

Citation: Bowen, E. (1982). Health, safety, and nutritional requirements of young children. In D. Streets (Ed.), *Administering day care and preschool programs* (127-161). Boston: Allyn & Bacon.

VI HEALTH, SAFETY, AND NUTRITIONAL REQUIREMENTS OF YOUNG CHILDREN

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INTRODUCTION

A Chinese proverb states that life—health, family, fortune, and wealth—can be symbolized by a number. If health can be represented by zero, and if you have no good things, then we are very poor. If you have then all of the other advantages, you are still poor.

If we step back and take a look at the world we can see that 75 percent of the world's children, 90 percent of those children in the developing world as prenatal care or routine medical care, even have reasonable access to health care. In the world's children, a safe water supply is not in the household. A pump or a well is not to be considered a "modern convenience." Children suffer from malnutrition at the age of five, and over half of them are stunted that stunts their physical growth and impairs their mental development. They are gravely jeopardized by malnutrition. Over 50 percent of all deaths in the developing States that figure is only 5 percent in the United States.

Although malnutrition is a problem in the United States as in many other countries, the problems are not as severe as in many other countries.

1. Hunger and malnutrition affect millions of Americans, and it undermines their health (U.S. Department of Health, Education and Welfare, 1970b).

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INTRODUCTION

A Chinese proverb states that if we look at all of the good things in life—health, family, fortune, good education, and so on—the asset of health can be symbolized by the number one, whereas all the others can be represented by zeros. If we have health, followed by the other good things, then we are very rich indeed. But if we do not have health, then all of the other advantages become relatively worthless.

If we step back and take a world-embracing view of today's children, we can see that 75 percent of them live in developing nations. Nearly 90 percent of those children have no access to basic health services such as prenatal care or routine immunizations. Seventy-five percent do not even have reasonable access to safe, clean water. Indeed, to most of the world's children, a safe water supply does not mean running water in the household. A pump or a well within a mile or so of their house would be considered a "modern convenience." Over 60 percent of these children suffer from malnutrition. One in three die before reaching the age of five, and over half of the survivors suffer chronic malnutrition that stunts their physical growth, weakens their resistance to disease, and impairs their mental development. Thus the lives of most children are gravely jeopardized by poor health. In fact, in developing nations, over 50 percent of all deaths are among children, whereas in the United States that figure is only 5 percent (UNICEF, 1975).

Although malnutrition and poor health may not be as extensive in the United States as in many developing countries, they are far greater problems than most people realize. A few examples follow.

1. Hunger and malnutrition exist widely in the United States, and millions of Americans, rich and poor, eat inappropriate diets that undermine their health (White House Conference on Children, 1970b).

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2. The United States is the only modern, industrialized nation that does not ensure health care for everyone, especially for families with young children (Bronfenbrenner, 1976).
3. At least one child in ten has chronic handicapping conditions that require skillful biological and psychological management (Pless, Satterwhite, and Van Vechten, 1976).
4. One child in three has mild to severe maladaptation problems (Cowen, 1971). That is, they have trouble coping within a normal school setting. This usually results in inappropriate behavior and disruption of learning.
5. A growing body of research suggests that a majority of learning disabilities and behavior disturbances are related to nutritional imbalances and associated health disorders (Birch and Gussow, 1970; Smith, 1979).

As educators come to realize the magnitude of child health problems and their negative effects on children's learning abilities, we can anticipate that schools and early childhood centers will become increasingly involved in developing programs to prevent and correct them.

HOW TO DEVELOP CHILD HEALTH SERVICES

High-quality child health services require the involvement and cooperation of parents, teachers, administrators, and various medical personnel.¹

At present there is great controversy over whose responsibility it is to see that all children receive comprehensive, high-quality health care. Is it up to parents, governments, administrators, schools, doctors, or a combination thereof? There is also controversy over what constitutes comprehensive, high-quality health care. Does it merely mean yearly checkups? Does it include dental care or nutritional services?

Because of these kinds of questions, one of the first steps for administrators to consider in planning health services is to check local, state, and federal laws to find out what health services you are legally bound to provide. What are the requirements and the standards for meeting them? From this bare minimum you can begin to plan basic services and then gradually expand to cover broader concerns. For example, in many places day care administrators are required by law to have either a nurse, nurse practitioner, or doctor serve as consultant

¹A very useful manual on how to develop such involvement into a comprehensive support network to improve the health of children and their families is entitled *Day Care Health Services: A Guide for Project Directors and Health Personnel*, by A. Frederick North, Jr., M.D. It is put out by the Office of Child Development. Information on ordering a copy is given at the end of the chapter in the Resources (item 1c).

