

STATE OF MINNESOTA
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A STUDY OF ORTHOPEDICALLY
HANDICAPPED CHILDREN IN SOUTHWESTERN
MINNESOTA

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IN SOUTHWESTERN MINNESOTA

This study of orthopedically handicapped children residing in southwestern Minnesota was initiated at the request of the school board at Worthington. A number of citizens residing in these counties have formed a corporation for the purpose of establishing and maintaining a crippled childrens' hospital school in this city. The purpose of such a facility would be to provide such handicapped children with appropriate therapy and instruction. The Worthington School Board was approached by the Board of Directors of the Hospital School Corporation to assume responsibility for the special education program.

For a special school of this kind it would be necessary for the district to provide housing (this may be rented quarters), employ qualified teachers, provide the essential equipment and supplies, determine the curriculum, and administer the educational program. If the school district is to qualify for the foundation and special state aids, the local school board must direct and supervise the entire school program.

It is anticipated that a majority of the handicapped children who might be admitted to the hospital will be nonresidents. To finance the cost of instruction for such nonresident pupils, the local school board will have to enter into a contract with the school board of the child's home district for the payment of tuition. Such contract would be based on the current statutes which provide that the home district will pay the difference between the total cost of instruction and the state aids granted for this program.

The school board will be concerned only with the special education program to be provided for the handicapped children. The residential aspect will be the responsibility of the Board of Directors of such hospital.

In order to plan properly and assess the extent of the educational program, the Worthington school board requested the State Board of Education to conduct a survey in the southwestern counties of the state to determine the number of orthopedically handicapped children. From the data gathered, the school board would be able to determine to some extent the possible enrollment in this type of school. The information assembled would be of value to other agencies both public and private and the procedures used would serve as a guide in planning surveys in other areas of the state.

In conducting this study of orthopedically handicapped children, a questionnaire form was developed by the staff of the State Department of Education. See page 1 of the Appendix for the questionnaire form. Such form provides for securing the information relating to the name of the child, age, resident school district, type of disability, school assignment and other data which might be of value. A project of this kind must be conducted on a county-wide basis. It was determined that the most effective procedure for the direction of this program would be the county superintendent of schools.

A regional conference was held at Tracy, Minnesota, on November 25, 1957, for the superintendents of twenty-two counties which were included in the survey. (See the map in the Appendix.) At this meeting the questionnaire forms were distributed to the superintendents for use in their counties and the procedures explained. The county superintendent, in cooperation with the district superintendents, school boards, county and school nurses, state and county welfare departments, was the key person in the assembling of the data. Form 2 of the Minnesota Child Accounting System relating to the census of handicapped children was used extensively for the purpose of locating children.

The returns to the offices of the State Department of Education of the completed questionnaires were received from the superintendents of twenty of the twenty-two counties included in the project.

In the twenty counties reporting, it was found that there was a total of 165,585 children accounted for on the 1957 school census reports. The census figures showed that of this number 55,134 children were in the preschool age group; 88,454 were in the 6-16 year age group; and 21,997 were in the 17-21 year age group. There were 81,077 public school pupils enrolled in the elementary and secondary grades during the school year of 1956-57 in the twenty counties. The survey of the orthopedically handicapped included children from all age groups on the school census. Out of the 165,595 children listed on the school census there were 526 children identified by the survey that were orthopedically handicapped, which is between .3 per cent to .4 per cent of the overall census group.

Table I lists the counties included in the project and the number of children by counties for whom completed questionnaires were returned.

TABLE I

Number of Orthopedically Handicapped Children
as Reported by County

<u>County</u>	<u>No. of Children</u>	<u>County</u>	<u>No. of Children</u>
Blue Earth	66	Martin	11
Brown	46	Murray	16
Carver	18	Nicollet	30
Chippewa	21	Nobles	46
Cottonwood	25	Pipestone	17
Faribault	52	Redwood	9
Jackson	No report	Renville	21
Lac qui Parle	No report	Rock	20
Lincoln	14	Sibley	11
Lyon	25	Watsonwan	17
McLeod	40	Yellow Medicine	21
		Total	526

A further study of the 526 orthopedic cases reported was made to determine the types of disability and the number of children in each category. This survey showed polio and cerebral palsy to be the leading categories of orthopedic disability.

Table II shows the classification of orthopedic disability and the number of children in each group.

TABLE II
Nature of Orthopedic Handicap

<u>Type of Disability</u>	<u>Number of Children</u>	<u>Per Cent of Cases</u>
Polio	189	35.93
Cerebral palsy	133	25.28
Congenital deformities	45	9.31
Handicap due to accidents	21	3.99
Club feet	15	2.85
Congenital hip	15	2.85
Congenital heart conditions	14	2.66
Cleft palate and hair lip	12	2.28
Legg-perthes	11	2.09
Seizures and convulsions	10	1.90
Muscular dystrophy	9	1.71
Spina bifida	9	1.71
Brain injured	8	1.52
Rheumatoid arthritis	4	.76
Spinal meningitis	3	.57
Miscellaneous orthopedic handicap	<u>24</u>	4.56
Grand Total	526	

The next phase of the study was to determine various degrees of disability included in each classification. Information as to whether a child is so handicapped as to require bed care or must be confined to a wheel chair a large portion of the time, or whether a child has to use braces or crutches in order to get around from place to place was deemed essential for the purpose of this study. Table III shows the number of bed and wheel chair cases and the number of children using braces and crutches.

