

Continuing Education System for Children required Long-term Health Care Treatment

—Focusing on Massachusetts' Obesity Program —

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***Abstract:** This paper examines the learning system for children who have difficulty attending school due to medical treatment. The former part deals with the learning system for children under medical conditions. The latter part deals with the care and education of obese children. Since school education is the exclusive domain of the states in the United States, it is more effective to focus on specific states that are often the focus of attention in education policies, rather than focusing on America as a whole. Another characteristic of the United States is that the proportion of adolescent children diagnosed with obesity is significantly higher. For this reason, focusing on measures against obesity in the United States is thought to provide insight into a wide range of health diseases. The Massachusetts program suggests the generalization of knowledge about obesity, lifestyle habits, and daily life behavior. In conjunction with children's hospitals and school physical education, exercise programs, learning about nutrition in home economics, the possibility of drug treatment, and economic effects are widely covered as learning content. Through the examination of related programs and school curricula, implications can be made for the curriculum development for obese children in general.*

Keywords: *medical treatment, obesity, health care, Massachusetts, program*

1. Introduction

This paper examines the learning system for children who have difficulty attending school due to medical treatment. In this period, compulsory education and reasonable accommodation systems require that learning continue even when undergoing medical treatment. For students who require long-term medical treatment, interruptions to learning due to treatment must be kept to a minimum. In other words, rather than returning to school after treatment is completed, there is a need for learning guarantees so that school education can continue while undergoing treatment. This is because many countries have a compulsory education system with grade progression according to age, and adopt a system of completion rather than the acquisition of courses of study.

The Convention on the Rights of Persons with Disabilities requires that all children, including disabled children, should have access to education (Article 24)¹⁶⁾. It also requires that access to health services and health rehabilitation be guaranteed (Article 25)¹⁶⁾. Some countries define children with disabilities separately from children receiving medical treatment, but some define illness as health impairment⁷⁾. Therefore, it can be clearly indicated that education is also required for sick children¹³⁾. As mentioned, since it is necessary to treat illness and study at the same time, the linkage and cooperation between medical care and study in schooling is an important issue. For example, in Japan, according to the School Education Act and related rules, children at the compulsory education stage who require long-term hospitalization are transferred to a special education school attached to a hospital. If treatment continues at home or if the child is admitted to an institution of medicine or welfare, guidance is provided by visiting teachers.

Maintaining and improving the continuing education system is an important issue. However, the transition of children to a new place of study is not always smooth. In Japan, many elementary and secondary schools are public, but are under the jurisdiction of municipalities. Many special education schools are also public, but are under the jurisdiction of prefectures. Furthermore, there are cases where children are hospitalized at specialized medical institutions for treatment. In some cases, children must be transferred to a medical institution that provides highly advanced medical care, such as a university hospital far from their place of residence. The transfer of a child's learning environment can take time for administrative procedures to be completed by the government. It can take up to about two weeks for a child to start studying at a school attached to the hospital after being hospitalized.

It is also useful to pay attention to the development of medical policy. Since the second half of the 20th century, infectious disease control measures have shown some success. Although COVID-19 has been a pandemic rarely seen in history, it can be said

that the main issue in health and medical care in human history has been overcoming infectious diseases, followed by measures against cancer⁹⁾. Kurokawa also suggests that after measures against infectious diseases and cancer, we are entering an era of lifestyle-related diseases⁹⁾. Although the politics of health care differ among nation states, health care systems and schooling in the compulsory education can be understood as global issues.

This paper focuses on the system in Massachusetts State. The former part deals with the learning system for children under medical conditions. The latter part deals with the care and education of obese children. Since school education is the exclusive domain of the states in the United States, it is more effective to focus on specific states that are often the focus of attention in education policies, rather than focusing on America as a whole. Another characteristic of the United States is that the proportion of adolescent children diagnosed with obesity is significantly higher. For this reason, focusing on measures against obesity in the United States is thought to provide insight into a wide range of health diseases.

2. Education system for the Students with Obesity in Massachusetts

2.1 Research Framework

According to Boff et al. (2021), hospital-based school service programs have special features. These include the choice of course, one-on-one tutoring, classroom instruction, and other learning formats²⁾. It has also been pointed out that collaboration between the health care system and the education system is observed. Regarding hospital-based education, two primary models are settled²⁾.