HEALTH, SAFETY, AND NUTR

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Resources Available

The following three checkples of the wide range of help in designing and ca

Checklist 1: Resource to Help in Planning a

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2. Pediatric nurse prac and nursing organizat
3. Dentists and dental a
4. General practitioners
5. Other physicians and
6. Local, regional, and s
7. Public school systems
8. Nutritionists, dietitia
9. Social workers and th
10. Hospital administrato
11. Psychiatrists and thei
12. Psychologists and the
13. Ophthalmologists ar ciations.
14. Speech and hearing s
15. Learning disabilities
16. Medical technologist

Checklist 2: Comm Health Care

1. Private practitioner psychology, and so types of health se administration, exa munizations, health on a volunteer, cont

REQUIREMENTS OF YOUNG CHILDREN

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such involvement into a comprehensive children and their families is ent Directors and Health Personnel, the Office of Child Development. d of the chapter in the Resources

and official director for the day care health service program. In selecting such a person, consult your health department, local health professionals, school health staff, parents, and teachers for their views of who the best person might be. Try to find the most competent one, for the caliber and commitment of that person will in large part determine the quality of your program. That person can then help you to organize, implement, and expand the various phases of your program by selecting and mobilizing additional professional help.

Resources Available

The following three checklists, adapted from North (1971), give examples of the wide range of resources that an administrator can call on for help in designing and carrying out a day care health service program.

Checklist 1: Resource People and Organizations that May Be Able to Help in Planning and Operating Day Care Health Services

1. Pediatricians and pediatric societies.
2. Pediatric nurse practitioners, school nurses, public health nurses, and nursing organizations.
3. Dentists and dental associations.
4. General practitioners and the Academy of General Practice.
5. Other physicians and county and state medical societies.
6. Local, regional, and state health officers and their departments.
7. Public school systems' health services.
8. Nutritionists, dietitians, and their associations.
9. Social workers and their associations.
10. Hospital administrators and their associations.
11. Psychiatrists and their associations.
12. Psychologists and their associations.
13. Ophthalmologists and optometrists (eye doctors) and their associations.
14. Speech and hearing specialists and their associations.
15. Learning disabilities specialists and their associations.
16. Medical technologists and their associations.

Checklist 2: Community Sources of Funds and Services for Child Health Care

1. Private practitioners of medicine, nursing, dentistry, optometry, psychology, and so forth—individual or group: May provide all types of health services, including consultations and planning, administration, examinations and screening tests, treatment, immunizations, health education, and continuing health supervision on a volunteer, contract, or fee-for-service basis.

2. Health departments—city, county, regional, and state: May provide all types of health services. Some may be free for all children or for certain children as part of existing programs. Some may be purchasable. Health departments may provide funds to purchase services from other sources.
3. School health programs: Same possibilities as health departments.
4. Comprehensive child health centers and neighborhood health centers: May provide comprehensive health services without fee to children who are in the defined population served by the center.
5. Clinics—run by hospitals, medical schools, or other agencies: May provide all types of health services, usually on contract or fee-for-service basis, but some services may be free for all or some children.
6. Medical assistance under Title XIX Medicaid: Provides funds to purchase diagnostic and treatment services for a wide range of health problems for low-income children. Exact services paid for and rules for eligibility vary from state to state.
7. Special voluntary agencies and public agencies (see Checklist Three): May provide funds or services for screening or treatment and rehabilitation of certain health problems.
8. Dental service corporations: May provide planning and administration of dental services for a contracted fee.
9. Prepaid medical groups: May provide complete range of services to children of group members. May accept families or children as new members of group.
10. Insurance and prepayment plans: May provide payment for certain kinds of health services for children of families covered by policies.
11. State crippled children's programs: May provide funds or services for screening or treatment and rehabilitation of certain health problems. Limited to certain categories of illness that vary from state to state and within states.
12. Community mental health centers: May provide diagnostic and treatment services for individual children, program consultation and in-service training.
13. Armed forces medical services: May provide medical preventive, diagnostic, and treatment services to children of armed forces personnel.

Checklist 3: Agencies that May Help with Day Care Health Services

1. Various community organizations, such as United Fund, civic clubs, women's clubs, and parent-teacher organizations: Money for services or volunteer help for special projects.
2. Religious groups of various denominations, such as Catholic, Protestant, and Jewish welfare and service organizations: Money for services, social services, and volunteer help.
3. Family service associations: Psychological, psychiatric, and social services.

4. Lions Clubs: Eyeglasses
5. Associations for the blind: Screening, special services
6. Associations for retarded children: Services for children with physical disabilities
7. Tuberculosis association
8. Mental health associations: Health consultations.
9. Visiting Nurse Association
10. The Red Cross Association: Safety and accident prevention

HEALTH EDUCATION FOR

Staff enthusiasm and active participation in child health services. In-service administrators may be able to conduct in-service workshops on the importance of early childhood centers and the problems that are commonly encountered. In this way they may gain a better understanding of children's health conditions and personalities. They may also be able to identify problems promptly to medical personnel.

The following discussion is intended to provide general background information for health care personnel. It considers the importance of the ability to pay attention. A discussion of the major signs of super fatigue, lack of endurance. Conversely, signs of fatigue, listlessness, loss of interest, and lack of energy. Maintaining excellent health and energy and physical well-being to the fullest.

