

figures (Matching Familiar Figure Test). Further, in the Cambridge study, the subjects with the largest changes in glucose level (from the morning they ate breakfast to the morning they did not eat breakfast) were more likely to have an increased number of errors on the Matching Familiar Figure Test ($P < .05$). In Houston, subjects' errors on the test were negatively associated with insulin ($r = -0.39$; $P < .01$) and glucose values ($r = -0.21$; $P < .10$) at noon time.

The studies in Peru and Jamaica confirmed what is generally believed to be an advantage of school feeding programs: they increase the attendance rate of children

Consumption of breakfast (milk, cereal with sugar, egg, juice, and toast; energy and nutrient information not reported) also improved performance in a vigilance task (Continuous Performance Test) among well-nourished 9- to 11-year-old US children (8). At 9:50 AM, 11 AM, and 12:10 PM, fewer errors were made and performance was less variable under the breakfast condition than under the no-breakfast condition. At midmorning, fasting resulted in poorer performance in an arithmetic task. Breakfast reduced the amplitude of visual-evoked potential (an autonomous response) during administration of the Continuous Performance Test and reduced cardiac acceleration in response to a tone (6-second, 1,500-Hz tone at 78 dB) after the administration of the test. These psychophysiologic responses are generally associated with improved vigilance and attention.

In Kingston, Jamaica (9), nutritional status (as defined by clinical history and anthropometry) modified the effects of breakfast (590 kcal) among low-income children. On the one hand, breakfast did not make a difference in cognitive test performance among children whose height and weight were normal for their age. On the other hand, nutritionally at-risk children improved their performance when they ate breakfast. This latter effect was particularly evident on the verbal fluency and digit-span-backward tests for children who were stunted (with or without wasting). Wasted and stunted children benefited on the Matching Familiar Figure Test and on an arithmetic test. In this study, breakfast was served at 8 AM and the children were tested 3 hours later.

Another study in Jamaica (10) was conducted in four rural schools attended by children of subsistence farmers. In contrast to previous studies that were conducted in research facilities, this project was conducted in the school setting. Two hundred children from the third and fourth grades were selected according to anthropometric criteria: half the sample (undernourished) were children with weight-for-age values less than -1 standard deviation (SD) of the US reference standards and the other half (adequately nourished) had weight-for-age values greater than 1 SD. These groups were matched for sex and grade level. The investigators used a crossover design within the school setting. The breakfast and placebo were given at 8:30 AM. Cognitive functions were evaluated from 9 AM to 12 PM. Breakfast consisted of 225 mL chocolate milk and a cheese sandwich; an orange was given as a placebo. The battery of psychological tests included verbal fluency, digit span, visual search, and reaction time.

In agreement with the first Jamaican study (9), there was a significant interactive effect (treatment \times nutrition status) on the fluency test. Briefly, performance improved with consumption of breakfast in the group with low weight for age, but not in the well-nourished group. In the control group, on the other hand, performance declined with consumption of breakfast. No other significant findings were observed.

A study in Chile (11) of nutritionally at-risk children enrolled in the third through fifth grades found no effects of breakfast (two sweet cakes and 200 mL milk; 394 kcal) on cognition. This finding is suspect, however, because the children stayed at home the night before the experiment, and the investigators had no control over their food intake. Although the children were instructed not to eat on the morning of the experiment, 23% of them reported having done so. Also, the interim between breakfast and cognitive testing was 1 hour, that is, about 2 hours less than in three of the four studies previously reviewed.

University students in Great Britain provide additional insight into the effects of breakfast. In one study (12), consumption of breakfast (nutrition information not reported) improved the students' performance in spatial memory and immediate recall. Performance, in turn, was positively associated with blood glucose levels under the fasting and breakfast conditions. A more recent paper (13) reported the results of two experiments. In the first, no effects of breakfast (<25 g cornflakes, 150 mL semiskim milk, 2 tsp sugar, 1 slice whole-meal toast, 10 g polyunsaturated margarine, and 25 g marmalade) were observed in a simple reaction-time test, a serial response task, and a repeated-digits vigilance task. In the second experiment, breakfast affected two memory tests: free recall and recognition memory. A test of logical reasoning showed paradoxical effects, that is, subjects performed better under the no-breakfast condition.

Dickie and Bender (14) conducted a study in a boarding school in the United Kingdom to assess the effects of omitting breakfast on different aspects of cognition. Students (mean age = 12.7 years) were randomly assigned to one of two groups and were tested on 3 consecutive days 5 weeks after the beginning of the intervention. One week later, the subjects were tested again on three consecutive mornings; however, in this second round the subjects in the experimental group omitted breakfast but those in the control group followed the normal breakfast routine. Tests of short-term memory, serial memory, memory, and attention failed to discriminate between groups. Consumption of breakfast appeared to have no effect.

Studies on efficacy In 1993, the government of Peru implemented a school breakfast program targeting economically impoverished areas of the country with the intent of improving the nutritional status of elementary-school children. In association with the school breakfast program, two studies were carried out in Huaraz, a district in the central Andean region, to test the effects of the program on cognitive performance and educational achievement. An experimental study (S. Cueto et al, 1995, unpublished data) was conducted in the city of Huaraz, and a field trial was carried out among 10 rural schools (15).

The experimental study tested the interactive effects of breakfast and nutritional status on different cognitive processes. By design, the subjects were used as their own controls in a research center. Nine- to 11-year-old boys enrolled in the fourth and fifth grades were classified into one of two categories of nutritional risk. No-risk was defined by a height-for-age value less than -1 SD and weight-for-height value of 0 SD or

greater than the standards of the US National Center for Health Statistics (16). Nutritional risk was defined by a height-for-age value -1 SD or less and weight-for-height value -0.5 SD or less. A battery of psychological tests was administered at 11:30 AM. Three tests were taken using paper and pencil (Number Discrimination, Peabody Picture Vocabulary, Raven Progressive Matrices) and three others were computerized (Reaction Time, Stimulus Discrimination, Sternberg Memory Search). The latter three tests are part of the Cognitive Abilities Test battery, which includes 10 tests of basic cognitive abilities and 1 defined as a progressive-matrices-type task (DK Detterman, unpublished data, 1993). Breakfast consisted of a small cake (50 g) and a glass of Amilac (Instituto Investigacion Nutricional La Molina, Lima, Peru), a beverage similar in taste and color to milk (50 g). This composition was the same as that of the breakfast distributed by the national school breakfast program in Peru. A diet soft drink without caffeine was used as a placebo.

Two of the six tests showed the expected beneficial effects of breakfast. Scanning speed in the short-term memory test was faster under the breakfast condition than under the no-breakfast condition. At-risk children were also prone to fail in the discrimination of geometric patterns when breakfast was omitted. In contrast to the results of previous studies (6,7), glucose level did not predict performance in either risk group.

Cromer and collaborators (17) also carried out a study on breakfast and cognition with 34 adolescents (mean age=14.2 years) in the United States. Their sample was selected from a predominantly white, middle-class population. Eighteen subjects (60% females) were randomly assigned to an experimental condition in which they consumed the meal given as part of the US school breakfast program; the remaining subjects (56%) consumed a low-energy breakfast. The government breakfast included a doughnut, chocolate milk, and orange juice, whereas the low-energy breakfast included diet gelatin and powdered milk. Subjects were admitted to a research center on the evening preceding the dietary experiment. They took a series of cognitive tests (Peabody Picture Vocabulary, Auditory-Verbal Learning, Matching Familiar Figure Test, Continuous Performance Test, State-Trait Anxiety Inventory) at 11 AM, about 4 hours after they had received either the government or a low-energy breakfast. None of the tests discriminated between treatments. Neither β -hydroxybutyrate nor glucose determinations obtained at 8 AM and 11 AM predicted test performance.

An important difference between the study by Cueto et al in Peru and that of Cromer and collaborators in the United States is that the former was part of an evaluation of the national school breakfast program, whereas the latter was self-contained, independent of any other evaluation.

Discussion of results of experimental studies No matter what research setting was used, consumption of breakfast consistently benefited the cognitive performance of undernourished children, particularly in working memory tests. Consider, for example, the results of the digit-span tests in Jamaica and the speed of memory scanning test in Peru. However, the influence of breakfast was not restricted to memory: performance in the verbal fluency test was enhanced in the two Jamaican studies as was vocabulary in the Peruvian field study.

The experimental study in Peru was a test of the efficacy of the national school breakfast program and as such the data have direct programmatic relevance. If the program is well implemented and reaches eligible children, it will give an educational advantage to those who are nutritionally at risk.

Among well-nourished children, the data are not clear. Well-nourished, middle-class children and adolescents in the United States and Great Britain exhibited cognitive benefits from the consumption of breakfast. Conversely, well-nourished children in Jamaica and Huaraz, Peru, showed no effects. This discrepancy cannot be explained by the available data in the different settings. A speculative conclusion is that the children in developing countries were accustomed to missing breakfast and were free of stress.

In some well-nourished, middle-class children in the United States and Great Britain, working memory was sensitive to the fasting condition. This finding concurs with the observations for at-risk subjects in Jamaica and Peru.

No definitive conclusions can be made on the relationship between glucose level and performance under conditions of an overnight and morning fast. The number of studies that found a significant association between these two variables is about the same as those that did not. Further research should shed light on this potentially explanatory variable.

Field Studies — Evaluation of School Breakfast Programs

The following three studies addressed the effects on cognition of the national school breakfast programs in the United States (18), Jamaica (19), and Peru (15). The US study determined the effects over a school year, the Jamaican study was concerned with the effects over 3 months, and the study in Peru tested for effects over 3 weeks.

Ideally, in learning about the effects of breakfast consumption, we should be able to use data from past evaluations of the US school breakfast program. Surprisingly, no such data are yet available. The school breakfast program provides meals to students at full price, reduced price, or for free, according to uniform national eligibility criteria based on family income and size. For fiscal year 1994, the cost of the free breakfasts was \$821,125,437 (20).

The authorization of the US school breakfast program did not include a prescription to monitor and evaluate its effectiveness. A national evaluation of the school nutrition program, which did not include cognitive or educational outcomes and which included programs whether children participated in them or not, concluded that the school breakfast program had no direct effect on the nutrient intake of the students (21). The results indicated, that the program did make a difference as to whether children ate breakfast at all. Where the program was available to them, students were more likely to eat breakfast than were those without access to the program. Furthermore, approximately 3 million children did not eat breakfast where there was no school breakfast program (22).

Data for the 1991-1992 academic year from the School Nutrition Dietary Assessment Study (23) showed that the school breakfast program was available to slightly more than half of the nation's students. However, fewer than 20% of those for whom breakfast was available participated. About 12% of the students did not eat breakfast, regardless of whether they were enrolled in the program.

¹The national evaluation included three field studies: the Cross-Sectional Survey of Students (CSS), the Household Survey of Parents (HSP), and the Food Administrator Survey (FAS). The CSS used a nationally representative sample of public school students in grades 1 through 12. The HSP provided information on the families. These two surveys worked with the same sample because information was required for both students and their families (N=6,556 students and families). The FAS was designed to yield data on a nationally representative sample of public school districts and schools.

A strong evaluation of the US school breakfast program was conducted by Meyers et al (18) in Lawrence, Mass. Lawrence is an ethnically diverse city with a high percentage of low-income families. The median household income (\$11,980) at the time was below the median income for the US population. About 70% of the children in the school system were considered low income in 1986; 63% were members of minority groups. Six schools were chosen to participate in the evaluation. All children in grades 3 through 6 were considered eligible to enroll if they had qualified to receive free or reduced-price school meals and had been registered in the public school system for the second semester of both school years 1985-1986 and 1986-1987. The school breakfast program was implemented in late January, before the start of the second semester of the 1986-1987 school year. Children were considered program participants if they were recorded as having had the school breakfast on at least 60% of those days and nonparticipants if they were not recorded as having participated on any of those days.

Data suggest that brain function is sensitive to short-term variations in availability of nutrient supplies, particularly for at-risk 9- to 11-year-olds for whom omission of breakfast alters speed and accuracy of information retrieval and working memory

The Comprehensive Test of Basic Skills was used as the achievement indicator. Before program implementation, those who were to be enrolled in the program had significantly lower scores than nonparticipants in the total score for the achievement battery, as well as on the reading and mathematics subtests. Absence and tardiness rates for the second semester (before implementation) did not differ between the groups. The improvements from 1986 to 1987 were significantly greater for participants than for nonparticipants in the total score of the Comprehensive Test of Basic Skills and in the language subscore. Tardiness rates decreased for participants and increased for nonparticipants. The program effects were clearest among boys and Hispanics.

Two design factors worked against a fair evaluation: the subjects were not assigned randomly to a breakfast and no-breakfast condition, and there were initial differences in performance between participants and nonparticipants. This difference in favor of the latter group could explain, in part, why the change in the group of participants was greater than that in the nonparticipants. In a nonrandomized study, those who attain lower scores may be jeopardized by a greater accumulation of error measurements within their group, causing a lower score than otherwise expected. However, there is no reason to suspect the presence of a regression to the mean in connection with the intergroup differences in tardiness and absenteeism, as the initial rates of these two variables were equivalent between the two groups.

Powell et al (19) conducted a careful evaluation of school feeding in Jamaica. They measured the effects of administering

a standard government meal (milk and either a banana cake or a pastry containing minced meat and vegetables) to a class of schoolchildren who were undernourished and had poor rates of school attendance and achievement. Mean age was 12.5 years for the 115 participants. Subjects received one of three treatments for about 3 months: breakfast, syrup, and no supplement. Consumption of breakfast had no effect on either weight or height. It did have significant effects on performance on an arithmetic test and on school attendance. The decline in truancy was explained simply by the availability of a decent daily meal for the child during the study period.

The second study conducted in Peru in association with the school breakfast program was a clinical trial with random assignment of schools ($N=10$) to one of two conditions: the school breakfast program was or was not available (15). This evaluation looked for improvements in daily nutrient intake, school attendance, and cognitive test performance. The interim between the pretreatment and posttreatment assessment was about 15 days. After introduction of the school breakfast program, the total dietary intake of the children enrolled in the program increased significantly. The mean energy intake of the children in the program was 2,181 kcal, compared with a mean energy intake of 1,731 kcal among the control children ($P<.001$). The difference in mean protein intake was 11 g ($P<.001$). In addition, after the introduction of the school breakfast program, attendance at schools where the students received breakfast increased, but it dropped in the schools that did not implement the program ($P<.05$).

Because of low test-retest reliability, digit discrimination and digit-span tests were excluded from the intergroup comparisons. Of the remaining four tests, one (on vocabulary) showed treatment effects. In particular, the interaction between breakfast and the *residual of weight*² explained a statistically significant portion of the variability in the vocabulary scores in the posttreatment assessment. Paradoxically, among the children who received breakfast, those with the highest weight residual benefited most from the program. Among those who did not receive breakfast, the weight residual was inversely related to test performance. Furthermore, in separate analyses the weight residuals were negatively associated with performance in coding, reading, and arithmetic tests in the pretreatment evaluation.

To understand such unexpected findings it is useful to recall that, on average, the children were notably stunted and overweight for their height. This anthropometric pattern among poor children in populations where malnutrition is endemic in Peru has been interpreted (24) as a sign of possible nutritional risk. Researchers have proposed that chubbiness indicates excess body water and could have adverse functional consequences. Under these conditions, breakfast ameliorated the functional deficit.