The first model is that learning instruction in the hospital is provided by teachers from the local public school district. If the hospital where the child is hospitalized is in the same school district as the home school where the child was enrolled before hospitalization, a normal teacher can support the child's learning²⁾. If the hospital where the child is hospitalized is in a different school district from the school where the child is enrolled, support from the school where the child was enrolled before hospitalization can be withdrawn and educational services can be received in the new school district. In addition, as an alternative to avoid the process of withdrawing support from the school before hospitalization, the school district supporting the hospitalized school exchanges vouchers with the school district where the child lives in exchange for sending teachers to the hospital. This exchange“means that all the activities done during hospitalization will be officially recognized when the child returns to the home school”²⁾.

The second model is for hospitals to develop and provide their own hospital-based school programs ²⁾. When this service is provided, teachers employed by the hospital teach the children. In this case, the "partnership with a community-based teacher" is promoted for the creation of learning objectives and curriculum. And credits through course work are provided by community school teachers ²⁾. All coursework is based on the Common Core State Standards. "Academic standards for what every student is expected to learn in each grade level". In addition, curriculum standard is "differentiated and modified to meet the student's present level of performance" ²⁾. Boff and colleagues suggest when both models are available, services provided by hospital-employed teachers are preferred, especially for shorter hospitalizations because the process of enrolling a child in a school district is more administratively difficult and time consuming ²⁾.

2.2 A Case in Newton Public Schools

In Newton Public Schools in Newton, Massachusetts, students who remain at home or in the hospital for medical reasons for more than 14 days during the school year are entitled to home/hospital education services as provided in 603 CMR 28.03(3)(c) ¹⁰⁾. Students with chronic illnesses who have repeated stays at home/hospital for less than 14 days and whose recurrences exceed or are expected to exceed 14 days during the school year are also eligible to receive home or hospital education services, provided that such services are requested and the medical necessity is documented by a physician. In this context, "Newton Public Schools students" refers to students enrolled in Newton Public Schools or students receiving publicly funded education in an educational community or an approved private day or boarding special education school ¹⁰⁾.

If the student's attending physician determines that the student's medical condition requires hospitalization or home care for more than 14 days, the physician must notify the school district serving the student to begin the home/hospital education process. The student's attending physician must complete Department of Elementary and Secondary Education Form and submit it to the student's principal or other appropriate program administrator. The physician's signed affirmation form must include at least the following information: 1) The date the student was hospitalized or confined to home, 2) The medical reason for the confinement, 3) The expected duration of the confinement, 4) The student's medical needs to be considered when planning educational services at home or in the hospital,

The completed physician's affirmation form must be submitted to the principal at the elementary school level and to the student's guidance counselor at the middle and high school levels¹⁰⁾.

2.3 A Case in Boston Public Schools

In Boston Public Schools system, home and hospital instruction have the purpose to provide publicly funded students with the opportunity to continue their education even if a doctor determines that they are medically unable to attend school. In accordance with Massachusetts regulation 603CMR28.03(3)¹⁰. Home and hospital instruction works with schools, parents, agencies and hospitals to ensure the alignment of educational goals and curricula, and to provide accurate service delivery to at least provide the instruction necessary to keep students on track and minimize educational loss that may occur during periods of confinement to home or hospital. Services are provided frequently enough to allow students to continue their educational program, as long as they do not interfere with the student's medical needs⁵).

The eligibility guidelines of “Home and Hospital Instruction” are as follows: 1) A physician determines that a student is physically unable to attend school, 2) A student has been or will be out of school for more than 14 consecutive days or who can be anticipated to accumulate more than 14 absences in a school year at home or in a hospital (i.e., sickle cell disease, cancer treatment, etc)⁵). When it is deemed by the student’s attending physician or pediatrician that he or she will be confined to a home or hospital setting for more than 60 days, the student will then be evaluated by the Special Education Department under state guideline/regulation 603 CMR 28.04(4)¹¹). A student is marked Constructively Present (CP) for the period during which student receives home/hospital based services and receives a passing grade for all work that has been satisfactorily completed. No home/hospital based instruction will be provided over the summer break unless designated in an IEP and the child is unable to attend extended school year⁵).