Interaction with the environment. Perceiving, thinking, feeling, and acting takes place best when a child is full of energy. When energy must be channeled into learning, a little learning can take place. A child interested in setting goals or achieving them characterizes their relationship with the environment—people, as well as

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4. Lions Clubs: Eyeglasses for needy children.
5. Associations for the blind or for the prevention of blindness: Vision screening, special services for vision-impaired children.
6. Associations for retarded children, crippled children, and for children with cerebral palsy and other special diseases: Special services for children with those conditions.
7. Tuberculosis associations: Tuberculin testing and follow-up.
8. Mental health associations: Psychological and social services, mental health consultations.
9. Visiting Nurse Association: Home nursing and home visiting.
10. The Red Cross Association: Consultation and in-service training on safety and accident prevention.

HEALTH EDUCATION FOR DAY CARE STAFF

Staff enthusiasm and active involvement of families are keys to success in child health services. In collaboration with community resources, administrators may be able to arrange for qualified people to give series of in-service workshops on various child health issues. All staff members of early childhood centers need to be familiar with the kinds of health problems that are commonly found in the children they care for. In this way they may gain a better understanding of the ways in which children's health conditions affect their abilities as learners and their personalities. They may also be able to learn how to recognize and refer problems promptly to medical people.

The following discussion gives one example of the kind of general background information that might be extremely helpful to day care personnel. It considers the effects of health or disease on a child's ability to pay attention. Attention is a prerequisite to learning. Some of the major signs of superb health are liveliness, vitality, stamina, and endurance. Conversely, signs of probable health problems are apathy, listlessness, loss of interest in daily activities, fatigue, and exhaustion. Maintaining excellent health in all children ensures that they will have the energy and physical well-being essential to pursue their development to the fullest.

Interaction with the environment—whether in the form of moving, perceiving, thinking, feeling, or intending—requires energy. Learning takes place best when a child is in good health, is properly nourished, and is full of energy. When children are sick or malnourished, their limited energy must be channeled into maintaining bodily functions, and thus little learning can take place. Their motivation drops, they are not interested in setting goals or pursuing academic tasks. Unresponsiveness characterizes their relationships with all aspects of the surrounding environment—people, as well as books, toys, and other educational materials.

If this disinterest and lack of motivation persist, the children's personal relationships and general development will suffer. In fact, one of the first clinical signs of improvement in children who have suffered malnutrition or other serious illness is that they show a greater interest in their surroundings and seem to communicate and interact more with the people around them.

How well a child feels is an important determinant of behavior, performance, and ability to learn. The health of all body systems plays a key role in safeguarding psychological welfare, as a child's internal states, energy levels, and moods are significantly affected by the status of his or her health. Even relatively mild biological impairments undermine a child's motivation to learn. For example, a child who is tired due to a lack of rest or even due to a long bus ride to school in the morning will be less able to pay attention than a child who is fresh and alert.

Nutrition is also of supreme importance, as a poor diet can cause a wide variety of attentional and learning disorders. Dietary examples are lack of breakfast, excess sugar, and artificial food additives. A child may even eat proper meals but metabolize them so quickly that frequent nutritious snacks are required to prevent drowsiness and inattentiveness.

In addition, the classroom must be arranged in ways that facilitate attention. Visual and auditory shelters; appropriate lighting; low noise levels; options for assuming various postures for reading, writing, drawing, and other activities; and a diverse range of manipulative materials—all will help children to select and attend to educational activities.

The biological individuality of each child must also be closely attended to in arranging the most productive educational environments for the child. For example, some children have extremely low thresholds for receiving perceptual stimuli and are easily distracted and upset. Such children may benefit from a structured, quiet, consistent, and orderly environment with clearly defined, step-by-step tasks. (They may also profit from dietary changes and more rest.) When children have trouble paying attention, the staff should search for biological, as well as psychological, causes.

In-service workshops that deal with health issues in a straightforward and practical manner are usually very well received by day care and other early childhood personnel. These workshops not only result in better care for the children; they often benefit the staff and the families' health as well. If possible, similar workshops may be offered to parents and to the community at large.

Screening Programs: General Considerations

Systematic screening and treatment programs are gradually becoming more common and will undoubtedly be routine in day care and early

childhood centers someday and the various communities to consider the following checklist. Most, but not all, limitations prohibit full disclosure of people for further information for young children.

Require each child to enter the program. The procedures as a minimum:

1. Consult with both physician and health.
2. Bring immunizations.
3. Test for tuberculosis.
4. Assess nutritional status.
5. Measure height and weight.
6. Test for anemia.
7. Test for lead poisoning.
8. Test hearing.
9. Test speech.
10. Test vision.
11. Assess general development.
12. Assess special needs.
13. Assess mental health.
14. Refer any unusual problems to a dentist.
15. Assess dental status as a care to a dentist.
16. Form plans to meet each child's needs.