TABLE III

<u>Cause of Disability</u>	<u>Degree of Disability</u>			<u>Total</u>
	<u>Number of Bed Cases</u>	<u>Number of Wheel Chair Cases</u>	<u>Number with Braces & Crutches</u>	
Polio	0	9	56	65
Cerebral Palsy	4	17	8	29
Congenital deformities	0	1	7	8
Accidents	0	1	0	1
Legg-perthes	0	1	7	8
Seizures and convulsions	1	0	0	1
Muscular dystrophy	1	6	0	7
Spina Bifida	0	1	3	4
Brain injured	0	1	1	2
Rheumatoid arthritis	0	1	1	2
Amyotonia Congenita	0	1	0	1
Total	6	39	83	128

Of the total number of cases reported, 1.1 per cent of these children were so severely handicapped that they required bed care. Youngsters confined to a wheel chair because of their disability accounted for 7.4 per cent of the total number of cases reported. The percentage of youngsters who were required to use braces or crutches in order to move about accounted for 15.7 per cent of the total cases reported.

Of the 526 children reported, approximately 75 per cent or 396 children were receiving instruction in the following types of classes as indicated in Table IV.

TABLE IV

Type of Class and Number of Handicapped Pupils Enrolled

<u>Regular Classes</u>	<u>Number Enrolled</u>
Kindergarten	10
Elementary	186
Secondary	153
College	10
<u>Special Classes</u>	
Homebound	12
Orthopedic	13
Mentally retarded	12
Total	396

There were 122 children not enrolled in any type of class. In addition, eight children reported on the survey were under some type of custodial care. Approximately one half of these not enrolled in a class were of pre-school age. The reason given as to why the other children were not in school is that they were over compulsory attendance age of 16 or the handicap was so severe that they could not attend school.

Table V gives an age analysis of the 122 children not enrolled in any type of class.

TABLE V

Number of Handicapped Children NOT in School

<u>Age 0-5</u>	<u>Age 6-16</u>	<u>Over 16</u>	<u>Total</u>
62	29	31	122

Summary Table A shows the distribution of the orthopedically handicapped children by categories and their status in the school program.

It is, of course, recognized that the reporting of particular disabilities in this survey cannot give a complete picture. Careful cross-checking with other agencies is a logical follow-up. Such listings as congenital deformities, accidents, seizures and convulsions, brain injury, and spinal meningitis must bear more intensive diagnostic surveillance before conclusive categorical percentages can be determined.

TABLE A

NUMBER OF ORTHOPEDICALLY HANDICAPPED CHILDREN BY CATEGORIES

Number of cases of:	Nature of Disability														Grand Total
	Polio	Cerebral Palsy	Muscular Dystrophy	Spina Bifida	Congenital Deformities	Seizures or Convulsions	Brain Injured	Congenital Heart, etc.	Cleft Palate & Hair Lip	Legg-Perthes	Rheumatoid Arthritis	Spinal Meningitis	Miscellaneous	Accident Cases	
1. reported	189	133	9	9	79	10	8	14	12	11	4	3	24	21	526
2. preschool children	7	26	1	2	13	1	1	3	2	1	0	0	3	2	62
3. children in regular classes	161	63	3	3	50	5	4	8	7	10	3	2	16	14	349
4. children in orthopedic classes	4	5	1	1	1	0	0	0	0	0	0	0	1	0	13
5. children on homebound	3	6	1	0	1	0	0	0	0	0	1	0	0	0	12
6. children in mentally retarded classes	1	2	0	0	2	1	0	2	3	0	0	0	1	0	12
7. children age 6-16 not in school	0	16	3	1	2	1	2	1	0	0	0	0	1	2	29
8. children age 17-20 not in school	8	9	0	0	8	2	0	0	0	0	0	0	2	2	31
9. reported in college	5	1	0	1	2	0	0	0	0	0	0	0	0	1	10
10. children receiving custodial care	0	5	0	1	0	0	1	0	0	0	0	1	0	0	8

Recommendations deemed as desirable would be the following:

1. The state departments of education, health, and welfare consider the possibility of some central indexing of information on the orthopedically handicapped child. Such an index should provide quick accessibility of information on incidence, classification of disability, medical and psychological diagnostic and treatment information, educational planning, and public and private agency participation in each case. All of the above information would be made available for school district, county or regional planning purposes.
2. The study points up the need to consider carefully particular disability classifications.

As pointed out in this survey, polio and cerebral palsy are the leading categories of orthopedic disability. They represent different problems, however, when considering educational placement.