Discussion of the effects of school breakfast programs
The data from the three studies cited are insufficient to draw definitive conclusions regarding the educational benefits of school breakfast programs. Although these studies are stronger than those available previously, they are not immune to criticism. For example, as noted, the internal validity of the study in Lawrence, Mass, was limited because the subjects tested were not assigned randomly to a breakfast and a no-breakfast condition. Weaknesses in design, however, must be

²A weight residual was calculated because some of the extreme values in weight for height observed in the sample are not included in the reference anthropometric standards. Weight residual = weight regressed on height and age for each subject.

weighed conjointly with the strengths of the overall study. The validity of the study is strengthened by a well-designed inter-group comparison of pretreatment and posttreatment scores generated from a standardized achievement test.

It is plausible that the observed cognitive and educational benefits of the school breakfast program in Lawrence were mediated by pretreatment-to-posttreatment changes in the nutritional status of the beneficiaries. However, the data do not permit us to conclude that such a change occurred and that it was a key explanatory variable. At issue is whether school progress can be improved by a school breakfast program even if the child's habitual nutrient intake, independent of the school breakfast program, meets the child's nutrient requirements. It is indeed plausible that the school breakfast program protects children from the cumulative limitations on learning resulting from daily attendance at school without eating breakfast. Consider that this would be the case for about 12% of schoolchildren in the United States.

The studies in Jamaica and Peru confirmed what is generally believed to be an advantage of school feeding programs: they increase the attendance rate of children. In addition, the study in Peru suggested that the benefits of breakfast are particularly noticeable among nutritionally at-risk children.

CONCLUSIONS

Most design and method limitations observed in the studies published before 1978 have been resolved in the research conducted since that year. In particular, study design has improved with the use of experimental, crossover strategies and strict control of confounders. Well-defined hypotheses regarding the nature of the effects and the mechanisms behind them have been indicated, and cognitive and educational outcomes have been measured by means of reliable tests. Nevertheless, some limitations prevail. For example, a previous review of the literature (1) suggested that an overnight and morning fast affected the emotional status of children; yet none of the new studies focused on this issue. Similarly, there is an absence of research on the relationships among fasting, activity level, and cognition. Moreover, questions about the role of age, sex, and body composition as effect modifiers were not raised in the past, and the most recent studies have not accounted for these important variables either.

Within the area of nutrition and behavioral research, perhaps the most important conclusion to be drawn at this time is that the data, as a whole, indicate that brain function is sensitive to short-term variations in the availability of nutrient supplies. This indication is particularly strong for nutritionally at-risk (defined by history and anthropometry) 9- to 11-year-old children. In these children, the omission of breakfast alters brain function, particularly in the speed and accuracy of information retrieval in working memory. The data suggest that these alterations occur not only under controlled laboratory conditions but also in the classroom. The mechanisms that explain these effects need to be delineated.

Although no definitive conclusions are yet justified, the evidence suggests that working memory in well-nourished children is sensitive to the effects of an overnight and morning fast. If this suggestion were to be confirmed, it would have strong implications for the role of nutrition intervention in school settings — not only for developing societies but also for the industrialized world. In other words, the omission of breakfast would make a difference in the schooling process.

Perhaps the widest gap in the present literature regards the effect that nutrition changes attributable to school breakfast programs may have on cognitive function and educational achievement. Data from other areas of nutrition and behavioral

research suggest that highly prevalent nutrient deficiencies (eg, iron deficiency anemia) affect cognition, and that they can be prevented or remediated by a school breakfast program. Current evidence that breakfast makes a difference in school performance will be greatly enhanced by such new data.

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Center on Hunger, Poverty and Nutrition Policy

Tufts University
School of Nutrition

Statement on

The Link Between Nutrition and
Cognitive Development
in Children



1995

The Nutrition-Cognition Initiative

The Nutrition-Cognition Initiative is a program of the Center on Hunger, Poverty and Nutrition Policy at Tufts University School of Nutrition. Its purpose is to broaden public awareness about the known relationship between nutrition and cognitive development, and to enable policymakers to incorporate this knowledge into public policies which protect vulnerable youngsters. While current research conclusively shows the links between poverty, nutrition and cognition, much of this research is recent enough that it has not yet been incorporated into public policies designed to protect American children.

The Initiative's activities and publications are designed for a range of constituencies including educators, national and local policymakers, corporate executives and the media.

Over the course of several years the Center will embark on a series of national and local activities. The Center will:

- Host a national working conference for researchers and policymakers
- Run a series of luncheons on Capitol Hill for members of Congress, the Executive branch and their staff
- Help provide expert opinion for Congressional hearings on the subject
- Publish reports summarizing the relationship between nutrition and cognition, and analyzing general policy directions for the future.
- Use research and successful models to aid state and community leaders in efforts to improve services for children and create a common agenda for children's health and well-being.

Support for the Center's work in the area of nutrition and cognitive development in children is provided by a grant from Kraft General Foods.

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Laura P. Sherman. Project Director

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We express appreciation to the National Advisory Committee of the Nutrition-Cognition Initiative. The work products of this undertaking, however, are those of the Center and do not necessarily reflect the views of individual advisors.

Second Edition, 1995

Foreword

Like other scholars in the field, my research has carried me across the world to observe and analyze the effects of child malnutrition. Over several decades we have built a compelling body of scientific knowledge about this severe problem.

We have now learned that even moderate undernutrition, the type seen most frequently in the United States, can have lasting effects on the cognitive development of children. Inadequate nutrition is a major cause of impaired cognitive development, and is associated with increased educational failure among impoverished children. While this relationship is recognized more and more by child development specialists, educators, and nutritionists, it is not well known among the general public. Neither have recent findings about this relationship been incorporated adequately into the nation's public policies.

The primary factor associated with poor nutritional status in this country is poverty, the inadequacy of family resources. Child poverty in the United States has been increasing at an alarming rate over the past decade. This increase, coupled

with the known link between poverty, nutritional status and the cognitive development of children, suggests that our country may be heading for a crisis of enormous proportions. It is critical that we examine the effectiveness of public policies designed to protect and nurture disadvantaged children.

New research findings highlighted in this document give us a much clearer understanding of how children are harmed by undernutrition, and how we can help them. The challenge now is to incorporate this new knowledge into programs and policies which improve the nutritional status and cognitive development of our most vulnerable youngsters. The "Statement on the Link Between Nutrition and Cognitive Development in Children" is an important step in bringing this important knowledge before the American public and its leaders.

Dr. Ernesto Pollitt
Professor of Pediatrics
University of California, Davis

Introduction

I am pleased to present to policymakers and the public this document which describes the latest research on the relationship between nutrition and children's cognitive development. The existing body of research shows a clear threat to the intellectual development of children who do not receive adequate nutrition. Except for the most extreme cases, however, damage caused by inadequate nutrition need not be permanent. This knowledge strongly argues for policies and programs that prevent or mediate the effects of undernutrition on children's development.

It is now known that from the moment of conception onward, inadequate nutrition threatens the behavioral and cognitive development of young children. Not surprisingly, children who suffer from inadequate nutrition also typically suffer from a range of other environmental insults associated with poverty. Poor housing, inadequate health care, unemployment and weakened family and community support systems all interact with undernutrition to impede a child's healthy development.

Compelling new research points to the need for comprehensive programs to improve children's welfare. It is not enough to expect that a child's opportunities will improve simply by addressing health care, or education, or housing. Nor is it enough to

address children's nutritional needs alone. This document explains why the nutritional status of children is a critical factor in their development. It is our hope that by making scientific knowledge in this field more accessible to policymakers, recent research findings will strengthen public efforts to protect American children.

Our nation stands at an auspicious moment. With child poverty rates continuing to climb to nearly 23 percent of all U.S. children in 1993, top leaders have made a commitment to invest in people to preserve our nation's economic and moral strength. While language like "investing in children" may be new to many people, it also may be the most important phrase by which to shape domestic policy. Increasing numbers of corporate CEOs, for example, note the strong link between our nation's future and the health and well-being of our children. Protecting children's health and cognitive development may be the best way to build a strong America. Achieving this goal, especially in light of the new research findings summarized in this document, is the challenge and opportunity now before us.

Dr. J. Larry Brown
Director

Center on Hunger, Poverty and Nutrition Policy
Tufts University School of Nutrition

New Findings About Child Nutrition and Cognitive Development

Recent research provides compelling evidence that undernutrition during any period of childhood can have detrimental effects on the cognitive development of children and their later productivity as adults. In ways not previously known, undernutrition impacts the behavior of children, their school performance, and their overall cognitive development. These findings are extremely sobering in light of the existence of hunger among millions of American children.

Undernutrition harms children silently. Even before it is severe and its results are readily detectable, inadequate food intake limits the ability of children to learn about the world around them. When children are chronically undernourished their bodies conserve the limited food energy available. Energy is first reserved for maintenance of critical organ function, second for growth, and last for social activity and cognitive development. As a result, undernourished children decrease their activity levels and become more apathetic. This in turn affects their social interactions, inquisitiveness, and overall cognitive functioning.

Even nutritional deficiencies of a relatively short-term nature influence children's behavior, ability to concentrate, and to perform complex tasks. Deficiencies in specific nutrients, such as iron, have an immediate effect on the ability to concentrate. Child hunger, defined by inadequate nutrient intake during the early years, is capable of producing progressive handicaps — impairments which can remain throughout life.

This evidence suggests that undernutrition costs far more than the diminished well-being of youngsters during childhood. By robbing children of their natural human potential, undernutrition results in lost knowledge, brainpower and productivity for the nation. The longer and more severe the malnutrition, the greater the likely loss and the greater the cost to our country.

Undernutrition begins to exact its toll even before the child is born. Pregnant women who are undernourished are more likely to have low birthweight babies. Along with other health risks that are common to low birthweight babies, these infants are more likely to suffer developmental delays. In the case of very low birthweight infants, permanent cognitive deficiencies

associated with smaller head circumference may reflect diminished brain growth.

Research shows that increasing independence and the development of social skills are central to a child's early development. When these activities are curtailed due to undernutrition, a child's overall cognitive development is threatened. Undernourished children typically are fatigued and uninterested in their social environment. Compared with their well-nourished peers, they are less likely to establish relationships or explore and learn from their surroundings.

When children reach school age, developmental delays associated with pre- and post-natal malnutrition often result in a greater need for costly special education services. Undernourished children also are more susceptible to illness and therefore more likely to be absent from school. Children who attend school hungry have diminished attention spans and are unable to perform tasks as well as their nourished peers. In these cases, the full value of the education provided is lost.

Anemia is one of the most prevalent nutritional disorders in the world, affecting nearly one quarter of all low-income children in the United States. Recent research shows that iron deficiency anemia has an adverse effect on a child's ability to learn by influencing attention span and memory. This pervasive deficiency is now known to have a severe impact on cognitive development.

Beyond its independent effect on cognitive development, iron deficiency anemia puts children at higher risk of lead poisoning. Scientific evidence shows that high lead levels result in neurodevelopmental disorders. Low-income children face a double jeopardy — they are more likely to be anemic and more likely to live in an environment where the risk of lead poisoning is high.

Lost Opportunities

Perhaps the greatest costs associated with undernutrition among children are the more intangible ones. In economic terms, these are "opportunity costs" — the costs of lost opportunity in which productivity with financial benefits would otherwise occur. In this area the lost opportunity is the contribution that nutritionally-deprived children might otherwise make to society as a whole and to the productivity and well-being of their families in adult life.

The life long effects of chronic undernutrition are cognitive limitations and behavioral impairments that restrict educational experiences and later adult productive capacity. One of the better predictors of a person's lifetime productivity is the number of years of school completed. Poor performance early in school is a major risk factor for dropping out of school in later years. Nutritionally deprived children are unable to benefit fully from schooling which, in turn, diminishes their potential as adults. This is a cost the nation pays indirectly through lost contributions, and directly through the provision of additional social welfare services.

With this greater understanding of the serious threats posed by even mild undernutrition in childhood comes a "silver lining." Unlike some social and health problems plaguing our young, undernutrition is preventable and its effects often modifiable. Many existing programs and treatments are known to be effective. Nutrition and prenatal care for women reduces the incidence of low-birthweight babies and subsequent developmental delays associated with that condition. Iron repletion therapy can reverse some of the effects of anemia on learning, attention and memory. And research consistently establishes that federal initiatives such as the School Breakfast Program and the Special Supplemental Food Program for Women, Infants and Children (WIC) have positive effects on the cognitive development of children. The benefits include higher performance on standardized tests, better school attendance, lowered incidence of anemia, and reduced need for costly special education.

Overview Of Recent Research Findings

A body of scientific evidence — some of it very recent — points to a highly compelling link between nutritional intake and cognitive development in children. Much of the human research in this area has been conducted in developing countries where undernutrition is severe, identified by kwashiorkor (protein deficiency), and marasmus (protein/calorie deficiency).

The degree of undernutrition identified most often in the United States is mild-to-moderate undernutrition. Typically it is caused by inadequate nutrient intake which can result in conditions such as iron deficiency anemia. On a longer-term basis it may result in actual growth retardation, where the child's body stops growing as reflected in diminished weight or height for age. While it is not appropriate to conclude that mild undernutrition has the same effects as severe malnutrition, conditions associated with the milder forms of undernutrition more typically experienced by poor children in the U.S. do pose a serious threat to children's well-being.

Evidence from developing countries regarding the relationship between undernutrition, poverty and cognitive development are relevant to our understanding of the effects of undernutrition in the United States. Moreover, international studies of treatment and preventive programs can provide useful information for approaches we may take in the United States to better protect the cognitive development of our children.

Current Scientific Research Links Nutrition and Cognitive Development

- Undernutrition along with environmental factors associated with poverty can permanently retard physical growth, brain development, and cognitive functioning.
- The longer a child's nutritional, emotional and educational needs go unmet, the greater the likelihood of cognitive impairments.
- Iron deficiency anemia, affecting nearly 25 percent of poor children in the United States, is associated with impaired cognitive development.
- Poor children who attend school hungry perform significantly below non-hungry low income peers on standardized test scores.
- There exists a strong association between family income and the growth and cognitive development of children.
- Improved nutrition and environmental conditions can modify the effects of early undernutrition.
- Iron repletion therapy can reduce some of the effects of anemia on learning, attention and memory.
- Supplemental feeding programs can help to offset threats posed to the child's capacity to learn and perform in school which result from inadequate nutrient intake.
- Once undernutrition occurs, its long-term effects may be reduced or eliminated by a combination of adequate food intake and environmental (home, school) support.

Scientific understanding of the nutrition-cognition relationship has evolved over time. Early studies on the relationship between nutritional deficits and brain function were guided by a "main effect" theory. The theory held that early exposure to a biological risk factor such as undernutrition during critical periods of brain growth could result in actual neurological trauma and permanent developmental abnormalities. The extent of neurological damage was thought to be directly related to the magnitude of undernutrition.

Recent evidence indicates that malnutrition alone does not necessarily cause cognitive alterations. Studies reveal differences, for example, in the cognitive functioning of children suffering from malnutrition due to illness, compared to children malnourished due to dietary deficiencies associated with poverty. Children malnourished due to illness generally do not show developmental delays associated with their malnutrition, whereas such delays are evident among malnourished children living in poverty.

Many researchers no longer emphasize that malnutrition alone causes irreversible damage to the brain. This indicates that the mechanism causing long-term cognitive impairment is not necessarily alteration of brain structure itself, although evidence is insufficient to rule out structural damage altogether.

Cognitive deficits related to undernutrition are now believed to result from complex interactions between environmental insults and undernutrition. A cumulative effect of persistent exposure to undernutrition and poverty has been shown clearly. The longer a child's nutritional, emotional and educational needs go unmet, the greater the overall cognitive deficits. Continuous low nutritional intake, for example, usually affects psychological factors such as motivation, attentiveness and emotional expression. These in turn, may have a negative effect on critical developmental processes including parent-child interaction, attachment, play and eventually learning. But unless major and irreparable physiological insult has occurred, improved nutrition and conditions in the social environment can modify the developmental effects of biological and social risk factors to which the child is exposed in early life.