You may wish to consider the yearly general medical examination sought the active involvement of the conventional physician in kindergarten or first grade. When children were involved in the program usually with the children as a means of an interview and with the parents, preferred nurse then listed problems found that the health history problems per student as the

Moreover, the discussion of educationally relevant problems, the physical examination, behavioral problems, learning

resist, the children's personal suffer. In fact, one of the children who have suffered malnutrition show a greater interest in eating and interact more with

the determinant of behavior, each of all body systems plays a role in welfare, as a child's internal state is greatly affected by the status of biological impairments under-standable, a child who is tired is more likely to school in the morning than a child who is fresh and alert. For example, as a poor diet can cause various disorders. Dietary examples include artificial food additives. A child who is so quickly that they prevent drowsiness and in-

structured in ways that facilitate appropriate lighting; low noise levels for reading, writing, drawing, use of manipulative materials and to educational activities. The child must also be closely attended in educational environments that have extremely low thresholds for easily distracted and un-structured, quiet, consistent, and, step-by-step tasks. (They need more rest.) When children are brought to school, the teacher should search for biological,

health issues in a straightforward manner. Problems received by day care and workshops not only result in better fit the staff and the families' needs may be offered to parents

Programs are gradually becoming routine in day care and early

childhood centers someday. In consultation with your health director and the various community resources available, you will probably need to consider the following elements. They are listed here as a general checklist. Most, but not all, will be discussed in more detail later. Space limitations prohibit full discussion of each point, so check with local people for further information, for example, concerning dental care for young children.

Require each child to have a complete medical examination before entering the program. This should include the following basic procedures as a minimum:

1. Consult with both parents about their child's development, nutrition, and health.
2. Bring immunizations up to date.
3. Test for tuberculosis.
4. Assess nutritional status.
5. Measure height and weight.
6. Test for anemia.
7. Test for lead poisoning.
8. Test hearing.
9. Test speech.
10. Test vision.
11. Assess general developmental status.
12. Assess special needs.
13. Assess mental health.
14. Refer any unusual problems to specialists for further investigation.
15. Assess dental status and refer any children not already under regular care to a dentist.
16. Form plans to meet each child's health needs.

You may wish to consider the following approach in addition to the yearly general medical exam outlined above. A pilot program that sought the active involvement of parents was designed as an alternative to the conventional physical examination given to children first entering kindergarten or first grade (Lynch, 1975, p. 16). Over a thousand children were involved in this program. The school nurse met individually with the children and their parents to gather health histories by means of an interview and a questionnaire. After thorough consultation with the parents, preferably at their home rather than at school, the nurse then listed problems and planned how to manage each one. It was found that the health history format detected nearly *six times as many problems* per student as the traditional physical examination.

Moreover, the discussion with the parents uncovered many educationally relevant problems that would not have been apparent from the physical examination—difficulties relating to emotional and behavioral problems, learning disabilities, family health, and the home

environment. The discussion strengthened home and school relationships and opened communication about problems requiring further education, consultation, and supervision. It further provided teachers with readily available and useful information concerning each student. This type of service could clearly give day care and other early childhood teachers a wealth of information to help them to better serve children and families. It is wise to do this in addition to requiring a complete physical examination before each child enters your program and every year thereafter. At least one home visit, made by the teacher to get acquainted with each child and family before school starts, is also extremely useful.

Although the advantages of careful interviews and medical examinations are great, we are still far from providing such care to all youngsters. Many children still arrive at elementary school having received no medical supervision since birth. According to a major health study published in 1975, entitled *United States Health*, over 90 percent of children under five years old and half of the children under fifteen years old had never been to a dentist, although virtually all children need dental care. Also, in 1973, 20 percent of poor and 15 percent of non-poor children had not been seen by a doctor or nurse for at least two years (*United States Health*, 1975).

This lack of continuous care is a major problem because many health difficulties can be corrected at a very early age but cannot be corrected if left until the child is older. Amblyopia ("lazy-eye blindness") is an example. In fact, early intervention and ongoing parent and teacher involvement may play a major role in the *prevention* of learning disabilities, many of which are directly related to health and nutritional disorders.

GUIDELINES FOR CORRECTION OF HEALTH PROBLEMS

The following guidelines suggest ways for day care administrators to initiate the early correction of health problems that might otherwise cause learning disabilities by identifying them and referring the child to appropriate help.

Bring Immunizations Up to Date

The United States is far short of its goal of immunizing all children against diseases for which protection has been developed. In the past ten years, the level of protection against polio has decreased to the point that less than half of the minority children under five, and only 60 percent of all children under fifteen are protected. Less than 60 percent of all children ages 1 to 4 are immunized against rubella. One potential

danger is that an infected child can transmit the disease to the unborn child. Protection (whooping cough) is universal, yet only 75 percent of the children have such protection (*United States Health*, 1975).

