaired	0.065	0.75	0.5
Other Health Impaired	0.065	0.75	0.5
Specific Learning Disabilities	1.0	3.0	3.0
Total	6.455	13.595	12.035[1]

[1]Includes 0.06% in Deaf-Blind and other multiply handicapped not included in other categories.

Source: Kaskowitz, David H. *Validation of State Counts of Handicapped Children, Volume II — Estimation of the Number of Handicapped Children in Each State*. Menlo Park, Calif.: Stanford Research Institute, July 1977.

APPENDIX B

State	Funding Approach	Distribution of Funds: Mechanism	Distribution of Funds: Categories*	Ages for Which Service is Mandated	Other Special Provisions
Alabama	Resources	Teacher units for approved classes		6 - 21	Deaf and blind may be served from age 3. LEAs with kindergarten must begin service at age 5.
Alaska	Resources	Classroom units based on number of special ed pupils		3 - 19, inclusive	
Arizona	Students	Weighted per pupil within a consolidated formula	3	6 - 21	Services permitted from age 3. LEAs with kindergarten must begin service at age 5.
Arkansas	Costs	Reimbursement for excess costs of approved classes		6 - 21, inclusive	LEAs with kindergarten must begin service at age 5.
California	Resources/ Costs	Master plan: Unit allocation plus cost factor	3 categories based on placement and required services	4 yrs., 9 mos. - 18, inclusive	Services permitted from birth. Services required from 19 - 21 for students who have not completed high school or individual course of study. Non-public school and special school aid also provided.
Colorado	Costs	Reimbursement for portions of personnel, transportation, and materials costs		5 - 21 (or until graduation)	Services permitted from age 3. Prevalence limits.
Connecticut	Costs	Reimbursement for portion of excess costs, depending on district wealth defined in guaranteed tax base formulas		4 - 21 (or until graduation)	Service required from age 3 for hearing impaired.
Delaware	Resources	Classroom units	11, based on handicapping condition	4 - 21	Services permitted from birth for deaf/blind and hearing impaired.
Florida	Students	Weighting scheme keyed to base student allocation; multiple factors	15, based on handicapping condition and full- vs. part-time service	5 - 17, inclusive	Services to begin at kindergarten and continue for 13 years. Services permitted at age 3. Eighty percent of funds generated by students in a particular program must be spent on that program. Some prevalence limits.
Georgia	Resources	Weighted classroom units	11, based on handicapping condition	5 - 18, inclusive	Services permitted from birth to age 4 and 19 - 21.
Hawaii	Students			6 - 20	Services permitted from age 3 - 5.
Idaho	Resources/ students	Reimbursement for 80% of allowable salaries for teachers, aides, ancillary personnel, directors, and supervisors plus additional student weighting for exceptional children	3, based on number of children served	5 - 21, inclusive	Services permitted from birth to age 4.
Illinois	Resources/ costs	Flat grant per certified special education employee and approved aide; reimbursement of excess costs for severely handicapped students in district-operated program		3 - 21, inclusive	
Indiana	Students	Weighting scheme keyed to basic grant support	13, based on handicapping condition	6 - 18	

State	Funding Approach	Distribution of Funds: Mechanism	Distribution of Funds: Categories*	Ages for Which Service is Mandated	Other Special Provisions
Iowa	Students	Weighting scheme keyed to foundation aid	3, based on handicapping condition	Birth - 20, inclusive	
Kansas	Resources	Per-teacher allocation plus reimbursement for 80% of transportation costs		5 - 21 (or completion of appropriate curriculum)	Services permitted from birth to age 5. Placements must be reviewed every 12 weeks.
Kentucky	Resources	Classroom units for teachers in approved programs		5 - 17	Services permitted for ages 18 - 21.
Louisiana	Resources	Classroom units plus allowances for other staff and transportation	18, based on handicapping condition	3 - 21	
Maine	Costs	Allocations of 100% of costs in prior year		5 - 20	
Maryland	Costs	Reimbursement for excess costs	Based on placement	Birth - 21	
Massachusetts	Students	Weighting scheme keyed to basic student allocation	2, based on placement services	3 - 21, inclusive	Prevalence limits. Eighty-five percent of funds distributed through Chapter 70 formula must be spent on programs where they were generated.
Michigan	Costs	Reimbursement for up to 75% of added costs for approved programs, subject to appropriation cap		Birth - 26, (or completion of high school)	
Minnesota	Resources	Reimbursement for 69% of staff salaries up to $12,000 per person plus 5% of salary with no cap or 70% of salaries		4 - 21, (or completion of secondary program)	