In addition to favorable qualities in a child's environment, nutritional supplementation can modify and, in some instances rectify, cognitive impairment caused by earlier undernutrition. A study of children malnourished during pregnancy showed that those children who received only standard medical care displayed cognitive and interpersonal performance deficits until at least age three. In comparison, malnourished infants who received both nutritional supplementation and post-natal environmental stimulation were indistinguishable in cognitive or interpersonal functions from adequately nourished children.

In another study of malnourished children being rehabilitated through nutritional supplementation and play therapy, researchers examined the benefits of continuing the play therapy after nutritional rehabilitation was no longer necessary. The greatest and most lasting improvements were shown by children who continued to receive play therapy for several years after their nutritional therapy was completed.

In general new research findings show that lack of sufficient food during childhood, even on a relatively mild basis, is far more serious than previously thought. It can produce cognitive impairments in children which may last a lifetime. But the evidence also suggests that adequate nutrition can prevent many of these undesirable outcomes, and is capable of modifying harm that actually has occurred.

The Role of Key Nutrition Programs for Children

Our nation has in place a network of nutrition programs that were developed with the underlying aim to protect all citizens who are vulnerable to the harmful effects of hunger. Several key programs focus directly on ensuring that the most vulnerable children do not go hungry as a way to protect their healthy development and later productivity as adults.

The major nutrition programs targeted to children are described below. Research findings suggest that each program has significant potential to safeguard cognitive development, and to help insure good health in early years.

Special Supplemental Food Program for Women, Infants, and Children (WIC)

The Special Supplemental Food Program for Women, Infants, and Children (WIC) safeguards the health of pregnant, postpartum and breastfeeding women, infants, and children under five years of age. Household income must be below the eligibility level (no more than 185 percent of the poverty level), and participants must be at nutritional risk, based on abnormal weight gain during pregnancy, iron-deficiency anemia or related health risks. About 60 percent of those eligible for WIC receive its benefits.

The WIC program, authorized by Congress in 1972, was envisioned as a preventive program, providing food, nutrition education and improved access to health care in order to reduce nutrition-related health problems during critical periods of growth and development. The WIC program is funded by the federal government, but some states supplement the federal allocation for WIC.

WIC Research: The Benefits of Prevention

Research indicates that WIC is highly cost-effective. Data from several studies has demonstrated that by decreasing the number of low birthweight babies born and the need for hospital care for these infants, medical costs are reduced. A 1990 U.S. Department of Agriculture study showed that WIC spending on pregnant women was associated with substantial savings in Medicaid costs for newborns and their mothers during the first 60 days after birth. Every \$1 spent on the prenatal component of WIC yielded an average savings of about \$3 in Medicaid.

A study released by the Government Accounting Office (GAO) in the Spring of 1992, found that the prenatal benefits of WIC resulted in cost savings to other federal, state and local programs over the first 18 years of the lives of children. The study concluded that for every \$1.00 spent on WIC, \$3.50 is saved by averting medical and other related expenditures. This demonstrates how the prevention of problems through provision of adequate childhood nutrition is a sound investment for the nation.

The greatest cost savings associated with the WIC program are recognized during the first year of life in the form of reduced medical costs. The study also recognized long-term benefits of the WIC program, which include protection of a child's cognitive development. Among these are savings for special education that may have otherwise been required had the child not received adequate nutrition during pregnancy.

In a 1993 joint analysis of data in the Pediatric Surveillance System conducted by the Center for Disease Control's National Center for Chronic Disease Prevention and the Food Research and Action Center, the WIC program was shown to reduce the level of anemia among participating preschool children. Every year during the period 1982 to 1992, there was a decrease in the rate of anemia between an initial screening when children first entered the WIC program, and a follow-up visit done later in the same year. The decrease in the rate of anemia is statistically significant over time for all age groups studied — children ages six months to five years. Specifically, this data showed that WIC has a positive effect on older participating children. There was an average of a 17 percent decrease in the rate of anemia from initial WIC screening to follow-up for three-year-old children and an average of a 20 percent decrease for four-year-old children. The fact that WIC helps to reduce anemia, a nutritional problem affecting one in four low-income children, means that it helps protect children from the behavioral and cognitive deficiencies associated with anemia, described earlier in this article.

School Breakfast

The School Breakfast Program provides federal funds to schools and residential child care institutions to offer nutritious meals to students. Children from households with incomes between 130 and 185 percent of the poverty level receive meals at reduced rates; students from households with incomes 130 percent of poverty and below receive meals free. Although the School Breakfast Program is an entitlement program (meaning federal funds are available to pay its costs), it is not accessible to many children who need it because most school districts are not required to offer it. Under two-thirds of the nation's schools that offer lunch also offer breakfast.

The School Breakfast Program is administered nationally by the Child Nutrition Division of the Food and Nutrition Service of the U.S. Department of Agriculture. In most states, the state Department of Education administers the program.

Research on the Benefits of School Breakfast

In 1987, Meyers, Sampson, et al, examined the effect of the School Breakfast Program on school performance of low-income elementary school children in Lawrence, Massachusetts. The researchers were presented with a unique opportunity to test the effects of the School Breakfast Program on children for whom it was newly available. The researchers measured children's scores on standardized achievement tests as well as rates of lateness and absences prior to the implementation of the program. These variables were measured a year later (as well as three months after implementation of the school breakfast program.) Children who participated in the School Breakfast Program were shown to have significantly higher standardized achievement test scores than eligible non-participants. Children getting school breakfast also had significantly reduced absence and tardiness rates.

These research findings show that participation in the School Breakfast Program is associated with significant improvements in academic functioning among low-income elementary school children. The researchers attribute the academic improvements to the effects of a morning meal and to the longer term benefit of an improved dietary intake.

School Lunch

Authorized by the Child Nutrition Act in 1946 to "safeguard the health and well-being of the nation's children", the National School Lunch Program is an entitlement program open to all public and non-profit private schools and all residential child care institutions. The Program is administered by the Department of Agriculture, in conjunction with state education agencies and local education agencies. Lunch is available to all children at participating schools, and the meals must meet specific nutritional requirements in order to qualify for federal funds.

Household income is used to determine whether a child will pay a substantial part of the cost for their lunch or will receive a reduced-price or free meal. To receive a reduced-price meal, household income must be below 185 percent of the federal poverty level. For free meals, household income must fall below 130 percent of poverty. Children in food stamp households or AFDC assistance units are automatically eligible for free meals.

Research on the School Lunch Program

USDA research shows that children who participate in school lunch have superior nutritional intake compared to those who do not. Studies also show that low-income children depend on the School Lunch Program for one-third to one-half of their nutritional intake each day. These findings indicate that this program is highly significant insofar as protecting the nutritional status of most participating low-income children.

Summer Food Service Program

The Summer Food Service Program provides meals to low-income children in the summer months and during vacation periods. Sponsoring sites include public or private nonprofit organizations such as schools, Boys and Girls Clubs, churches and YMCAs. Eligible sponsors of the Summer Food Program must be located in areas where the majority of children are low-income and meals must meet specific nutritional requirements. All meals are free to participating children regardless of household income.

Many poor children rely on the school lunch and breakfast programs for a major portion of their daily nutrition during the school year. However, during the summer many children miss out on necessary nutrition because there are not enough summer food programs operating where eligible children live. In 1993, only 16.2 percent of the low-income children who participated in the school lunch program also received summer meals.

Research Needed to Establish Program Impact

There is a strong need for a greater body of scientific research into the impact of this program. While there is research which strongly points to the importance of this program, more attention needs to be devoted to the program as a means to protect the nutrient status of low-income youngsters during the summer months when they do not receive school breakfast or lunch. It is highly likely that, in the absence of school meals during the summer, the Summer Food Program plays a critical role in helping low-income youngsters achieve their nutrient needs. This is especially so given findings on the importance of school meals themselves which, during the summer, are not available. But further research is needed to establish this relationship, and to determine whether summer programs are an adequate supplement to meet children's nutrient needs during summer months.

The Food Stamp Program

The Food Stamp Program is the nation's first line of defense against acute hunger. The fundamental mission of the Program is to help low-income people buy food to improve their diets. Half of all food stamp participants are children and 87 percent are children, the elderly or women. The program operates as an entitlement: a household meeting the eligibility requirements is entitled to receive food stamps. To qualify, households must have gross incomes below 130 percent of the official poverty level, and meet stringent requirements which limit the value of assets such as automobiles.

The Food Stamp Program was established in 1964 and now operates in every county of the United States. The program is administered nationally by the U.S. Department of Agriculture and on the state and local level by welfare or human service agencies. The federal government pays the full cost of food stamps and at least half of the program's administrative costs, with state and local governments paying the remainder.

Research Findings on the Food Stamp Program

A sizeable body of research establishes the Food Stamp Program as a central component in helping low-income households achieve better nutritional intake. Recipient households attain a significantly larger proportion of recommended dietary allowances (RDAs) than do eligible non-participants. Nevertheless, weaknesses exist. Four of five recipients fail to reach established RDA standards on the average allotment of .75 cents per person per meal. Moreover, GAO studies have found that bureaucratic obstacles prevent up to a quarter of eligible households from receiving the coverage to which they are entitled. Finally, because of the cost and size of this program, ongoing research is needed to assess its impact and cost-effectiveness.

Child and Adult Care Food Program

Permanently authorized in 1978, the Child and Adult Care Food Program (CACFP) enables child care centers and family day care homes to provide meals and snacks meeting the USDA minimum nutritional requirements to children ages 12 and under in child care. This is achieved by mandating the provision of appealing, wholesome foods, including milk, meat fruits, vegetables and whole grains. CACFP meals often furnish virtually all the nutrition a child will receive in a day. There is no individual means test for eligibility in the family day care homes although there is in the day care centers.

Despite the availability of federal and state funds for the program, many child care centers and family day care homes, particularly those that serve low-income communities, do not participate. Limited outreach, licensing problems, language barriers, the need for more technical assistance for providers and the massive amount of paperwork discourage many child care operators from participating in CACFP.

Research Needed to Establish Program Impact

Substantial evidence exists that highlights the importance of providing comprehensive services for children including a stimulating child care environment and adequate nutrition. It is likely that CACFP helps to enrich the child care environment and therefore enhance overall child development especially among low-income children who are at greatest risk of deficiencies. However, research is needed to understand the effectiveness of the CACFP in meeting the nutritional and developmental needs of very young children.

Corporate Commitment To Address Nutritional Deficiencies Among Children

On March 6, 1991, five corporate executives testified before the House Budget Committee in support of a special food program for low-income children.

In a joint statement they said:

"We're convinced that WIC - the Special Supplemental Food Program for Women, Infants, and Children - can make an important contribution to ensuring that the nation's education objectives are met, and that in turn, we have the productive workforce we need."

Robert E. Allen, Chairman and Chief Executive Officer, AT&T

"... There is no freedom in the poverty and ignorance that many American children today endure; no privileges-in-waiting. There's only the sure, sad realization that we are letting those children down; that we have slowly and perhaps unwittingly, compromised not only their futures but ours as well..."

John L. Clendenin, Chairman and Chief Executive Officer, Bell South Corporation

"... Nothing is more important to the future of our country as a whole than the futures of our children. And for thousands of children across the country, nothing is more important to their long-term health and well-being than WIC..."

Dr. James J. Renier, Chairman and Chief Executive Officer, Honeywell, Inc.

"It is clear to business people that if we fail to nurture and educate all of our children, we will close the doors of the future to the growing number of young people, who, today, are excluded from the mainstream of our society."

Robert C. Winters, Chairman and Chief Executive Officer, The Prudential Insurance Company of America

"... But we should invest our health care dollars where they will do the most good. That means in prevention. We need to start preparing our children today so they can lead productive and meaningful lives tomorrow..."

William S. Woodside, Chairman, Sky Chefs, Inc.

"... I'm a firm believer in reducing the deficit, and as an economist, I share with you the conviction that our fiscal problems must be faced squarely. But the poor children whose lives may be altered by whether they gain entry into WIC are not the individuals responsible for the deficit. . . . Our neglect of children not only damages them - it is counterproductive for our society."

Corporate Commitment To Address Nutritional Deficiencies Among Children

Again, on June 23, 1992, a group of corporate executives met with leaders on Capitol Hill to urge immediate action to address growing hunger among American children. At a House Budget Committee and Select Committee on Hunger press conference they released a joint statement, signed by over 25 corporate executives, in support of the Mickey Leland Childhood Hunger Relief Act.

These 25 plus corporate leaders declared:

"... We should wait no longer to end hunger. If we do not act now, we will bear its cost twice: now and in the future. The most important step right now is for Congress to fund the Leland Act. It is a wise investment..."

In individual statements at the press conference the corporate executives said:

Alan G. Hassenfeld, Chairman and Chief Executive Officer, Hasbro, Inc.

"... Investment in the eradication of hunger today is a good business decision. If we fail to make this investment, it is doubtful that we can sustain healthy economic growth. Without this investment, our nation may disintegrate into a country sharply divided between those who have enough to eat and those who do not."

Arnold Hiatt, Chairman, The Stride Rite Foundation

"... Growing numbers of corporate executives are aware of the inextricable link between the well-being of our families and the well-being of our nation. Nowhere is this link manifest so strongly as with the problem of hunger."

Vidal Sassoon, President,
The Vidal Sassoon Foundation

"Eliminating hunger is a fundamental requirement for a strong America... We should not wait any longer. The U.S. can become a world leader again, but only with a strong economy and a healthy population. By passing the Mickey Leland Childhood Hunger Relief Act, government can begin immediately to revitalize our America."

William S. Woodside, Chairman, Sky Chefs, Inc.

"The twenty-first century is no longer an abstraction. The children of today make up the workforce that will have to sustain our economy in the coming century... The time to end hunger is long overdue."

Conclusion

It is now known that inadequate nutrition harms the cognitive development of children in ways that may produce lasting damage.

While further research will help to answer questions about the effects of specific nutrients on cognitive functioning, scientific knowledge has established the importance of ensuring adequate nutrition for all children. Undernutrition is closely associated with poverty, and the effects of undernutrition are made worse by the range of socio-environmental insults that often accompany poverty. With 15.7 million children living in poverty in 1993, millions of them experiencing hunger, addressing undernutrition is a critical challenge in the U.S.

Unfortunately, the effects that poor health and nutrition have on learning and educability are often not incorporated into efforts to improve our education system. Key educational problems such as drop-outs or school failure are rarely examined in terms of the health and nutritional status of poor children.

Many of our nation's leaders now recognize that the well-being of millions of children is in jeopardy. A number of business leaders, political leaders, medical professionals, educators and others have recently called for a new focus on children's welfare. Recognizing the nutritional risk faced by poor children (and ultimately the risk faced by our nation through denying these children opportunities), top leaders now call for "investing in America" through protecting children.

Growing numbers of corporate leaders point to the need to improve America's competitive strength through strategic investment in the well-being of our children. Many corporate leaders note that America's declining competitive strength is driven in part by the failure to prepare children adequately to contribute to the workforce. Several years ago the Committee on Economic Development (CED), an independent research and education organization comprised of over 100 business executives and educators, released a statement on the

benefits of quality education and the cost of educational failure. In it they said:

"Effective solutions to the problems of the educationally disadvantaged must include a fundamental restructuring of the school system. But they must also reach beyond the traditional boundaries of schooling to improving the environment of the child. An early and sustained intervention in the lives of disadvantaged children, both in school and out, is our only hope for breaking the cycle of disaffection and despair."