By collecting records of children's immunization levels, health programs can provide an invaluable service. Records should be included are poliomyelitis, diphtheria, pertussis, and tetanus. You should consult your health services director or other health professionals to find the most

Assess Nutritional Status

Improper nutrition is a major health problem in the United States. One in five children suffer from other forms of malnutrition. The toll on low-income children is especially high. Half of all infants are below the twenty-fifth percentile for weight. In other words, these children are less healthy than their peers. Action must be taken to maintain at least the basic nutritional status (Livingstone et al., 1975).

Also, various vitamin deficiencies exist in different populations; their prevalence varies from 5 percent to 50 percent depending on location. Almost 50 percent of children have vitamin A deficiencies in certain areas (*United States Health*, 1975).

Consult your health department for all children to be measured for weight and vitamin A deficiency (if any). Nutritional disorders that are discovered

Test for Lead Poisoning

Every screening program should include testing for lead cases of it, leading to severe

²For more information, see *United States Health* for Nutritional Status: Suggestions for action are given at the end of the chapter.

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LEAD PROBLEMS

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nant with another child and thus cause congenital malformations in
the unborn child. Protection against diphtheria, typhoid, and pertussis
(whooping cough) is universally recommended in the first year of life;
yet only 75 percent of the children ages 1 to 4 in the United States
have such protection (*United States Health*, 1975).

By collecting records of past immunizations and bringing chil-
dren's immunization levels up to 100 percent, day care health pro-
grams can provide an invaluable preventive service. Immunizations that
should be included are polio, tetanus, measles, rubella, diphtheria, ty-
phoid, and pertussis. You should also test for tuberculosis. Consult
your health services director, your health department, and other health
professionals to find the most effective ways to do this.

Assess Nutritional Status

Improper nutrition is a major cause of poor health among children in
the United States. One in five suffers from chronic hunger and various
other forms of malnutrition. These problems take a particularly severe
toll on low-income children, but other socioeconomic groups are not
exempt. Half of all infants and children living in poverty fall below the
twenty-fifth percentile for weight and height on standard growth charts;
in other words, these children are shorter, smaller, and lighter than their
less poor peers. Action must be taken to ensure that these children ob-
tain at least the basic nutrition required for adequate brain develop-
ment (Livingstone et al., 1975).

Also, various vitamin and mineral deficiencies are common in some
populations; their prevalence varies widely. Iron-deficiency anemia affects
from 5 percent to 50 percent of children, depending on their age, income,
and location. Almost 50 percent of all Spanish-American children have
vitamin A deficiencies in comparison to 10 percent of white or black
children (*United States Health*, 1975).

Consult your health department, pediatrician, or both to arrange
for all children to be measured for height and weight, tested for anemia
and vitamin A deficiency (if appropriate), and treated for any nutri-
tional disorders that are discovered.²

Test for Lead Poisoning

Every screening program should test for lead poisoning, since extreme
cases of it, leading to severe and irreversible mental retardation, are

²For more information, see the latter half of this chapter and *Screening Chil-
dren for Nutritional Status: Suggestions for Child Health Programs*. Ordering in-
formation is given at the end of the chapter (item 1b in the Resources).

estimated to affect some 225,000 children in the United States each year (Snowdon and Sanderson, 1974). Also, high blood levels of lead exist in up to 10 percent of all children ages 1 to 5 and have been correlated to significant emotional, perceptual, and learning disabilities (Klein, 1974). Although lead paint is currently felt to be the prime cause of overt lead poisoning, many other sources may contribute significantly to the problem, as our environment is thoroughly contaminated with lead. For example, studies have found a statistically significant difference between rural and urban samples of maternal, fetal, and newborn blood lead levels that correlates with the atmospheric lead conditions in the different environments. Urban groups have much higher lead levels than rural groups (Gershanik, Brooks, and Little, 1974).

Also, lead present in solder has resulted in high levels in such canned foods and drinks as infant formulas, baby foods, processed milk products, fruits, fruit juices, and various beverages. Lead may also be found in drinking water, automobile exhaust, air particles, dirt, cigarette ash, newsprint, and toothpaste. The cumulative effect of these many sources is likely to be biologically significant, particularly for infants and young children (Mitchell, 1974).

Consult local health professionals for information on lead screening programs and on ways to reduce exposure to environmental lead. In many communities there are specific agencies, usually in public health departments, that deal with this problem. They also may visit homes to check for lead paint and work with parents to reduce exposure levels.

Test Hearing and Speech

It is important to be sure that all of the children's perceptual systems are working well, especially their hearing and vision. An estimated 5 percent of all school-age children have some degree of hearing loss, and one million children have quite serious hearing losses (Alexander Graham Bell Association for the Deaf, 1975). Resources do not yet serve even half of these children (*United States Health*, 1975). Day care may fill in a key gap to help detect, screen, and refer these youngsters to appropriate services at an early age.