The need for special class placement for polio victims appears necessary in only a minority of cases. The child with residues of polio may require physical therapy to prevent muscle atrophy or serious deformity. Careful attention to the use of such special services as physical therapy and the removal of architectural barriers in the regular school often are the key to meeting needs of the polio victim rather than special class placement. This child ordinarily has no specific learning disability as a direct result of polio, which is a lower motor neuron defect. Severe crippling, of course, can only be handled in a special class situation. However, careful assessment of such an individual case must precede placement.

Cerebral palsy, while inflicting physical disability, often results in additional handicaps. Visual and auditory handicaps as well as a need for speech therapy, are not uncommon for victims of cerebral palsy. The fact that this condition is the result of cerebral damage may also mean a learning disability. Special methods of teaching may be very essential to many cerebral palsied children.

The assumption can thus be made that a great many of the cerebral palsied children reported in this survey will require special class placement as well as special services. With 133 cerebral palsy cases reported in the study, 63 of which are in regular classes, some questions become readily apparent. What percentage of the sixty-three children in regular classes have a disability so severe that the regular class placement is not meeting their needs? Twenty-six of the cerebral palsy, or almost 20 per cent of the total cerebral palsy group, are at the preschool level. What is the implication here in terms of planning that is necessary now for this group. Thirty-one between 6 and 20 are not in school at all. Of this group 6 are receiving home teaching. How can a school program be provided for the 6 receiving training at home and what are the disqualifying factors that are eliminating the 25 from any educational consideration. Cerebral palsy with its complexity of factors requires intensive study in order to adequately plan for and develop means of meeting the needs of these children.

3. Personnel, funds and time were limiting factors in the conduct of this project. The information made available here should be subjected to further investigative and evaluative procedures. Such a survey cannot be thought to have been all inclusive so far as total numbers reported. Utilization of the data in this report for further study is encouraged.

4. Form 2, "Census of Handicapped Children" in the Minnesota Child Accounting System, part C, should be revised so as to secure a more complete reporting of a child's handicap.

5. The Worthington School Board has been asked to supervise and administer a program of special education that involves children of many school districts. (At the same time, evidence from the study shows at least six children from the Worthington School district requiring special class instruction and services. At least five of these children are cerebral palsied. Such immediate local need could easily precede the expanded program contemplated.

Acknowledgement

The excellent work performed by the county superintendents in gathering the data for the questionnaire is greatly appreciated and they are to be highly commended for these services. The willing cooperation and assistance given by the district superintendents, school boards, county nurses, executive secretaries of the county welfare offices, and the staff of the State Welfare Department is acknowledged and appreciation expressed for their generous assistance in this program.

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This project was conducted by the following staff members of the State Department of Education:

T. C. Engum, Section Chief
Elementary and Secondary Schools

James J. Geary, Section Chief
Special Education

B. N. Hendrickson, Consultant
Director of Survey

County _____
School Dist. No. _____

SURVEY OF ORTHOPEDICALLY HANDICAPPED CHILDREN

I General Information

- A. Name of child _____
- B. Date of birth _____
- C. Sex _____
- D. Name of parent or guardian _____
- E. Address _____

II Orthopedic Crippling Condition

- A. Name of disability and description _____

- B. Does the child have an additional handicap? Describe _____

- C. Nature of disability (Check one or more)
 - 1. Crippled due to loss of: Arm _____ Hand _____ Foot _____ Leg _____
 - 2. Child has restricted use of: Arm _____ Hand _____ Foot _____ Back _____
 - 3. Seizures or convulsions.....Yes _____ No _____
 - a. Above arc controlled.....Yes _____ NO _____
- D. Cause of disability
 - 1. Present at birth _____
 - 2. Result of accident (specify) _____
 - 3. Result of disease (specify) _____

III Degree of Disability (Check one or more)

- A. Complete or near complete disability requires child
 - 1. To remain in bed _____
 - 2. To be confined to a wheel chair _____
- B. Gets around with great difficulty - child has to use
 - 1. Braces _____
 - 2. Crutches _____
 - 3. Walker _____
 - 4. Other means _____

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C. Gets around with difficulty - child can move about

- 1. By means of artificial limb _____
- 2. With pronounced limp _____

D. Gets about with moderate effort

- 1. Child has a slight or unobservable crippling _____

IV Degree of Independent Muscular Control (Check one or more)

A. Physical disability is such that child

- 1. Has no voluntary bladder or bowel control..... _____
- 2. Cannot alone care for personal toilet needs..... _____
- 3. Cannot feed himself without some assistance..... _____

V Child Could Profit From the Following:

- A. Physical therapy _____
- B. Occupational therapy _____
- C. Surgical or medical treatment _____
- D. Speech therapy _____

VI Instructional Program

A. Is the child receiving instruction? Yes ___ No ___ Grade ___

B. Instruction provided in

- 1. Regular classes _____
- 2. Special classes _____
- 3. Homebound _____
- 4. Other _____

C. No instruction provided; why? _____

D. Is child being transported to class?.....Yes ___ No ___

1. Name of school attended _____

Due: December 31, 1957

Mail to: B. N. Hendrickson, State Department of Education, St. Paul 1, Minn.

Date _____ Reported by _____
Address _____ Title _____