The CED statement urges policymakers "to look beyond traditional classroom boundaries and provide early and sustained intervention in the lives of children." In keeping with the goals of CED, groups of corporate executives from major U.S. companies testified before Congress in 1991 and 1992 to support programs and legislation that address growing hunger and poverty among children.

Data on the threat posed by childhood undernutrition has never been so definitive. This knowledge suggests that new approaches may provide even greater protection from the peril of undernutrition associated with poverty. Scientific understanding of this relationship will continue to improve. But we now know enough to formulate more effective ways to protect our children and, in so doing, strengthen this nation and its future.

References

Methodology

This document was prepared through a comprehensive review of recent scientific literature on the relationship between nutritional status and cognitive development during childhood. An effort was made to focus the review on research conducted where malnutrition most closely resembles the type seen in the United States.

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School Lunches and Learning: A School Board Disconnect

Barbara Given



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The connection between nutrition and learning is well established by egg scientists, but many school boards seem to have disconnected their schools' cafeterias as having anything to do with what happens in the classroom, the author says.

School boards and administrators across the nation are looking for ways to improve their schools, but often overlook an important influence on learning—the school lunch program. Melva Matkin, principal of the award-winning Gregorio Esparza Accelerated Elementary School in San Antonio, Texas, recently lamented:

“In efforts to improve our school, we analyzed, scrutinized, and restructured every aspect of our school except food service. That was off limits to us. We met with strong resistance to making changes because the a la carte junk foods children buy bring in revenues that support personnel positions.”¹

Similar comments were made by state child nutrition directors in testimony before Congress in 1994.² Matkin and the directors were clearly aware that inadequate food intake limits children's ability to learn about their world. They know that chronically undernourished children must use their energy for tasks in order of most importance: first for maintenance of critical organ functions, second for growth, and last for

social interaction and overall cognitive functioning.³ Even so, Ellen Hass, assistant secretary for food and consumer services, US Department of Agriculture, expressed serious concern about how the federally subsidized lunch programs are implemented. “I believe,” she stated, “it is essential that these [school breakfast and lunch] programs refocus on their nutritional mission” since “[o]ur programs ... touch the lives of more than one in six Americans every day.”⁴

The demise of nutritious lunches. What caused the replacement of nutritious hot lunch programs with a la carte sweets and espresso bars? This is an easy question to answer but a difficult one to solve.

To bolster child nutrition, prevent poor health among the nation's children, and enlarge the market for surplus food supplies, Congress instituted the School Lunch Program shortly after World War II. It had come to Congress' attention that numerous recruits had failed their physical examinations as a result of life-long, poor diets.⁵ In 1946 federal subsidies plus matching state funds made it possible for all children to have a healthy lunch at minimal costs.⁶ Th

“Researchers found that students who ate a nutritious breakfast made fewer errors throughout the morning in comparison to those who skipped breakfast.”

focus was on physical stamina and health, but little — if any — attention was given to the role nutrition plays in learning ability.

In the early 1980s, even though the direct relationship between food and cognition was well-known and served as the basis of the Child Nutrition Act of 1966, federal subsidies were drastically reduced from 39 percent of the cost per meal (a total of 78 percent when matched with state funds) to 13 percent.⁷ That action raised the cost of lunches and forced large numbers of families to send food from home, which in turn pressured local school divisions into covering the higher costs for students who received free and reduced-price lunches. School boards attempted to make school meals self-sustaining by generating revenues from a la carte or pay-by-the-item selections or they abandoned lunch programs altogether at a time when large numbers of children qualified for free breakfasts and free or reduced-price lunches.⁸

The Healthy Meals for Children Act of 1994 attempted to reduce costs to schools by eliminating burdensome paperwork while maintaining requirements that participating school divisions provide meals consistent with the Dietary Guidelines for Americans.⁹ Unexpectedly, costs increased as schools attempted to comply with federal guidelines, so in the 1996 amendments Congress permitted schools flexibility in determining how they would meet nutrition standards in a cost-effective manner while offering meals children would eat.

The US House committee expressed concern that only 50 percent of low-income students and 46 percent of middle- and upper-income children participated in the school lunch program.¹⁰ Again, the concern for the long-term effects of poor diet on the nation's children surfaced, but this time the concerns were for cognitive as well as physical health. Additional flexibility was granted to provide wholesome food that was palatable to children using any reasonable approach to meet the federal dietary guidelines.

As often happens between intent of the law and implementation, “flexibility” was translated loosely, and it seemed to get

confounded with the need to raise revenues. Compliance with dietary guidelines was applied to only the federally subsidized portion of the meals, while revenue-generating, less nutritious a la carte selections did not adhere to those guidelines. Apparently, increasing revenues became more important than nutrition for some school boards even though “proper nutrition is a key component in our ability to reform our nation's education programs and raise student achievement.”¹¹

During congressional hearings in 1994, state child nutrition directors discussed several barriers to providing nutritious meals in addition to reduced subsidies and the need for additional revenues.¹² These included policies that prohibit children from entering school; time for breakfast; the overlap between the arrival of buses, breakfast, and the beginning of classes; the refusal of children who qualify for free or reduced-price meals to participate because of the stigma of poverty; large school populations with limited lunchroom seating capacities that make movement through lunch lines lengthy and leave only 10 to 15 minutes to eat; poor attitudes and limited training among cafeteria workers; the presence of vending machines in many schools; and policies that allow junior and senior high students to leave campus and purchase snacks at local fast food establishments.

Why is the availability of school meals important?

Breakfast and learning. Pollitt, Leibel, and Greenfield of the University of Texas at Houston found that students who ate a nutritious breakfast made fewer errors throughout the morning in comparison to those who skipped breakfast.¹³ They reasoned that breakfast helps the body make the biological transition from sleeping and low-energy expenditures to more active daytime routines. Wurtman found that students who skipped breakfast were inclined to eat hardily at lunch and then feel sluggish during the afternoon. Howard reported on an 11th-grader who consumed a grape soda and a pack of doughnuts or cookies before school. For about an hour he was on

“Negative but subtle food reactions accumulate over time, and individuals may fail to associate what they eat with how they feel.”

a “sugar high,” but as the sugar wore off, he started causing disturbances. After two weeks on a breakfast of a hamburger and a glass of milk — his choice — he became “reasonably likable.”¹⁴

In the absence of breakfast, Wurtman suggests a mid-morning snack that is high in carbohydrates, such as a bagel, graham crackers, bread sticks, or Melba toast.¹⁵ Yet students have not been taught to bring appropriate snacks to school, and snacks are rarely provided in the classroom. Perhaps a brief overview of the brain’s chemical reliance on food can make the importance of this issue more clear.

The chemical brain. The theory of evolution suggests that environmental molecules — especially odors — constantly bombarded early single-celled organisms and eventually penetrated their cell membranes. The theory states that lightning repeatedly struck pools of cells, which electrically charged them and created deoxyribonucleic acid (DNA) — the reproduction structure of all living organisms. As millions of years passed, some cells organized into clusters responsive to odors (olfactory bulbs), and others clustered to create molecular cocktails of their own.¹⁶ Consequently, the olfactory bulb was the first primitive brain, and subsequent cellular structures established chemicals as the brain’s medium of information exchange. Thereafter, the basis of learning and remembering evolved into a delicate balance of internal chemicals that communicate with each other and respond to invading chemical molecules.

When food is ingested, proteins and carbohydrates convert to brain chemicals that affect emotions, learning, and behavior.¹⁷ For this reason, much of human learning actually begins in the stomach. If school boards, parents, and teachers ignore this reality and attend only to the basic stats and facts of cognitive learning, they will fail to reach and teach as intended.

Learning begins in the stomach.

Researchers found that when youngsters had nutritious foods available when studying, they ate as needed and consequently

earned statistically higher test scores, demonstrated greater positive attitudes toward school, and increased their reading speed and accuracy than when there was no access to food.¹⁸ For some children, oral stimulation may have made the significant difference. For others, it might have been the brain and body’s reactions to proteins and carbohydrates, which promote alertness and focus. This should not be surprising since it was recently discovered that the immune system, endocrine system, and brain contain similar types of neurons and chemical receptors.¹⁹

Since snacking, chewing, drinking, or biting while concentrating is a significant need for many students, nutritional intake in classrooms is well worth exploring, especially if children are hyperactive, sluggish, underachieving, negative toward learning, apathetic, nonresponsive, inactive, irritable, or with limited tolerance for frustration and stress.²⁰ The choice of classroom snacks must be carefully determined, however, to avoid food substances that decrease learning.

Chemical clues. Eating is usually thought of as a pleasant experience to be shared; however, since chemicals from foods create different types of reactions, the “pleasant” event can result in immediate or postponed lethargy, panic, inattentiveness, or feelings of depression.²¹ Often, negative but subtle food reactions accumulate over time, and individuals may fail to associate what they eat with how they feel.

For example, an academically strong, world champion athlete and socially active high school student began consuming diet drinks containing aspartame (brand name, NutraSweet and Equal) shortly after it was marketed. Although doctors found no physical cause, she gradually became seriously depressed and described her life as a “living hell” for three years.²² Like many teenage girls, she was concerned about weight gain, and diet soda seemed like a viable alternative to other drinks; however, it got to the point where her “daily routine consisted of watching TV, eating, and the consumption of at least 10 to 15 cans of diet sodas.”²³

After she saw a news report declaring the dangers of aspartame, she found it difficult to stop drinking it. "When I first tried to stop use I experienced shaking, nausea, and a tremendous urge to have a diet drink. I wasn't able to stop immediately so I gradually cut down the number of cans each day until I had quit altogether."²⁴ She listed blurred vision and temporal headaches as side effects — symptoms frequently identified in young children who consume diet drinks, Kool Aid, and other foods containing aspartame. Young children, however, may become hyperactive, tearful, and sometimes violent before becoming depressed.

One mother wrote of her child's behavior after consumption of aspartame in a scientifically controlled study:

"Jamie ... was very quiet (did not speak) ... he seemed to be day-dreaming. He ate a good lunch, but ... started complaining of a headache ... and was somewhat cranky and nasty. He slept

for three hours. ... He woke up crying and screaming. Proceeded to find fault with everything. Refused to eat dinner. Cried all through the meal. After dinner he ... stood in the middle of the floor and screamed for half an hour at the top of his lungs. I put him to bed early. ... Next morning he was all smiles."²⁵

None of these behaviors occurred after he ingested drinks with natural sugar in this double-blind study, where neither doctor nor parent knew whether the child had received aspartame or a placebo. A few days later, Jamie's reactions to aspartame were even more intense. He urinated frequently, became exceedingly sleepy but never slept, ran in circles, ate nothing at dinner, kept jumping up, and talking *very* fast before falling asleep at 9 pm.²⁶ With each accidental ingestion of aspartame during the following months, Jamie's personality changed from a happy child to an extremely nervous one. He had nightmares and was depressed, anxious, and withdrawn.

In this revealing study, Conners found that aspartame — as do other foods — affects children differently based on factors not yet clearly understood, but its chemistry provides some clues.²⁷ Aspartame is composed of two amino acids, aspartic acid and phenylalanine — an essential amino acid. An enzyme breaks down phenylalanine into the neurotransmitters dopamine and norepinephrine, which naturally develop in the brain during early childhood and are thought to modulate each other in a coordinated way. It is believed that aspartame upsets that balance.²⁸

Without the proper enzyme action, phenylalanine builds up and causes phenylketonuria (PKU) — a condition leading to brain damage and mental retardation. The treatment for PKU is a diet low in phenylalanine. Even when the necessary enzyme is present, phenylalanine can build-up, causing headaches and seizures depending on the concurrent dietary intake.²⁹

Eating a cookie with an aspartame drink compounds negative reactions because sweets trigger a large release of insulin to keep blood sugar within bounds. Also. 

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“If inadequately nourished, children have great difficulty tolerating frustration and stress because they have no protein stores to draw upon.”

insulin forces other amino acids out of the bloodstream and permits phenylalanine to pass into the brain without competition.³⁰

What children eat and drink at school, therefore, is vitally important to their learning. It is now common to see children selecting several a la carte deserts, potato chips, a soda or milk, and no meat or vegetables for lunch. Many come to school without a nutritious breakfast and compound the problem by eating a lunch high in sweets and then wonder why they feel excited and then sluggish all afternoon. Foods served at school and made available in vending machines can unquestionably undermine classroom efforts to obtain and sustain students' attention.

Protein, dopamine, and stress. Dopamine — one of the neurotransmitters produced by aspartame — is also produced by proteins found in foods such as beans, grains, seeds, nuts, and products of animal origin. Enzymes act on these foods in the stomach to convert them to an amino acid called tyrosine.³¹ Tyrosine travels through the bloodstream to the brain, where it becomes L-DOPA. L-DOPA loses atoms to become dopamine. From the midbrain area, dopamine shoots from several hundred thousand cell endings to produce a general feeling of alertness, attentiveness, quick thinking, rapid reactions, motivation, and mental energy.³² Meat- and egg-produced tyrosine triggers catecholamine amino acids, which also lead to alertness.³³ When more protein is consumed than needed, it is stored in the muscles for later conversion to dopamine unless stress forces it out of the muscles and turns it into norepinephrine — a neurotransmitter or brain chemical related to stress.³⁴

Fear of failure, fear of social isolation, and other mild to severe psychological or physical traumas also convert dopamine to norepinephrine. This conversion takes the child from alertness to agitation and aggression in a matter of seconds. If inadequately nourished, children have great difficulty tolerating frustration and stress because they have no protein stores to draw upon; rather, they exhibit apathy, nonresponsiveness,

inactivity, and irritability.³⁵ All attempts at concentration and learning are sabotaged just as they are with an over-abundance of aspartame.

Protein plays another important role; it holds water in the blood, and an insufficient protein supply causes fluids from inside the cells to seep out causing sluggishness, limited concentration, stomach bloating, and loss of essential salts and nutrients.³⁶ Unfortunately, adults seldom associate these negative conditions with protein deficiency even though mild malnutrition may be present.

In cases of limited protein intake, people often self-administer dopamine through the consumption of caffeine drinks (many with aspartame), chocolate, alcohol, marijuana, or other “feel good” endorphins that range from mildly harmful to seriously addictive. These substitutes fail to supply the needed protein, however.³⁷ Since protein synthesis plays a key role in arousal, peanut butter and crackers make an excellent wake-up snack for students who find staying awake in school something of a problem.

Calmness and carbohydrates.

Carbohydrates convert to complex sugars called glucose. Glucose produces tryptophan, and in a cluster of brain stem cells, tryptophan becomes serotonin.³⁸ The release of serotonin throughout the brain modulates the system into feeling calm and focused. Physical hunger can be satisfied with food, but psychological or emotional hunger can only be satisfied by eating carbohydrates, which restore serotonin.³⁹

When tyrosine (proteins) and tryptophan (carbohydrates) enter the bloodstream concurrently, large tyrosine molecules push tiny tryptophan molecules aside and enter the brain alone.⁴⁰ Thus, to feel calm and focused, carbohydrates need to be eaten either before or without protein. Nibbling on bread sticks, Melba toast, crackers, vegetables, and pastas can help children feel calm. Sweets, by contrast, offer a quick sense of alertness, because they cause a rapid conversion of glucose to serotonin and prompt its rapid release. Rapid-fire alertness, however,

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“Without question, television’s disrespectful comedy shows and its violent portrayal of life have profound negative consequences on developing brains — so too does undernutrition.”

is followed by a sudden letdown and a need for more sweets. Carbohydrates, by contrast, convert gradually to tryptophan to provide a steady supply of serotonin.