Over three million children have speech problems (White House Conference on Children, 1970). In the age group of six to eleven years, nearly 10 percent of children have speech defects (White House Conference on Children, 1970a). Again, available resources serve less than half the needs (*United States Health*, 1975). Hearing impairments can and should be detected in early infancy so that corrective measures can prevent serious speech problems from arising. Effort and resources must be poured into the neglected very early age groups because, by the time a child reaches elementary school age, many serious problems

related to speech and hearing difficulties, and almost

A child who is likely in many cases be identified five criteria, including a far diseases, specific complications or drug intake, low complications. Within the hearing may be diagnosed

Regular screening care as a result of accidents, chronic allergic reactions, child should be examined child is hearing correctly mental level. Both medical and so forth) and education especially) should be involved also be consulted. If possible teach parents ways to help ideas of how to assist the the child care center. Thus could provide support for medical and educational experts

Test Vision

Preschool vision screening population. Universal screening to 6 percent of young children and an estimated 5 percent for numerous other reasons learning. Yet children, unless handicapped; therefore they cannot

The causes of visual early eye care is a much more educational implications are ically feasible in the United intervention measures to avoid

To insure properly fit each child a thorough eye concerning family history, any of the following problems

1. a family history of vision and farsightedness), strabismic

in the United States each so, high blood levels of lead ages 1 to 5 and have been cor- al, and learning disabilities re- nently felt to be the prime sources may contribute sig- nificant is thoroughly contami- round a statistically significant of maternal, fetal, and new- the atmospheric lead condi- n groups have much higher Brooks, and Little, 1974). in high levels in such canned foods, processed milk prod- ges. Lead may also be found particles, dirt, cigarette ash, effect of these many sources ularly for infants and young

information on lead screen- ssure to environmental lead. cies, usually in public health They also may visit homes its to reduce exposure levels.

children's perceptual systems and vision. An estimated 5 e degree of hearing loss, and ng losses (Alexander Graham urces do not yet serve even h, 1975). Day care may fill r these youngsters to appro-

ech problems (White House group of six to eleven years, defects (White House Con- ble resources serve less than 5). Hearing impairments can so that corrective measures arising. Effort and resources arly age groups because, by age, many serious problems

related to speech and hearing (including social estrangement, psycho- logical difficulties, and almost certain reading disabilities) are common.

A child who is likely to develop hearing and speech problems may in many cases be identified soon after birth by means of at least twenty-five criteria, including a family history of hearing loss or nervous-system diseases, specific complications of pregnancy or delivery, maternal dis- eases or drug intake, low birth weight, malformations, or other birth complications. Within the first few months and thereafter the child's hearing may be diagnosed through direct hearing tests (Altman, 1975).

Regular screening can identify problems that may develop later as a result of accidents, childhood diseases such as scarlet fever or mumps, chronic allergic reactions, or repeated ear infections. Therefore, each child should be examined *every six months* to determine whether the child is hearing correctly and speaking at the age-appropriate develop- mental level. Both medical personnel (doctors, nurses, ear specialists, and so forth) and educational personnel (speech and language specialists especially) should be involved in this process. Parents and teachers should also be consulted. If problems are diagnosed, the speech therapist could teach parents ways to help the child at home as well as give teachers ideas of how to assist the child (and the parent and child together) at the child care center. Thus, home, school, and community cooperation could provide support for parents, teachers, and children combining medical and educational expertise.

Test Vision

Preschool vision screening is done on only a small fraction of the total population. Universal screening is highly desirable because 2 percent to 6 percent of young children have amblyopia ("lazy-eye blindness"), and an estimated 5 percent to 20 percent of preschoolers need eye care for numerous other reasons. Visual disorders can interfere seriously with learning. Yet children, unlike adults, are very often unaware of their handicap; therefore they cannot seek help (Lin-Fu, 1971).

The causes of visual disorders require further research. However, early eye care is a much needed preventive measure that has immediate educational implications and is presently technologically and econom- ically feasible in the United States. A brief list of examples of early intervention measures to avert vision impairments follows.

To insure properly functioning vision, a pediatrician should give each child a thorough eye examination in infancy and interview parents concerning family history, including questions as to whether there are any of the following problems:

1. a family history of visual defects, such as refractive errors (near- and farsightedness), strabismus (one or both eyes turn in, out, up,

- or down), defective color vision, glaucoma (eye disease that can cause blindness), or diabetes;
- 2. a history during the mother's pregnancy of rubella, venereal disease, toxemia, or any other difficulties;
- 3. a birth history of prolonged or difficult labor, low birth weight, or prematurity (myopia is common among children who were born prematurely);
- 4. neonatal complications, such as respiratory difficulty requiring prolonged oxygen therapy;
- 5. any evidence of mental retardation, deafness, or cerebral palsy in the child or in the family.

Because a person can have normal vision and yet have serious eye disease, thorough evaluations that include family histories are an important means of identifying high-risk individuals.

If any suspicious evidence suggesting eye problems arises from this initial examination in infancy and the parental interview about the family history, the pediatrician should refer the child promptly to an eye professional (optometrist or ophthalmologist) for further testing. Even if there do not appear to be problems, the pediatrician should *continue screening all children regularly, once every six months to a year*. Beginning at three-and-a-half to four years of age, all children should have a full examination every year by an eye doctor, that is, an optometrist or ophthalmologist.