3. Childhood Obesity

Since the latter half of the 20th century, the emphasis of medical policy has shifted from measures against infectious diseases and cancer to lifestyle-related diseases. In recent years, the age at which various diseases are contracted has been increasing. Diseases that were previously considered specific to adults are also tending to be seen in children. Depression is a typical example of mental illness. Lifestyle-related diseases and type 2 diabetes are typical examples of physical illness. Issues that have been dealt with exclusively in adult medicine are now also being applied to children.

It is necessary to taking a look at recent trends in obesity. In Asian countries, the trend toward obesity among children has remained at a relatively low level. However, obesity has become a global issue, especially in North and South America. Table 1 shows the

percentage of obese patients aged 15 years and over in several countries.

Table 1. As Percent of Population (over 15 years) in 2016 ¹⁴⁾.

Country	Rates
United States	40.0%
Chile	34.4%
Mexico	33.3%
Canada	28.8%
United Kingdom	26.2%
Sweden	13.0%
Italy	9.8%
Korea	5.5%
Japan	4.2%

According to Stohl (2023), research from the United States Centers for Disease Control (CDC) found that between 2017 and 2020, approximately 19.7% of children and adolescents ages 2–19 were affected by obesity ¹⁵⁾. This data means that every 1 in 5 children were affected by childhood obesity ¹⁵⁾. Research has shown that between 2017–2020, 22.2% of children and adolescents ages 12–19 years old were obese, 20.7% of children ages 6–11 years old were obese, and 12.7% of children ages 2–5 years old were obese ¹⁵⁾.

4. Program for the Students with Obesity

4.1 Understanding for Obesity

Previous studies have also pointed out that childhood and adolescent obesity often transitions into adult obesity, and that it also affects health in adulthood. Focusing on life stages, emphasis is placed on correcting unhealthy lifestyle habits in adolescent obesity, but at the same time, it has been pointed out that this is extremely difficult ¹⁾. Additionally,

important concepts that contribute to understanding obese children include "gaining knowledge through education," the "roll model," and the "image of fat being bad" ⁶⁾.

4.2 Program Contents

In developing the program, attention is paid not only to individual factors, but also to environmental and social factors. Therefore, in addition to working on individuals, approaches are also taken to the home environments of the students who are the target of the program. Work on eating behavior and eating habits includes home visits, nutrition education at school, and providing opportunities for physical activity.

The New Balance Foundation and Boston Children's Hospital share a mission to end the childhood obesity epidemic. Boston Children's Hospital received the award as the best children's hospital in the United States in 2024-2025 by U.S. News, and the award as the best children's hospital in the world in 2025 by the Newsweek ⁴⁾. In this foundation, healthy habits are important for everybody in the family, regardless if the goal is overall general health or weight loss in particular. Since 2017, the program for the youth with obesity have been provided through reliable guidance on healthy living via the Boston Children's fit kit, with resources on five key topics that directly impact children's health. The five key topics are 1) nutrition, 2) fitness, 3) sedentary time, 4) sleep, 5) stress ³⁾.

In parallel, the curriculum includes a wide range of topics, such as exercise programs linked to school physical education, learning about sugary drinks and their manufacturers linked to nutrition studies in Home Economics, the possibility of pharmacological treatment for weight loss, and the economic benefits of continuing to count calories ¹²⁾.

5. Discussion and Further Research

The program for obese children aims to clarify the trends in dietary habits, eating habits, and health management. Childhood and adolescent obesity often leads to adult obesity, and affects health in adulthood and beyond. Focusing on the life stage, emphasis is placed on correcting unhealthy lifestyle habits in adolescent obesity, but at the same time, this is extremely difficult.

The Massachusetts program suggests the generalization of knowledge about obesity, lifestyle habits, and daily life behavior. In particular, it can be said that the risk of obesity and lifestyle habits such as diet and exercise habits as countermeasures are becoming apparent as health literacy. In conjunction with children's hospitals and school physical

education, exercise programs, learning about nutrition in home economics, the possibility of drug treatment, and economic effects are widely covered as learning content. Learning to proactively address one's own health issues is suggested. Through the examination of related programs and school curricula, implications can be made for the curriculum development for obese children in general.

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