High serotonin levels are found in leaders and others who enjoy a positive sense of self, whereas low levels are associated with depression, low self-esteem, and a desire for sweets.⁴¹ When a person enjoys high self-esteem, successful problem solving, and authentic accomplishments, the brain manufactures its own serotonin. Thus, successful leadership opportunities in school settings build serotonin for students, just as they do for adults in the business world. Teachers, therefore, are encouraged to devise ways for each child to shine at something personally meaningful to the individual student.

Closing comments. It is no secret that children’s classroom behaviors have changed drastically over the last few years, and adults often blame television and/or lack of parental guidance with little mention of nutrition. Without question, television’s disrespectful comedy shows and its violent portrayal of life have profound negative consequences on developing brains — so too does undernutrition. This combination ensures generations of physically fragile, cognitively ill-equipped children for an increasingly complex world.

In this article, only a few chemicals from hundreds were briefly discussed, but others, such as iron deficiencies, limit cognitive performance and cause disruptive behaviors, short attention spans, low intelligence scores, perceptual disturbances, an increased absorption of lead, low intake of vitamin C, and an excess intake of foods that inhibit iron and zinc absorption.⁴² “The challenge now,” one nutrition expert said before Congress, “is to incorporate this new knowledge into programs and policies which improve the nutritional status and cognitive development of our most vulnerable youngsters.”⁴³

Effective teachers instinctively know that genuine school reform comes from within each person involved in the process. They actively engage in their own self-construct-

tion as they push forward to make a difference in their lives and the lives of the children and adults they serve. They expect educational decision makers to take emerging knowledge about the brain and body seriously. Without question, teachers can and do create exciting lesson plans about nutrition, and they can work with parents to provide appropriate classroom snacks, but unless school boards and administrators consider school food supplies thoughtfully, teachers may as well be muttering to themselves.

Lack of congruence between what is taught about nutrition by caring teachers and what is “caught” in a cafeteria that flagrantly disregards the impact of food on learning can have severe negative consequences — both short-term for the individual and long-term for the nation. Children quickly notice incongruences and just as quickly decide that what happens in the classroom has no relevance to the real world. Or conversely, the real world doesn’t really care what is taught. Teaching children about the relationship between food and achievement is critical, but congruent action by school boards, administrators, and politicians that places nutritious value above the generation of revenues is even more critical.⁴⁴ Cost benefits must be considered for the long haul if we are to produce the physically and cognitively healthy leaders our nation needs for the future. ©

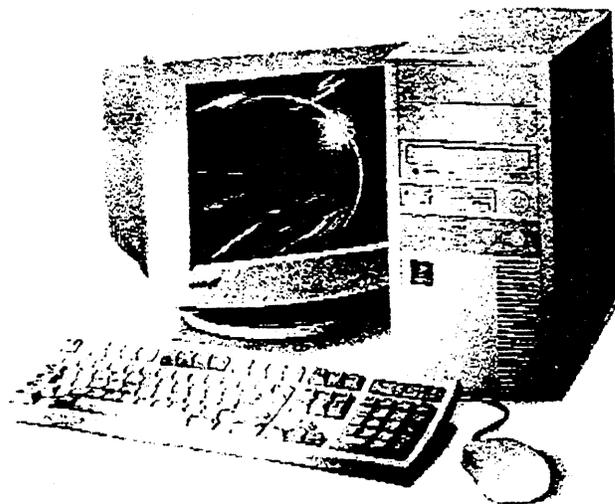
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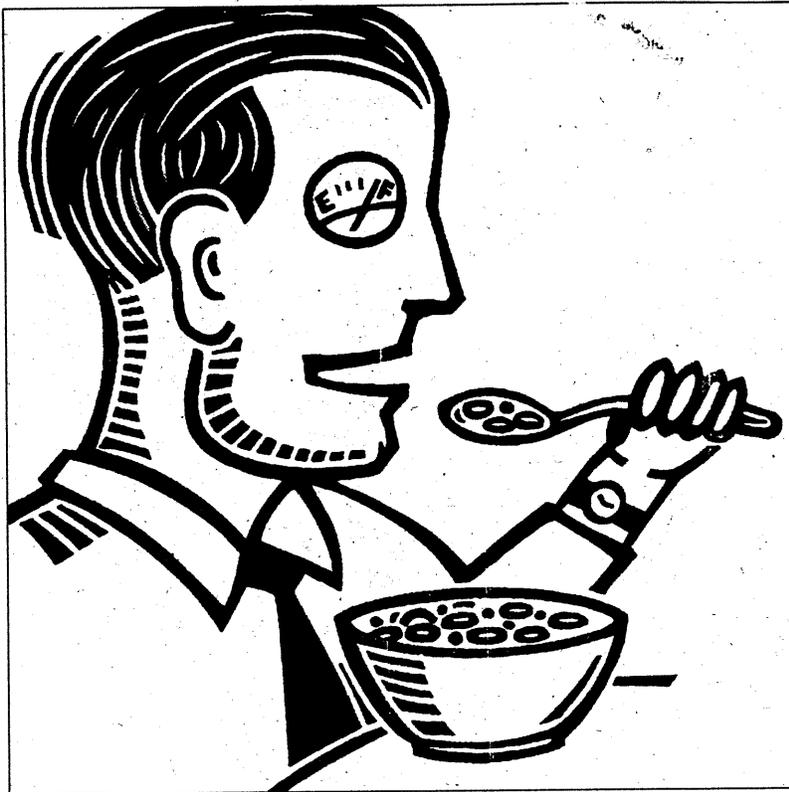
Jane E. Brody

People Who Skip Breakfast Pay a High Price

"S that no-time-in-the-morning time of year again. The kids are back in school, parents are back to work and breakfast in many households has become a catch-as-catch-can affair, if it is eaten at all. This decade has seen a steady decline in the proportion of Americans who regularly eat breakfast, long considered "the most important meal of the day."

Although you may not think so as you hit the snooze alarm to catch a few more winks of morning sleep, it could pay to get up 15 minutes earlier to make time for a nutritious breakfast. A sweet roll or bagel and coffee from a nearby deli is not an adequate breakfast. Nor is a so-called breakfast bar or Pop Tart or a bowl of chips munched on the way to school. These may temporarily suppress hunger pangs, but they will do little to enhance brain function and mood, not to mention nutritional status and overall health.

Given what most Americans call breakfast, a fast-food sandwich is actually an improvement even though it is likely to be much higher in fat, salt and calories than, say, cereal with fruit and low-fat or skim milk.



Scott Baldwin

Benefits of Breakfast

Countless studies in recent decades have documented the value of eating breakfast to a child's ability to learn, think quickly, pay attention and get along well with others. In a report last month in the Archives of Pediatrics and Adolescent Medicine, J. Michael Murphy of Massachusetts General Hospital in Boston and co-authors assessed the effects of eating school breakfast on the academic and emotional functioning of more than 100 children in inner-city elementary schools in Baltimore and Philadelphia.

When school breakfast was made available to all children regardless of family income, the number of youngsters who ate it doubled, giving researchers an opportunity to measure the results before and after. They found that those who often ate school breakfast got higher grades in math and were less likely to be described as depressed, anxious or hyperactive by parents or teachers. In addition to improving in these psychological dimensions, those youngsters who started eating breakfast under the universal feeding program proved their math grades, school attendance and punctuality. Children who regularly eat breakfast think faster and clearer, solve problems more easily and are less

likely to be fidgety and irritable early in the day. Recent studies show that children who skip breakfast are not as adept at selecting the information they need to solve problems. Ability to recall and use new information, verbal fluency and attentiveness are hurt by hunger.

Earlier studies showed similar effects of skipping breakfast among teen-agers and adults. Over all, breakfast skippers were less productive and handled tasks less efficiently than those who ate breakfast. Among both young and elderly adults, skipping breakfast impaired memory and mental performance.

You don't have to be a scientist to realize that it is hard to concentrate on mental challenges and to maintain a pleasant, patient demeanor when your growling stomach signals a fall in blood glucose that follows an overnight fast or the consumption of only a sweet food or coffee or both. The brain runs on glucose, and when the supply runs low, it is forced to depend on stored fat, a less efficient source of fuel.

Nutrition and Weight

Performance questions aside, the goal of many breakfast skippers is to save on calories. However, calories consumed early in the day are least

likely to put on pounds, and skipping any meal simply increases the temptation to eat a high-calorie snack or overeat at the next meal. In fact, the leanest people tend to be those who eat three or more meals a day.

Then there is the matter of nutrients. Breakfast may be the only time during the day when a child or adult consumes fruit juice and milk, making this meal an important source of vitamins C and D and calcium. Studies of teen-agers have shown that those who skip breakfast have an intake of calcium and vitamin C that is 40 percent lower and an iron intake that is 10 percent lower than those who eat breakfast. These nutrients are most critical during the years of growth and development. Further, given the demands of modern lives, breakfast may be the only meal teen-agers regularly eat at home and the only one over which parents might have some say.

What's a Proper Breakfast?

Ideally, breakfast should supply one-quarter to one-third of the day's protein plus fiber-rich complex carbohydrates and a small amount of fat. The breakfasts served in school generally strive to meet most, if not all, these nutrient needs. Simple homemade meals that fulfill these

criteria include a whole-grain cereal (cold or hot) with fruit and low-fat or skim milk; low-fat or nonfat yogurt with fruit and whole-wheat bread with jam or margarine; a shake made with yogurt, fruit and skim milk plus whole-wheat toast, or a turkey, cheese or peanut butter sandwich on whole-grain bread with fruit juice and milk.

Parents should provide a good example by eating breakfast themselves. Children are most likely to eat breakfast if someone eats with them. If that is not possible, at least try to sit with children while they eat.

In families where mornings are already overly loaded with demands, helps to set up breakfast the night before. When my sons were young and had to get out early, I often made them sandwiches for breakfast or set up pita pizzas they could pop into the toaster oven in the morning. If the boys were running late, they could eat these foods on the way to school.

But on most days, breakfast was eaten at home. Sometimes I cooked French toast or pancakes in advance to be heated in the morning and topped with sliced bananas or berries and yogurt. Another make-ahead favorite was "Eggs Jane" — poached egg white and turkey on a whole-wheat pita topped with a slice of cheese, ready to heat in the toaster oven in the morning. Although hot cereal doesn't lend itself to advance preparation, it takes only two minutes (and no pots to wash) to cook quick oats with skim milk and raisins in the microwave oven.

Of course, school-age children can serve themselves ready-to-eat breakfast cereal. But it is up to parents to assure that the selection of cereals in the house is nutritious. The best cereals are well-stocked with nutrients and fiber and not overly rich in sugars or fats. Don't be misled by claims that a serving supplies 100 percent of lots of vitamins and minerals, since there is no need for anyone to consume the day's nutrient needs at breakfast. Look instead for whole grain cereals with no more than 6 grams of sugar per serving. Among good choices that young takers are likely to enjoy are Wheaties, Cheerios, Wheat Chex and Raisin Bran, perhaps with a sweeter cereal like Life or granola as a garnish.

And for those who can't bear to eat first thing in the morning, try a glass of juice and piece of bread before leaving home with a portable breakfast (like a container of yogurt or sandwich) to eat later when hunger strikes, often just before the school or work day starts.



PRESCRIPTION FOR CHANGE:

10 keys to promote healthy eating in schools

Written by the U.S. Department of Agriculture (USDA) to assist each school community in writing its own prescription for change.

1. Students, parents, educators, and community leaders will be involved in assessing the school's eating environment, and developing a shared vision and an action plan to achieve it.
2. Adequate funds will be provided by local, state, and federal sources to ensure that the total school environment supports the development of healthy eating patterns.
3. Behavior-focused nutrition education will be integrated into the curriculum from pre-K through grade 12, and the staff providing nutrition education will have appropriate training.
4. School meals will meet the USDA nutrition standards as well as provide sufficient choices, including new foods and foods prepared in new ways, to meet the taste preferences of diverse student populations.
5. All students will have designated lunch periods of sufficient length to enjoy eating healthy foods with friends. These lunch periods will be scheduled as near the middle of the school day as possible.
6. Schools will provide enough serving areas to ensure student access to school meals with a minimum of wait time.
7. Space that is adequate to accommodate all students and pleasant surroundings that reflect the value of social aspects of eating will be provided.
8. Students, teachers, and community volunteers who practice healthy eating will be encouraged to serve as role models in the school dining areas.
9. If foods are sold in addition to National School Lunch Program meals, they will be from the five major food groups of the Food Guide Pyramid. This practice will foster healthy eating patterns.
10. Decisions regarding the sale of foods in addition to the National School Lunch Program meals will be based on nutrition goals, not on profit making.

USDA Announces New Initiative to Promote Healthy Eating in Schools

Agriculture Secretary Dan Glickman announced on June 7 that the U.S. Department of Agriculture (USDA) is joining a new national partnership to promote healthy eating by children in schools.

"The link between good nutrition and good education is clearly demonstrated by higher test scores, better attendance, and fewer behavior problems in school," said Glickman in the press statement.

The American Academy of Family Physicians, the American Academy of Pediatrics, the American Dietetic Association, the National Medical Association, and the National Hispanic Medical Association have committed their memberships to work with schools and communities to recognize the health and educational benefits of balanced eating and the importance of making it a priority in every school.

Ten key principles are outlined to assist each school community in writing its own prescription for change. The 10 keys address the challenges that children increasingly face in school such as not having enough time to eat, meals that are not scheduled in the middle of the school day, and food choices that do not meet nutritional standards.

Recent research indicates that students across the country are flunking healthy eating. Some of the most troubling indicators reveal that

- Only 2 percent of youth meet all the recommendations of the Food Guide Pyramid; 16 percent do not meet any recommendations.
 - Less than 15 percent of school children eat the recommended servings of fruit.
 - Less than 20 percent eat the recommended servings of vegetables.
 - About 25 percent eat the recommended servings of grains.
 - Only 30 percent consume the recommended milk group servings on any given day.



- Only 16 percent of schoolchildren meet the guideline for saturated fat on any given day.
- Teenagers today drink twice as much carbonated soda as milk, and only 19 percent of girls ages 9–19 meet the recommended intakes for calcium.

Since the federal National School Lunch and the Child Nutrition Acts were created beginning 50 years ago, the United States has created a network of successful and cost-effective anti-hunger programs.

Originally created to fulfill national defense needs, when many World War II military recruits were found to be undernourished, these programs now improve the quality of life for millions of Americans. National PTA helped enact the original legislation and has fought to improve these programs ever since.

Additional information can be found on the USDA website: www.fns.usda.gov.

OC

FREE Weekly E-Mail Newsletter from National PTA's Washington Office

National PTA has the resource for you! *This Week in Washington* is a free newsletter, distributed by e-mail, that provides regular updates on top legislative issues affecting children, special events attended by PTA officers and members, Supreme Court decisions, and information about grants and awards for local schools.

Sign up today! Visit National PTA's website at www.pta.org, click on the "Bulletin Boards & More" button, and go to the "National PTA e-newsletters" section.

(For those without an e-mail account, FamilyEducation Network offers free e-mail. Visit www.pta.org for details.)

Breakfast — Make It Your School's First Class For Learning



by Kathy FiorRito
Public Affairs Specialist

"Cereal + milk = better math grades" is the intriguing headline of a recent U.S. News and World Report article about a study just published by Massachusetts General Hospital. This study, which included over 100 third through eighth graders of varying income levels makes the strongest case yet for ensuring students eat a good breakfast before they start their first class. Its compelling findings have drawn attention from educators and parents alike — students who are a school breakfast regularly had better grades, fewer instances of tardiness, absenteeism and hyperactivity, and fewer reports of anxiety or depression.