Parents and teachers may also be alerted to recognize some symptoms of possible eye trouble in children. Examples follow. If a child:

- 1. holds books unusually close to or far from the eyes while reading;
- 2. shuts one eye;
- 3. tilts head or turns face to one side;
- 4. has difficulty or shows irritability with close work;
- 5. has dizziness or nausea after close work;
- 6. has watering of the eyes with close work;
- 7. complains of eyes hurting or headaches;
- 8. frequently blinks, squints, or frowns;
- 9. frequently rubs the eyes;
- 10. has redness or discharge from the eyes;
- 11. often points at words or loses place when reading;
- 12. stumbles over small objects;
- 13. seems unable to see clearly at a distance;
- 14. has difficulty in games requiring distance vision or visual accuracy;
- 15. is over-sensitive to light;
- 16. sees double;
- 17. has drooping eyelid or eyelids;
- 18. has unequal pupil sizes;

- 19. has an eye or eyes that tear when tired, excited, or in bright light.

Whenever parents or teachers observe any of these signs, the child should be referred promptly to an eye professional.

Arranging environments that provide appropriate stimulation and skill for both parents and children, such as adequate lighting, fatigue, sunshine, time spent outdoors, and access to blackboard or television, are important factors in promoting eye health. Limiting television watching to no more than one hour a day and more than enough in terms of playtime for most of their lives, and exercise are important factors in promoting eye health.

Parents and teachers should be alert to avoid eye hazards, such as household chemicals that can irritate eyes (such as cleaning products) or that can produce eye injury, and a balanced variety of activities that promote eye health. Vision also promotes eye health.

Early intervention in detecting and preventing eye problems can prevent a wide variety of eye problems and promote children's well-being. The procedures recommended here are sufficiently thorough to some extent, but not thereafter. If eye problems are not detected before ages 4 to 6, the chance of correction is greatly reduced. Therefore, agreement on exact procedures for testing children should be tested and the procedures in this section represent a recommendation. For more information, see Lin-Fu, 1977.

As seen from the previous section, significant numbers of children have visual problems. About 10 percent have visual problems and at least 5 percent have hearing problems. Sources to meet the above needs are spread need, special resources are available in less than half of the cases, and use of services is as follows: 47 percent; and hearing coordination (1975). Accurate statistics are available, but it is known that there

19. has an eye or eyes that turn in, out, up, or down all the time or when tired, excited, or ill.

Whenever parents or teachers suspect visual problems, they should refer the child promptly to appropriate help for a checkup (Lin-Fu, 1971).

Arranging environments for proper vision is also an important skill for both parents and teachers. Considerations include lighting, fatigue, sunshine, time spent reading or watching television, and distances to blackboard or television. For example, many young children watch television for five hours each day. One or two hours is probably more than enough in terms of strain on the eyes. Substitute outdoor playtime for most of their television viewing time, as daily sunshine and exercise are important factors in maintaining healthy eyes.

Parents and teachers also need to arrange children's environments to avoid eye hazards, such as sharp objects, cleaning fluids and other household chemicals that can cause eye injury or blindness, substances that irritate eyes (such as cigarette smoke, fumes, and sprays), and toys that can produce eye injuries. Finally, cleanliness, rest, proper nutrition, and a balanced variety of activities requiring close and distance vision also promote eye health.

Early intervention in detecting and correcting perceptual problems can prevent a wide variety of learning disabilities and personality disorders and promote children's well-being and general development. Although the procedures recommended in the previous section may sound excessively thorough to some readers, such careful early intervention is crucial because eye conditions are often correctable in the very early years but not thereafter. For example, if amblyopia or strabismus is not detected before ages 4 or 5, the prognosis for success in treatment is greatly reduced. Therefore, even though there is not yet professional agreement on exact procedures for early eye care (i.e., how often children should be tested and by whom), the guidelines given in the previous section represent a reasonable and cautious approach. (For more information, see Lin-Fu, 1971; and Rosenthal, 1975.)

As seen from the previous discussion, perceptual disorders affect significant numbers of children in the United States: 10 percent to 20 percent have visual problems; some 10 percent have speech problems, and at least 5 percent have hearing problems. The distribution of resources to meet the above needs is grossly inadequate. In spite of widespread need, special resources to deal with these problems are available in less than half of the cases. For children ages 6 to 11, the availability and use of services is as follows: sight-saving, 35 percent; speech therapy, 47 percent; and hearing correction, 34 percent (*United States Health*, 1975). Accurate statistics are not even available for younger children, but it is known that there are even fewer services for them than for

older children. Thus, millions of children in the United States have uncorrected perceptual disorders that undoubtedly interfere with their ability to learn and that suppress their development. Children under the age of six are especially liable to have undiscovered perceptual disorders because there is currently no systematic method of universally screening preschool children. Day care and other early childhood centers are very likely to play an increasingly important role in obtaining such needed services for the prevention and correction of perceptual disorders.