State	Funding Approach	Distribution of Funds: Mechanism	Distribution of Funds: Categories*	Ages for Which Service is Mandated	Other Special Provisions
Mississippi	Resources	Teacher units for approved classes		6 - 20, inclusive	
Missouri	Resources	Classroom units for approved classes	Based on handicapping condition	5 - 20, inclusive	Allowable class size varies with handicapping condition. Services permitted from age 3 - 4.
Montana	Costs	Full reimbursement for allowable costs		3 - 21, inclusive	Birth - 2 required under certain circumstances.
Nebraska	Costs/ students	Reimbursement for 90% of allowable excess for per-student costs	3, based on placement and services	Birth - 21	
Nevada	Resources	Classroom units for approved classes; maximum of 1 unit per 9 teachers in regular program		3 - 21 (or completion of 12 grades)	
New Hampshire	Costs	Reimbursement for costs exceeding twice the state average per-pupil cost		3 - 21	
New Jersey	Students	Weighting scheme keyed to state average per pupil cost	12, based on handicapping condition	5 - 21	Services permitted below age 5 and above age 20.
New Mexico	Students	Weighting scheme keyed to basic support	4, based on placement, services		
New York	Students/ costs	Weighting scheme keyed to equalization aid		5 - 21	Funds attributable to special needs students must be spent on services to those students.
North Carolina	Resources	Classroom units based on enrollments		5 - 17, inclusive	Services permitted from birth to age 4 and 18 - 21.

State	Funding Approach	Distribution of Funds: Mechanism	Distribution of Funds: Categories*	Ages for Which Service is Mandated	Other Special Provisions
North Dakota	Costs	Reimbursement for costs up to 3 times state average per pupil cost and 4 times state average transportation and equipment costs	Based on handicapping condition	6 - 21	Services permitted from birth to age 6.
Ohio	Resources/ students	Flat grant plus salary for allowances for classroom units; per-pupil allocations for certain services		5 - 21	
Oklahoma	Students	Weighting scheme	3 (handicap, size of school, grade level)	4 - 17, inclusive	No minimum age specified for visually impaired/hearing impaired. Service required at age 3 for severely multi-handicapped and severely handicapped, with 12 years of schooling required.
Oregon	Costs	Reimbursement of 30% of approved costs, subject to appropriation cap		6 - 20, inclusive	Services permitted from 3 - 5 and at age 21.
Pennsylvania	Costs	Reimbursement of 100% of approved excess costs for pupils in special classes operated by district or intermediate unit; 75% of tuition and maintenance costs to ceiling for student in approved private schools	Cost ceilings for students in private schools vary by handicapping condition	6 - 21	Service permitted from birth. LEAs with kindergarten must begin services at age 5.
Rhode Island	Costs	Reimbursement for excess costs		3 - 21 (or completion of high school)	
South Carolina	Students	Weighting scheme keyed to basic support program	8, based on handicapping condition	5 - 21	Services required at age 4 for hearing impaired.
South Dakota	Students	Student allocation based on full-time equivalent		Birth - 21, inclusive	
Tennessee	Students	Additional student weighting for each special education student	All handicapped students weighted the same	4 - 21, inclusive	Services required at age 3 for hearing impaired/deaf. Minimum of 85% of state funds be spent in programs where they are generated.
Texas	Resources/ students	Classroom units based on district's ADA		3 - 21	Allocation is based on percent of students served: full amount if 12% or more; reduced by 6% for each 1% decrease in percent served to minimum of 5% served.
Utah	Students	Weighting scheme keyed to minimum school program	20, based on handicapping condition	5 - 21, inclusive	Prevalence limits established for 11 handicapping conditions.
Vermont	Resources/ costs	Reimbursement for percent of total cost in commissioner-designated programs; and for entire excess costs for others		6 - 21 (or completion of high school)	LEAs with kindergarten must begin service at age 5; otherwise, services permitted from age 3.

State	Funding Approach	Distribution of Funds: Mechanism	Distribution of Funds: Categories*	Ages for Which Service is Mandated	Other Special Provisions
Virginia	Costs/ students	Per-student allocations based on state determinations of excess costs for programs serving different handicapping conditions	Based on handicapping conditions	2 - 21	
Washington	Costs/ resources	Reimbursement for approved excess costs (within allowances for personnel costs)	11, based on handicapping condition	5 - 21	Student-teacher ratios for self-contained classroom programs are specified for various handicapping conditions.
West Virginia	Students/ resources	Student weighting plus support for teacher salaries, facilities, and transportation	All handicapped students weighted the same	5 - 23	Services permitted from age 3.
Wisconsin	Costs	Reimbursement for 70% of approved costs for teachers, transportation, materials, coordinators and portion of salaries for ancillary personnel	11, based on handicapping condition	3 - 21	Identification and service are required for children in 11 handicap categories identified.
Wyoming	Resources	Classroom units for approved classes	Based on handicapping condition	Birth - 21	

Adapted from: Winslow, Harold R. and Peterson, Susan M. *State Initiatives for Special Needs Populations*. Palo Alto, Calif.: Bay Area Research Group, September 1981.

*Categories attached to a state's funding formula are specified when available.

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