In addition to the Massachusetts General study, other recent studies of school-age children have drawn similar conclusions:

- Students who ate breakfast before school had better math grades and reading scores, increased attentiveness, fewer visits to the school nurse and improved behavior. (*Minnesota Department of Children, Families and Learning study, December 1997*)
- Researchers at Harvard Medical/Massachusetts General Hospital in Boston found hungry children are more likely to have behavioral and academic problems than children who get enough to eat. At school, hungry children had more problems with irritability, anxiety and aggression, and were absent and tardy more often than their peers. (*Pediatrics, January, 1998; Journal of the American Academy of Child and Adolescent Psychiatry, February, 1998*)

Unfortunately, recent studies indicate that anywhere from 12% to 26% of school-age children come to school on a given day without having eaten breakfast. Why aren't more children eating breakfast? If you ask the kids, the reasons are all over the map — they're racing to meet the school bus, they like to sleep late, their parents don't have time to fix breakfast, they're not hungry first thing in the morning, they don't like breakfast foods — or, most disturbingly, their families can't afford to give them breakfast.

How can parents and educators join forces to ensure more students eat breakfast? The National School Breakfast Program is a nutritious and convenient solution when, for whatever reason, children aren't able to eat breakfast at home. USDA's School Breakfast Program operates very much like its counterpart, the National School Lunch Program. Schools have to meet USDA's nutritional requirements and offer breakfasts at a full price, reduced price or free, depending on family income and size. USDA reimbursement helps lower the cost to students.

Depending on a school's facilities, a breakfast program can be as simple as a bag breakfast served on the school bus or in a classroom, or a hot breakfast in the lunchroom or cafeteria. The state education agency has trained consultants ready to help interested school administrators find solutions. If your school doesn't offer the school breakfast program, ask your school administrator to consider starting one. When students start their classes more alert, well-nourished and ready to learn, everybody wins.

Why Do You Need A Legislative Chairperson?

by Sony Pope Roberts

What if your 4th grader took a five-part test at the end of the year, passed four sections with flying colors but failed the math section by a few points and you are informed that he will be repeating fourth grade next year? Maybe she's a pretty good math student but had an argument with her best friend on the way to school and was very upset and distracted when she took the test. You should know that today there is such a law that will go into effect during the 2002-2003 school year. It will not only apply to 4th graders but also to 8th graders! In addition, we also have a similar law that will affect high school seniors that same year and if they fail any part of the test they will not receive a high school diploma.

These laws are commonly referred to as the "4th and 8th grade no social promotion" and the "high school graduation test" laws. They were enacted last year and are currently being widely discussed and debated.

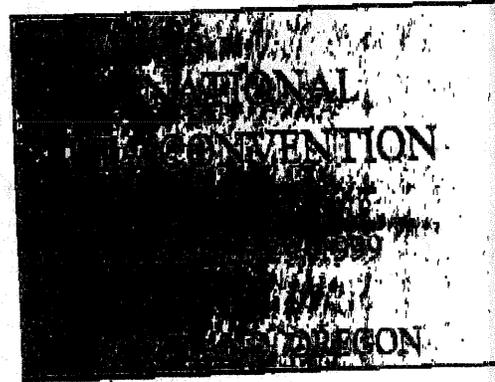
As parents we need to be aware of the laws that are affecting our children. Our kids cannot vote and we need to be acting on their behalf. As a PTA unit we also must join together to make our voices even louder.

This kind of advocacy is exactly what PTA is all about. While we recognize that individual PTAs still need to be hosting the book fairs, chaperoning the field trips, etc., we also recognize that there is a bigger purpose. We need to be there advocating for kids! About 70% of the voting public do not have children in school and may not see education as a priority in voting decisions.

Within the PTA structure is a proven system to direct your efforts. Each unit may choose a Legislative Chairperson who will be the contact for Wisconsin PTA's legislative arm. It isn't necessary that this person be knowledgeable about current issues or the legislative process. If there is an interest in learning, the information is available. There is legislative training and a wealth of resource available from PTA. The Legislative Chair is one position where a parent with limited time could serve their school community. Much of the work is done in your spare time. Consider your former PTA parents, retired citizens or other community members who don't have children in school but may want to become involved.

Every PTA should be making itself aware of the issues that affect children

and schools. We need to be advocating for our kids! As revenue caps are having negative impact on education, as schools face cuts in programs and increased class sizes, as buildings fall into disrepair, as safety in school becomes a bigger concern to all communities, we need to join our voices together for kids!



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Team Nutrition Connections

A Message from the Secretary

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Who's On the Team: Team Nutrition Schools

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Team Nutrition—Activity Update

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A MESSAGE FROM DAN GLICKMAN

Secretary of Agriculture

Thousands of schools across the country have joined representatives of health and education organizations, the food industry, and nutrition experts in one of the most exciting initiatives in the history of the school meals program: Team Nutrition.

Schools in all 50 states have already become Team Nutrition Schools leading the way to more healthful, nutritious school meals as part of the School Meals Initiative for Healthy Children, this Administration's commitment to improving the health and education of our nation's children. By June 1996, thousands of Team Nutrition Schools from coast to coast will commemorate the 50th anniversary of the National School Lunch Program.

Team Nutrition Schools have access to innovative educational and technical resources that will actively involve children and their parents in nutrition education programs at home and in school. Team Nutrition also supplies food service professionals in each school with state of the art tools and techniques to help them prepare nutritious, appealing meals.

Proper nutrition reduces health risks from heart disease and some cancers. It also affects cognitive development and school performance. That is why the Clinton Administration has made improving school meals a national priority. We need the leadership of educators, food service managers, parents and the local community, participating as partners in Team Nutrition.

I sent this message to 92,000 principals along with materials describing the Team Nutrition Schools program more fully. I encouraged them to share it with food service managers and decide together to become a Team Nutrition School today, in time to have their school listed in our national Team Nutrition Schools Directory.

I look forward to working with you, our schools and communities for a healthier future for our nation's children.

Dan Glickman

TEAM NUTRITION SCHOOLS ...

USDA's "Team Nutrition Schools Program" was introduced this past fall during a seven city tour of schools selected to be the first Team Nutrition Schools in their states. Under Secretary Ellen Haas announced the nation's first Team Nutrition Schools from Wyland Elementary School in St. Louis. Today, there are 7,000 Team Nutrition Schools nationwide.

USDA, state and local officials, joined by community leaders were on hand to present the Team Nutrition School banner and participate in a series of nutrition education activities organized by the schools and their community supporters. More than 100 organizations, including farm, food industry, health, food service, par-

ent and teacher groups, volunteered their resources around the country to make the activities a success. Here are highlights and pictures from a number of Team Nutrition Schools:



Wyland Elementary School (St. Louis, MO) After the national announcement of the Team Nutrition Schools Program at a banner award ceremony, children enjoyed a visit from Disney spoketoon "Timon." A Nutrition Fair featured an interactive exhibit on nutrition and the body jointly sponsored by the Missouri Governor's Council on Physical Fitness and Health and the University of Missouri Extension Service.

Timon, Disney's Team Nutrition spoketoon, joins enthusiastic students during lunch at Wyland Elementary School in St. Louis, Missouri.



TEAM NUTRITION SCHOOLS

... LEADING THE WAY TO HEALTHIER SCHOOL MEALS

 Graham Elementary School (Springfield, IL) Volunteer chefs and nutritionists visited classrooms and everyone participated in a Nutrition State Fair. The University of Illinois Cooperative Extension Service helped children create their own healthy trail mix samples.

 Winterville Elementary School (Athens, GA) Food fair booths represented the sections of the Food Guide Pyramid and offered a variety of foods for children to sample. At the American Cancer Society booth, children tasted rice cakes and homemade breads. A local volunteer chef decorated a booth with a cornucopia of fresh vegetables and served jicama slices dipped in cilantro lime sauce.

 Longfellow Elementary School (Albuquerque, NM) Children created laminated nutrition placemats and talked about the importance of healthy eating and fitness with two University of New Mexico athletes.

 Shelburne Community School (Shelburne, VT) An outdoor assembly, classroom instruction and a nutrition fair were all part of the Team Nutrition School celebration. In a nutrition lesson by the Vermont Campaign to End Childhood Hunger, children drew their breakfasts on paper plates and then found where each food fit on the Food Guide Pyramid.

 Baresville Elementary School (Hanover, PA) Children vied at tossing sand sacks to represent the correct number of servings on each pyramid section and played a computer nutrition quiz. Volunteer chefs in the classrooms talked to children about the importance of making food choices for a healthy diet and, in the cafeteria, children sampled a tasty, healthful dessert made with apples.

 Phantom Lake Elementary School (Bellevue, WA) Grower and producer groups gave children information, stickers, apple snacks and apple juice. The state's Potato and Beef Commissions also attended and displayed their nutrition education materials.

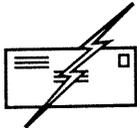
.....
In the community, our supporters are playing an important role in working with Team Nutrition Schools—and together they are leading the way for real change in improving the health and education of children—the community is the heart of the country, and the school is the hope of the community.

— Ellen Haas,
Under Secretary for Food,
Nutrition and Consumer Services
.....

FOR MORE INFORMATION



Contact us via the Internet/World Wide Web at the following URL (Uniform Resource Locator):
<http://www.usda.gov/fcs/team.htm>



E-Mail us at Team Nutrition On-Line at our Internet mailbox,
teamnutrition@reeusda.gov

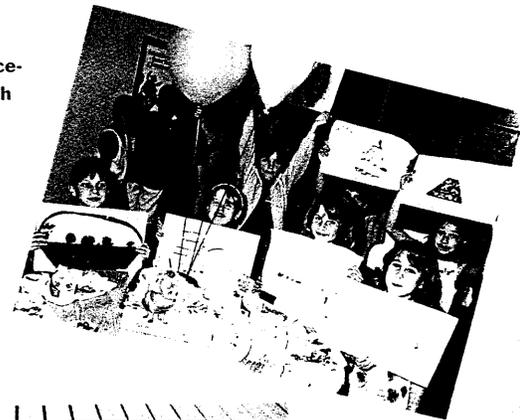


Write us at:
3101 Park Center Drive Room 802
Alexandria, VA 22302



Fax us at (703) 305-2148

Handmade nutrition placemats and a healthy lunch were on the menu at Longfellow Elementary school in Albuquerque, New Mexico.



Students from Shelburne Community School in Shelburne, Vermont proudly display the Team Nutrition banner during their outdoor assembly.



USDA's TEAM NUTRITION

Mission

To improve the health and education of children by creating innovative public and private partnerships that promote food choices for a healthful diet through the media, schools, families, and the community.

Principles

Supporters of Team Nutrition share these common values:

- 1.** We believe that children should be empowered to make food choices that reflect the Dietary Guidelines for Americans.
- 2.** We believe that good nutrition and physical activity are essential to children's health and educational success.
- 3.** We believe that school meals that meet the Dietary Guidelines for Americans should appeal to children and taste good.
- 4.** We believe our programs must build upon the best science, education, communication and technical resources available.
- 5.** We believe that public/private partnerships are essential to reaching children to promote food choices for a healthful diet.
- 6.** We believe that messages to children should be age appropriate and delivered in a language they speak, through media they use, in ways that are entertaining and actively involve them in learning.
- 7.** We believe in focusing on positive messages regarding food choices children can make.
- 8.** We believe it is critical to stimulate and support action and education at the national, state and local levels to successfully change children's eating behaviors.

Great Nutrition Adventure: Chefs and Schools Working Together

Over 60 celebrity chefs in cities nationwide have volunteered for The Great Nutrition Adventure, a Team Nutrition activity that links chefs with local schools.

Working with local school food service staff, chefs have developed healthy and tasty meals that meet the new school meals nutrition guidelines, using commodities commonly available to schools and meeting cost requirements. Chefs and teachers have also collaborated to educate children about sound nutrition, diverse food sources, and the appreciation of good food.



Great Nutrition Adventure highlights include:

- Collaboration between sixteen leading New York City chefs and farmers from the Greenmarket Farmers Market. Chefs and farmers teamed up to provide a "Touch Table" at New York City's PS 2 for students to explore a wide variety of local fresh fruit and vegetables.
- Hands-on understanding of good nutrition. Second graders at Atlanta's Smoke Rise Elementary School built a life-size food pyramid filled with models of all of the foods that make up the pyramid. Guest chefs participated in a schoolwide health fair and spring food carnival.
- A "Taste of Chicago's School Lunch" event. Top chefs worked side-by-side with school food service

staff at Chicago's Ogden Elementary School to create a meal that reflected their city's ethnic diversity. Menu items included Mexican Lasagna with ground turkey, Stuffed Roasted Chicken with Mushroom Sauce, and Meatballs with Baked Potato.

- Use of organic produce grown by students. At Berkeley's Jefferson Elementary School, chefs cooked a healthy school lunch with produce harvested from the school's organic garden.

This fall, USDA will provide each of the nation's 23,000 school districts with materials to help them plan their own Great Nutrition Adventure. The Great Nutrition Adventure action packet is filled with how-to information, a video, and a national directory of chefs willing to volunteer for activities.

Training and Technical Assistance

This change-driven program will provide support to school food service personnel implementing the Dietary Guidelines for Americans. This effort ensures that school nutrition and food service personnel have the education, motivation, training, and skills necessary to provide healthy meals that appeal to children. Activities include:

 **Healthy Meals Electronic Resource System** — developed by the National Agricultural Library's Food and Nutrition Information Center, is now available on the Internet and is accessible by schools. MEALTALK, a discussion forum, provides communications between users, chefs, school food service staff and other interested

parties on issues, recipes, and school meals. To subscribe, send an Internet e-mail message to: majordomo@nalusda.gov. In the body of the message type: subscribe mealtalk, Your Name <your e-mail address>. There is no charge to subscribe.



Training Grants — provide competitive funding to assist States in developing a sustainable training and infrastructure to help local school districts serve healthy meals. Nineteen grants, four of which were State consortiums, were funded this year at approximately \$3.4 million.



"A Tool Kit for Healthy School Meals" — USDA will soon be distributing 53 new School Lunch and Breakfast recipes

Team Nutrition California Project

California became the first Team Nutrition state partner on August 31, with the announcement of a strategic partnership between the USDA and the California Department of Education. USDA Under Secretary Ellen Haas and California Superintendent of Public Instruction Delaine Eastin signed a memorandum of understanding at a well-attended event at Prairie Elementary School in Elk Grove, CA. Guests included community leaders from around the state, chef Alice Waters, and representatives from more than 30 Team Nutrition supporting organizations.

The signed agreement between USDA and California established:

- **The Team Nutrition California Project, a coordinated framework for collaborative efforts to plan, develop and execute special nutrition projects.**
- **The Team Nutrition California Steering Committee, a public and private sector group that will provide the leadership for projects such as designing a model Team Nutrition Community in California.**

Event activities included:

- **Children planting a new Team Nutrition school garden**
- **Sampling of recipes based on USDA's new guidelines**

that meet the Dietary Guidelines for Americans and use USDA commodities. The "recipe tool kit" includes a

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TEAM NUTRITION ACTIVITY UPDATE



Dennis Hightower, President of Walt Disney Television and Telecommunications of the Walt Disney Corporation and USDA Under Secretary Ellen Haas sample healthy school lunch.



Team Nutrition Launch

First Lady Hillary Rodham Clinton joined Agriculture Secretary Dan Glickman, USDA Under Secretary Ellen Haas, children from Silver Spring, Maryland's Cresthaven Elementary School, and hundreds of others in a school fair setting to launch Team Nutrition in June. The launch event showcased USDA's new partnerships and saluted Team Nutrition's network of more than 200 supporters. Participants sampled

a healthy school lunch and low fat commodities.

"Every child in America is on Team Nutrition," the First Lady said. "There is no more important goal than the nutrition of our children. Many parts of government and many different groups in public and private partnerships are coming together for Team Nutrition, bringing different skills and talents that can move us all towards our goals."