Children with Special Needs

Some 10 percent to 20 percent of all children have chronic handicapping conditions. The leading causes of activity limitation due to chronic conditions are allergies, asthma and hay fever, chronic bronchitis and sinusitis, mental and nervous conditions, heart conditions, and serious orthopedic impairments including complete or partial paralysis ("Chronic Conditions and Limitations," 1967). Considerable work remains to be done in the prevention, correction, and management of these chronic conditions. One very promising area is that of giving administrators, teachers, parents, and other family members the information they need to understand these conditions and to know how to help each child by arranging an appropriate environment. For example, conditions such as asthma and hay fever can often be greatly improved by a home and classroom relatively free of allergens (dust, feathers, animal hair), by excellent nutrition, and by competent emotional management. In this way, a supportive environment surrounds the child throughout development, minimizing the problems likely to arise due to chronic conditions.

If you have special-needs children in your program, consult their doctors and families for ways to work together to provide these children with the best possible educational environments for them. The more adults understand about children's special conditions and capabilities, the more the children will be able to grow and develop. It is also important to help the other children in your program to understand and befriend the children who have special needs.

Family Disruptions, Child Abuse, and Mental Health

Homicide is the fifth leading cause of death among children under fifteen (*United States Health*, 1975). Some researchers feel that many accidents (which are by far the leading cause of death) may not only be the direct result of gross parental neglect, but, more grimly, that a certain percentage of the cases presented and reported as accidents may actually be willful abuse in disguise. Therefore, researchers advocate careful investigation of

all suspicious cases resulting whether child abuse, rather than child neglect (Smith and Hanson, 1974). Day care centers, preschools, and other individuals to report immediate child abuse. Consult with agencies for procedures on

Although it is difficult to measure child abuse and neglect, a 1970 survey of 1 million physically battered children it is estimated that the ratio is as ten to one (Kadushin, 1971). One percent of children who were taken into care took place in the child abuse centers (percent involved children and abuse on Children 1970a). That day care personnel see

Family disruption is a major factor in first-marriage success rates and divorce rates have risen sharply in the parent, and most of their children under twenty-five is in single-parent income families almost half of parent households. At least one million parents through divorce significant family disruption in affairs "does not fit American calls for some fresh thinking

Family disruption affects their learning abilities. Most States have major emotional problems, an estimated 10 percent of children and 30 percent have mental health problems than half of the children in the (White House Conference on

Although the problem is to treat and "cure" (because family disruption, child abuse, and neglect are factors of day care centers are common on a daily basis. They discuss practical ways to make efforts to improve the conditions are in a strategic position on many kinds of services. Early intervention is often the form of prevention, treatment

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all suspicious cases resulting in the injury or death of a child to determine whether child abuse, rather than purely accidental injury, is involved (Smith and Hanson, 1974). Various federal and state laws now require day care centers, preschools, grade schools, medical institutions, doctors, and *individuals* to report immediately cases of either *suspected* or confirmed child abuse. Consult with local police, hospitals, and child protection agencies for procedures on reporting and follow-up in your area.

Although it is difficult to estimate the exact magnitude of child abuse and neglect, a 1970 survey projected a nationwide total of two to four million physically battered children (Bronfenbrenner, 1974). In addition, it is estimated that the ratio of child neglect to child abuse may be as high as ten to one (Kadushin, 1974). More than 90 percent of the abusing incidents took place in the child's home (Bronfenbrenner, 1974), and over 30 percent involved children age three years or younger (White House Conference on Children 1970a). Thus, many of the victims are in the age group that day care personnel see daily.

Family disruption is a major cause of child abuse and neglect. The first-marriage success rates are approaching an all time low and illegitimacy and divorce rates have reached all time highs. One in four teenagers is a parent, and most of their offspring are illegitimate. Also, one in four parents under twenty-five is heading a family without a spouse. Among low-income families almost half of all children under six are living in single-parent households. At least one in three children growing up in the 1970s lost parents through divorce. The total proportion of children affected by significant family disruption is close to 50 percent. Clearly, this state of affairs "does not fit America's conception of the typical family, and it calls for some fresh thinking" (Bane, 1977; "What Statistics Show," 1977).

Family disruption affects children's emotional health and influences their learning abilities. More than 10 percent of children in the United States have major emotional and mental health problems. In low-income populations, an estimated 50 percent of children have general health problems and 30 percent have mental health problems (Berlin, 1975). Less than half of the children needing mental health services are receiving them (White House Conference on Children, 1970b).

Although the problems linked with social pathology are very hard to treat and "cure" (because of the complexities involved in such areas as family disruption, child abuse and neglect, and mental health), administrators of day care centers are increasingly faced with dealing with such problems on a daily basis. They must strive to make a beginning. Chapter VII discusses practical ways to involve families and community agencies in efforts to improve the condition of children. It notes that day care centers are in a strategic position to identify, initiate, coordinate, and follow up on many kinds of services on behalf of young children and their families. Early intervention is often the least expensive and the most rewarding form of prevention, treatment, or both.