Other features of the event included:

 Remarks from Senator Patrick Leahy (D-VT),

Representative E. (Kika) de la Garza (D-TX), Agriculture Secretary Dan Glickman and Under Secretary Ellen Haas on the importance of the improved school lunch guidelines to children's health.

 Participants from children to national leaders sampled a healthy school lunch which met the USDA's nutrition guidelines and featured low fat commodities. The lunch was planned, prepared and served by leading chefs who volunteered for the day and local food service personnel. The recipes were so good that the New York Times printed them.

 A preview of Team Nutrition partner Disney's spokestoons — Pumbaa and Timon — on posters and PSAs, as well as a special visit from Timon himself.

 Dr. Ernest Fleishman, Senior Vice President, Scholastic, Inc. was on hand to showcase the collaborative efforts of USDA and Scholastic.

 Over 50 leaders from the agriculture and food industry, consumer health, education and nutrition organizations, the media, and Federal and state agencies joined together in a leadership forum to discuss Team Nutrition's role in ensuring healthier meals for 50 million American school children.

Team Nutrition Schools Leading the Way

Team Nutrition Schools represent the community focal point for USDA's Team Nutrition. They serve as the catalyst for bringing together all stakeholders who will work to ensure healthier school meals and more information for children and their families.

As part of a seven-city tour, USDA has just introduced one Team Nutrition School in each state. The seven cities included Springfield, Illinois; Winterville, Georgia; Shelburne, Vermont; Hanover, Pennsylvania;

Albuquerque, New Mexico; Bellevue, Washington; and St. Louis, Missouri. All events included:

- Interactive learning activities with children, parents, educators, food service staff
- Community participation with Team Nutrition supporters
- Presentation of the Team Nutrition schools banner.

USDA will continue to recognize those schools and communities that have demonstrated their

commitment to improving the health and nutrition of children and encourage all schools throughout the nation to become a USDA Team Nutrition School.

In June 1996, thousands of USDA's Team Nutrition Schools from coast to coast will celebrate the 50th anniversary of the school lunch program. USDA's Team Nutrition brings to life the promise of healthy children — Team Nutrition Schools fulfill that promise by bringing together all those who care about children's health.

FOR MORE INFORMATION

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teamnnutrition@reeusda.gov.
Or, write to us at 3101
Park Center Drive, Room
802, Alexandria, VA
22302. Team Nutrition's
phone number is:
703-305-1624

Team Nutrition Supporters

To date, over 200 organizations, including nutrition, health, education, entertainment, and food industry groups support Team Nutrition's Mission and Principles.

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Advocates for Children & Youth, Inc.
Ag Women's Leadership Network
Agenda for Children
American Academy of Pediatricians
American Alliance for Health, Physical Education, Recreation, and Dance
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American Culinary Federation
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American Federation of Teachers
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American Institute for Cancer Research
American Institute of Wine & Food
American Meat Institute
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American Medical Student Association
American National Cattlewomen, Inc.
American Nurses Association
American Oat Association
American Psychological Association
American Public Health Association
American School Food Service Association
American Soybean Association
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Association for the Advancement of Health Education
Association of Maternal & Child Health Programs
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California Fresh Carrot Advisory Board
California Prune Board
California Tomato Growers

Cancer Research Foundation of America
Careers Through Culinary Arts Prog. Inc.
Center for Environmental Education
Center for Science in the Public Interest
Center on Hunger, Poverty & Nutrition Policy
Children's Action Alliance
Children's Defense Fund
Children's Foundation
Citizens for Missouri's Children
Citizens for Public Action on Cholesterol
Comstock Michigan Fruit
ConAgra Food Service Companies
Congressional Hunger Center
Consumer Federation of America
Cooperative State Research, Education & Extension Service
Council of Agricultural Science & Technology
Curtis Burns Foods
Department of Education
Department of Health & Human Services
Dixie Dew Products, Inc.
Dole Food Company
Draper-King Cole, Inc.
Eastern Shore Seafoods Products, Inc.
Finger Lakes Packaging
Florida Department of Citrus
Food Chain
Food Marketing Institute
Food Research & Action Center
Food Service System Management Education Council
Furman Foods, Inc.
Gehl's Guernsey Farms, Inc.
General Mills, Inc.
Georgia Department of Agriculture
Gilroy Canning Company, Inc.
Girl Scouts of the USA
Grace Culinary Systems
Green Thumb, Inc.
H. J. Heinz Company
Hormel Foods Corporation
Howard Foods, Inc.
Hunger Action Coalition
Husman Snack Foods
Indiana Institute of Agriculture, Food & Nutrition, Inc.
International Apple Institute
International Food Information Council
International Food Service Distributors
J.R. Simplot Co.
James Beard Foundation
Jewish Healthcare Foundation of Pittsburgh
Juanita's Foods
Keebler Company
Kelly Foods, Inc.
KIDSNET

Kiwanis International
Lakeside Foods, Inc.
Land O'Lakes Custom Products Division
LDS Church-Welfare Services
Marriott Management Services
Marvel Entertainment Group
Minnesota Cultivated Wild Rice Council
Minnesota Food Education & Resource Center
Mothers & Others
Nalley's Fine Foods
National 4-H Council
National Alliance of Vietnamese American Service
National Association of Elementary School Principals
National Association of Psychiatric Treatment Ctrs. for Children
National Association of School Nurses
National Association of School Psychologists
National Association of Sports & Physical Education
National Association of State NET Coordinators
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National Council of La Raza
National Dairy Council
National Dental Association
National Dry Bean Council
National Education Association
National Farmers Organization
National Farmers Union
National Fisheries Institute
National Fitness Leaders Association
National Food Service Management Institute
National Future Farmers of America
National Grange
National Heart Savers Association
National Livestock & Meat Board
National Medical Association
National Osteoporosis Foundation
National Pasta Association
National Pork Producers Council
National PTA
National Puerto Rico Coalition, Inc.
National Rural Electric Women's Association
National School Health Ed. Coalition
National Turkey Federation
National Urban League
North Atlantic Sardine Council
North Carolina Sweet Potato Commission, Inc.
Ocean Spray Cranberries, Inc.
Ore-Ida Foods, Inc.

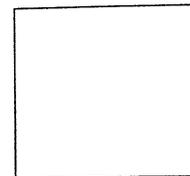
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Produce Marketing Association
Public Voice for Food & Health Policy
Randall Foods Products, Inc.
River Valley Foods
Sabatasso Foods, Inc.
Scholastic, Inc.
Second Harvest Foodbanks
Shannon Point Seafoods
Shape Up America
Share Our Strength
Snyder of Berlin
Society for Nutrition Education
Society of State Directors of Health, Physical Education, and Recreation
Southern Frozen Foods
Soy Protein Council
Squab Producers of California
Stanislaus Food Products
Stegner Food Products Company
Sugar Association
Sunkist Growers, Inc.
Sunshine Biscuits
Texas Citrus & Vegetable Association
The Campaign for Food Literacy
The Council of the Great City Schools
The Food to Grow Coalition
The Potato Board
The President's Council on Physical Fitness & Sports
The Quaker Oats Company
The Walt Disney Company
Tim's Cascade Chips
Tony's Food Service Division
Tree Top, Inc.
United Fresh Fruit & Vegetable Association
Urban Family Institute
USA Dry Pea & Lentil Council
USA Rice Federation
USA TODAY
Van Camp Seafood Company, Inc.
Vegetarian Resource Group
Venice Maid Foods
Voices for Children in Nebraska
Voices for Illinois Children
Wawona Frozen Foods
Wheat Foods Council
Wholesale Grocers Association
Wisconsin Nutrition Project
World Hunger Year
Zartac, Inc.

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Team Nutrition Connections

Fall '95

Ensuring Healthier School Meals

1

Who's On the Team: Partnership Profiles

2

Team Nutrition—Activity Update

3

A Message from Ellen Haas,

Under Secretary for Food, Nutrition and Consumer Services, United States Department of Agriculture

Welcome to USDA's Team Nutrition — our groundbreaking effort to ensure healthier school meals for 92,000 schools across America.

Throughout the country school lunch menus are changing. Children will be eating lunches that are lower in fat and sodium, and have more variety. These major changes reflect the Administration's historic policy announcement —the School Meals Initiative for Healthy Children.

Team Nutrition is a network of public and private partnerships that span the country linking USDA to all those who touch children's lives. Organizations like yours representing the agriculture and food industry, consumer health and nutrition advocates and educators, the media, and Federal and state agencies extend Team Nutrition's reach and amplify its nutrition education messages to help children change their behavior. You help make our vision a reality.

In this first issue of Team Nutrition Connections, we invite you to learn more about Team Nutrition, our new partnerships, upcoming events and activities, and our latest plans for an exciting new school and community program.

USDA's Team Nutrition brings to life the promise of healthy children, and we look forward to your continued support to fulfill that promise.

Ellen Haas



ENSURING HEALTHIER SCHOOL MEALS

This past June — just one year after it was proposed, the School Meals Initiative for Healthy Children rule was finalized — updating the nutrition standards of the school meals program. For the first time since the program began in 1946, school meals will reflect the Dietary Guidelines for Americans. To ensure that the promise of healthier children becomes a reality, USDA launched Team Nutrition. USDA's Team Nutrition is designed to help make implementation of the new policy easier and more successful.

 Team Nutrition promotes food choices for a healthy diet to children by actively involving them in making those food choices, reaching them where they learn, live, eat and play. Through Team Nutrition, research-based messages have been developed reflecting the Dietary Guidelines for Americans and the Food Guide Pyramid, and will help children to:

- expand the variety of foods in their diet
- add more fruits, vegetables and grains to the foods they already eat
- construct a diet lower in fat.

 Team Nutrition provides training and technical assistance to schools to ensure that school nutrition and food service personnel have the education, motivation, training and skills necessary to provide healthy meals that appeal to children.

First Lady Hillary Rodham Clinton, USDA Secretary Dan Glickman, USDA Under Secretary Ellen Haas, and local children celebrate Team Nutrition's launch.



PARTNERSHIP PROFILES



“Lion King” Spokestoons Promote Healthful Eating

For the millions of American children who have seen Disney's blockbuster movie *The Lion King*, Pumbaa the Warthog and Timon the Meerkat are a celebrity duo. Thanks to Team Nutrition partner The Walt Disney Company, Pumbaa and Timon have joined Team Nutrition as official “spokestoons,” appearing in four animated Public Service Announcements (PSAs). The PSAs introduce young viewers to the food guide pyramid concept, and highlight the importance of choosing foods that promote health.

The first two PSAs are airing daily on the Disney Channel, watched by more than 14 million subscribers, as part of “Disney Afternoons,” and are also included in selected Disney home video releases. Additional PSAs will be released later this year.

- Disney has made the spots available at no cost to all broadcast TV stations, networks, and cable services.

- Pumbaa and Timon also reinforce nutrition education messages in the classroom and cafeteria with fun and entertaining posters and personal character appearances.

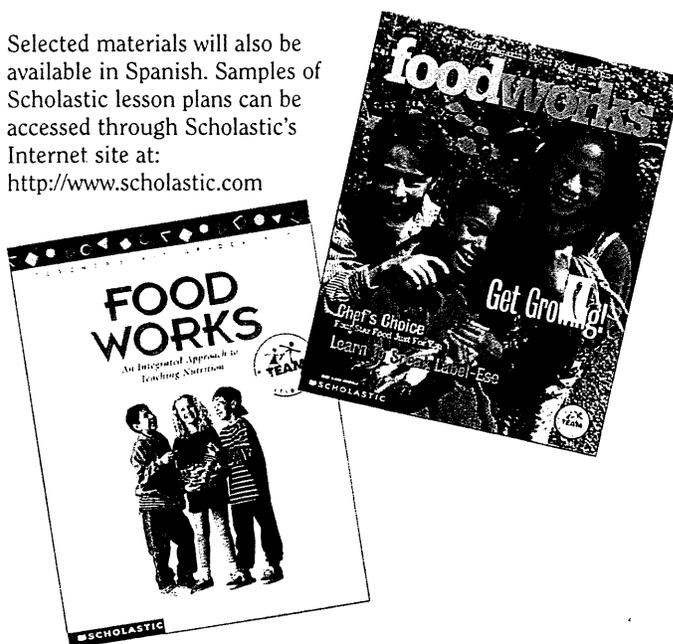
Scholastic Inc.'s Team Nutrition In-School Curricula

In collaboration with USDA, Scholastic Inc., a leading publisher and distributor of educational materials, is developing the Team Nutrition In-School curricula for Pre-K to 12th grades. This is a comprehensive activity-based program designed to build skills and motivate children to make food choices for a healthful diet.

Scholastic Kits include:

- Teaching guides
- Live action videos
- Classroom magazines and posters
- Family newsletters
- Reproducible worksheets

Selected materials will also be available in Spanish. Samples of Scholastic lesson plans can be accessed through Scholastic's Internet site at: <http://www.scholastic.com>



Government Partners Collaborate

As USDA Team Nutrition partners, the Departments of Health and Human Services and Education signed a Memorandum of Understanding to make nutrition education a priority in their agencies and for the Interagency Committee on School Health, which brings together over 40 Federal Agencies. The Departments will distribute and promote Team Nutrition materials through regional, state and local affiliates. This fall, a joint mailing will go out from the Department of Education and USDA to every principal inviting their school to become an active member of Team Nutrition.

USDA's Cooperative State Research, Education and Extension Service will develop and distribute a community action kit through home economists in nearly 3,200 counties, 4-H clubs, electronic bulletin boards, and other communication technologies. The working group will convene in October and the kits will be available by early 1996.

Team Nutrition Supporters

To date, over 200 organizations, including nutrition, health, education and food industry groups support Team Nutrition's Mission and guiding principles.

A. Kemp Fisheries Company, Inc.
Advocates for Children & Youth, Inc.
Ag Women's Leadership Network
Agenda for Children
American Academy of Pediatrics
American Alliance for Health, P.E. Rec. & Dance
American Assoc. of Family & Consumer Sciences
American Bakers Association
American Cancer Society
American College of Physicians
American College of Preventive Medicine
American Culinary Federation
American Dietetic Association
American Farm Bureau Federation
American Federation of School Administrators
American Federation of Teachers
American Fine Foods, Inc.
American Health Foundation
American Heart Association
American Institute for Cancer Research
American Institute of Wine & Food
American Meat Institute
American Medical Association
American Medical Student Association
American Natl Cattlewomen, Inc.
American Nurses Association
American Oat Association
American Psychological Association
American Public Health Association
American School Food Service Assoc.
American Soybean Association
Archer Daniels Midland Company
Archway Cookies, Inc.
Assoc. for Children of New Jersey
Assoc. for the Advancement of Health Education
Assoc. of Maternal & Child Health Programs
Assoc. of State & Territorial Health Officials
ASTPHND
Beef Products, Inc.
Better Baked Pizza, Inc.
Big Brothers/Big Sisters of America
Blue Diamond Growers
Boy Scouts of America
Bread for the World
Brooks Foods, Inc.
Bumble Bee Seafoods, Inc.
California Apricot Advisory Board
California Beef Council
California Dept. of Education
California Food Policy Advocates
California Fresh Carrot Advisory Board
California Prune Board
California Tomato Growers Assoc. Inc.

The Campaign for Food Literacy
Cancer Research Foundation of America
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Consumer Federation of America
Council of Agricultural Science & Technology
The Council of the Great City Schools
CREES at USDA
Culinary Institute of America
Curtice Burns & Divisions
Dept. of Education
Dept. of Health & Human Services
DINE Systems, Inc.
Dixie Dew Products, Inc.
Dole Food Company
Draper-King Cole, Inc.
Eastern Shore Seafoods Products, Inc.
Finger Lakes Packaging
Florida State Dept. of Citrus
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Soy Protein Council
Squab Producers of California
Stanislaus Food Products
Stegner Food Products Company
Sugar Association
Sunkist Growers, Inc.
Sunshine Biscuits
Texas Citrus & Vegetable Association
Tim's Cascade Chips
Tony's Food Service Division
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United Fresh Fruit & Vegetable Assoc.
Urban Family Institute
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Wawona Frozen Foods
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USDA Improves 23 Commodities to Make School Meals Healthier



Glickman and Haas sample improved commodity cheese with eager students at Broad Acres Elementary School in Silver Spring, Md.

At an October visit to Broad Acres Elementary School, a Team Nutrition School in Silver Spring, MD, Agriculture Secretary Dan Glickman announced improvements in the nutritional profile of 23 of the commodity foods USDA provides to schools.

The changes in commodity specifications were recommended by the USDA Commodities Improvement Council to help schools meet the Dietary Guidelines for Americans. The Council, which brings together USDA agencies involved in purchasing and distributing commodities for schools, was established and undertook its review of purchasing standards as part of the School Meals Initiative for Healthy Children.

Working in partnership with industry, USDA is reducing fat, sodium, and sugar in school lunch commodities by:

23 Improving nutrition in 23 commodities - The Department has lowered fat in products such as potato wedges, beef, pork and mozzarella cheese; and is also reducing fat in USDA's bakery mix; reducing sodium in canned poultry, fish and meats; and lowering sugar in frozen cherries and canned sweet potatoes.

23 Adding new, more nutritious commodities - USDA is purchasing new products with less fat, sodium and sugar, such as lowfat macaroni and cheese, lowfat turkey ham, and meatless spaghetti sauce.

Most of the improved commodities will be purchased for School Year 1995-1996.

TRAINING & TECHNICAL ASSISTANCE

Schools Receive "Tool Kit" for Healthy School Meals

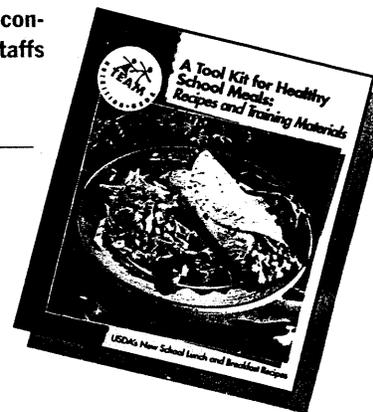
More than 92,000 schools around the country are receiving great tasting, healthful recipes in a "Tool Kit For Healthy School Meals." The tool kit includes more than 50 newly developed recipes as well as training and marketing guides for school food service personnel.

The new recipes were designed to lower the fat content and increase the use of grains, fruits and vegetables. Among the simple, economical and nutritious recipes, which include a number of popular ethnic foods, are Beef Taco Pie, Marinated Black Bean Salad, Vegetable Rice Casserole, Cream of Chicken Soup, Baked Cajun Fish, Royal Brownies, Gyros, Baked French Toast Strips and Breakfast Burritos.

The tool kit features a nutrient analysis for each recipe, and 24 colorful picture pages and slides for use in promoting the new recipes. Also included are training and promotional guides to help school food professionals reduce fat in school meals, adjust serving sizes, encourage kids to try healthful foods, produce promotional materials, and motivate the school staff and community to get involved in the National School Lunch and Breakfast Programs.

This innovative new tool kit is just one of the many resources Team Nutrition is providing to help schools prepare nutritious meals that children like. Recently, Healthy School Meals Training workshops were held around the country to help school meal planners use new computerized methods to plan, purchase, prepare and serve healthier school meals and "Culinary Skills Workshops for Healthy School Meals" were conducted for food production staffs at culinary schools.

The Tool Kit is available for \$29 from the Superintendent of Documents, U.S. Government Printing Office, at (202) 783-3238 (Stock No. 001-000-04626-8).



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WHAT'S NEW . . .

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In March, students in Team Nutrition Schools will participate in a "Team Nutrition Time Capsule" competition. Contestants will create entries with a look to the future following the theme of "Food Choices for a Healthy Diet" using geography, art, music, science, math, and other studies. Winners will be invited to Washington, DC for a recognition ceremony in June, timed to coincide with the commemoration of the 50-year Anniversary of the National School Lunch Program.

USDA'S GREAT NUTRITION ADVENTURE

In early Spring, USDA will provide each of the nation's 23,000 school districts with materials to help them plan their own Great Nutrition Adventure. The Great Nutrition Adventure action packet is filled with "how-to" information, a video, and a national directory of chefs willing to volunteer for activities.

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In commemoration of the 50th Anniversary of the National School Lunch Program, USDA's Team Nutrition will issue a family food and resource guide filled with 50 nutritious, economical, kid-friendly recipes, along with games, quizzes and other family activities designed to make healthy eating at home fun!

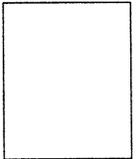
Sample menus will offer ways for parents and kids to prepare and enjoy meals that are tasty, healthy, and meet the newest Dietary Guidelines for Americans. Ideas for family activities will include gardening ideas, tasting fairs, shopping tips, and much more. The guide will also trace the 50-year history of the School Lunch Program and highlight the new policy that updates the nutrition standards for school meals. A list of Team Nutrition supporters, including volunteer chefs, and national and local organizations will also be provided.

The new guide is being written by well-known food editor, Robert A. Barnett, who specializes in food and nutrition. Formerly a senior editor for Food and Nutrition at American Health Magazine, Barnett is editor of the American Health Food Book and co-author of the Guilt-Free Comfort Food Cookbook.



Team Nutrition Connections

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Major Evaluation Underway for Team Nutrition Pilot Communities

Seven school districts were recently chosen to participate in a comprehensive demonstration and evaluation of Team Nutrition during the spring and fall of 1996. The pilot school dis-

tricts are Vacaville, California; Des Moines, Iowa; Lawrence, Massachusetts; Passaic County, New Jersey; Cleveland, Ohio; Tulsa, Oklahoma; and Hamblen County, Tennessee.

Pilot schools will conduct a set of core nutrition promotion activities to bring lunch menus into line with the Dietary Guidelines, using Disney posters and PSAs as well as Scholastic, Inc. materials for classroom teaching, providing nutrition training to teachers and food service staff, and sponsoring a variety of school and community nutrition education activities that reinforce

the Team Nutrition message of making food choices for a healthy diet.

In four of the pilot communities, the evaluation will study the impact of Team Nutrition on the nutrition skills and eating behavior over time in school and at home of fourth and seventh grade students in participating and comparison schools.

The process and outcome evaluations will provide information on how to implement a successful Team Nutrition initiative. Preliminary results will be available in the fall of 1996 with a final report expected in the summer of 1997.

PARTNERSHIP PROFILE

New Disney PSA Released

The Walt Disney Company has recently released the third animated Public Service Announcement (PSA). The first two PSAs have been airing daily on the Disney Channel—watched by more than 14 million subscribers, and as part of “Disney Afternoons.” The PSAs are also being shown on selected Disney home video releases. Children around the country have been learning from “The Lion King’s” Pumbaa and Timon about the importance of choosing foods that promote health. A fourth PSA will be released later this year.

Scholastic Inc.’s Team Nutrition In-School Curricula Available On-Line

Educators are now able to go on-line and sample lessons and activities from Scholastic Inc.’s Team Nutrition In-School curricula developed in collaboration with USDA for Pre-K to 5th grades. These lessons and activities have been designed to build skills and motivate children to make food choices for a healthful diet. The On-line features include an introduction to the in-school curricula, a list of the program components available for each grade level, a teaching guide overview, and a sample lesson for grades 3-5 (complete with student and family activity pages). Information is also available on becoming a USDA Team Nutrition School and how to order complete sets of the classroom materials. Access through Scholastic’s home page at: <http://www.scholastic.com>

Rhode Island Launches Team Nutrition Training Program

Rhode Island’s Team Nutrition training got off to a fast start last summer, with parallel courses for school food service managers and chefs.

School food service managers from 97 percent of the state’s school districts received five days of in-service instruction which they are passing along to their employees.

The training program provided under a statewide Team Nutrition Training grant by Johnson and Wales University taught participants to prepare healthy school meals that meet the Dietary Guidelines for Americans.

The course also emphasized the substitution of low fat commodity

products in existing recipes, such as prune puree instead of oil in brownies and ground turkey in a variety of meat dishes.

In a second training course, 20 chefs from the Johnson and Wales faculty and some of Rhode Island’s finest restaurants, prepared for a program that puts “adopted chefs” in most of the state’s school districts. The course covered USDA nutrition requirements and school food service operations.

“Adopted” chefs will work side by side with food service workers in preparing healthy meals. Their link with classroom activities will reinforce and enrich nutrition education and may also encourage students to consider a food industry career.



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TEAM NUTRITION'S FAMILY FOOD AND RESOURCE GUIDE

In commemoration of the 50th Anniversary of the National School Lunch Program, USDA's Team Nutrition will issue a family food and resource guide filled with 50 nutritious, economical, kid-friendly recipes, along with games, quizzes and other family activities designed to make healthy eating at home fun!

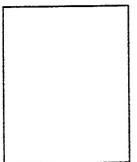
Sample menus will offer ways for parents and kids to prepare and enjoy meals that are tasty, healthy, and meet the newest Dietary Guidelines for Americans. Ideas for family activities will include gardening ideas, tasting fairs, shopping tips, and much more. The guide will also trace the 50-year history of the School Lunch Program and highlight the new policy that updates the nutrition standards for school meals. A list of Team Nutrition supporters, including volunteer chefs, and national and local organizations will also be provided.

The new guide is being written by well-known food editor, Robert A. Barnett, who specializes in food and nutrition. Formerly a senior editor for Food and Nutrition at American Health Magazine, Barnett is editor of the American Health Food Book and co-author of the Guilt-Free Comfort Food Cookbook.



Team Nutrition Connections

3101 Park Center Drive
Room 802
Alexandria, VA 22302



PUBLIC INSTRUCTION -- CATEGORICAL AIDS

School Breakfast Program

Motion:

Move to provide \$163,300 GPR annually above base level funding of \$892,100 GPR for the school breakfast program. Delete \$54,400 GPR annually of general school aids funding to adjust two-thirds funding of partial school revenues.

Note:

The school breakfast program provides a per meal reimbursement of \$0.10 for each breakfast served under the federal school breakfast program. If there is insufficient funding to pay the full amount, payments are to be prorated.

[Change to Base: \$217,800 GPR]

[Change to Bill: \$217,800 GPR]

Henderson, Patrick

From: randr [randr@lakefield.net]
Sent: Tuesday, October 23, 2001 9:02 AM
To: patrick.Henderson@legis.state.wi.us
Subject: Fw: NSLP Activity update

-----Original Message-----

From: randr <randr@lakefield.net <mailto:randr@lakefield.net>>
To: randr@lakefield.net <mailto:randr@lakefield.net> <randr@lakefield.net <mailto:randr@lakefield.net>>
Date: Monday, October 15, 2001 12:23 PM
Subject: NSLP Activity update

NSLP Activity update (summary) from September Coalition Meeting:

Distributed Ideas Summary by category (from July Meeting). Additional copies will be available at the November meeting.

Distributed Bob Dobbs' letter (photocopies provided by Ron Kossik) to the Board of Education in support of the NSLP. Additional copies will be available at the November meeting. Since September, Bob and his Dad have both appeared in support of the NSLP before the MPSD Board of Education.

Bob Kaeiser reported on the telephone calls he made to Board of Education members asking about their views on the NSLP.

Ron Kossik reported on his meetings with Senator Feingold and Representative Petri re: the NSLP; reported on website (www.mantyhotlunch.org <<http://www.mantyhotlunch.org>>) update re:FOX 11 appearance, link to US Health and Human Services, MJS story on Milwaukee mayor and superintendent supporting MPS hot lunch participation. Since September, mantyhotlunch website has been further updated.

Updates since September coalition meeting:

Latino Consortium has sent a letter in support of the NSLP to the MPSD Board of Education.

Henderson, Patrick

From: randr [randr@lakefield.net]
Sent: Tuesday, October 23, 2001 9:01 AM
To: patrick.Henderson@legis.state.wi.us
Subject: Fw: November NSLP Coalition Meeting

-----Original Message-----

From: randr <randr@lakefield.net <mailto:randr@lakefield.net>>
To: randr <randr@lakefield.net <mailto:randr@lakefield.net>>; >
Date: Monday, October 15, 2001 11:50 AM
Subject: November NSLP Coalition Meeting

Hi,

The next NSLP Coalition meeting will be Wednesday, November 28 at the Rahr-West Art Museum (meeting room #3). Stop by anytime after 1 p.m. or before 7:30 p.m. Wrap-up is from 6:30-7:30 p.m. At 6:30 p.m., individuals will report in on any NSLP activity since the September meeting. At 7 p.m., a speaker (TBA) will talk.

If you are unable to attend, please email me any updates on your NSLP activity.

Thanks,

Maureen

Henderson, Patrick

From: randr [randr@lakefield.net]
Sent: Tuesday, October 23, 2001 8:55 AM
To: patrick.Henderson@legis.state.wi.us
Subject: Fw: Speech



lunch.wpd

-----Original Message-----

>
>To: randr@lakefield.net <randr@lakefield.net>
>Date: Friday, September 28, 2001 6:42 PM
>Subject: Speech

>Maureen,

>
>I am sending you the Word Perfect attachment of my speech and I will insert
>it into this email as well. Just a side note, I use the written speech as
>a
>guide, but most of my speech comes out of emotion as I speak and some of it
>may not be in the written speech. I prefer to memorize and speak from the
>heart than just strictly following a written speech. Could you forward
>this
>to Ron. Thanks

>
>Bob

>
>The connection between learning and nutrition is well established by
>scientists, but there has been a disconnect by school boards,
>administrators, and certain members of the public as to the effects of what
>is being served in school cafeterias in relation to academic performance.

>
>I would like to thank Ron Kossack, Maureen O'Brien, Vicky (whom I work
>with), and all of you who are fighting for this necessary and worthy cause.

>
>I personally cannot fathom why a school district, specifically the school
>board, would not want to give children the maximum advantage in learning by
>providing a school lunch program. We all know nutrition is essential in
>the
>development and learning processes of our children and effects the outcome
>of our children. I also cannot believe our local, state, and federal
>politicians will not come out in favor or against this proposal. It's
>about
>time they support something that supports children. It is their duty to do
>what is best for the community and if they can't do what is best for the
>community, then they need to get out of office. I was also shocked to find
>out MPS staff and PTA members were going to Peter's Pantry to get peanut
>butter/jelly/bread to feed children who forgot their lunches. This indeed
>should be an embarrassment for the MPS Administration and School Board.
>Children need to be our focus of attention.

>
>Another factor to consider is the results of the 1998 referendum. Only 39%
>of the registered voters voted, which means a minority of registered voters
>who voted against the bonding referendum are making policy for the majority
>in the school district. The school board should not have considered this
>valid and should have had public information meeting prior to the
>referendum, just as the TRPS did for their building referendum.

>
>I had attended St. John's Lutheran School from kindergarten to eighth grade
>and did not have the opportunity to participate in a school lunch program,
>but we did have the morning milk breaks.
>I am a product of the Two Rivers Public School District, specifically
>Washington High School from 1982-1986. When I attended Washington High
>School I not only had the opportunity to participate in the school lunch
>program, but we had a variation that allowed us to either have the regular
>menu, the a la carte menu, or bring your own lunch. A vast majority of
>students participated in either the regular menu program or the a la carte.
>
>One argument, by opponents of the school lunch program in Manitowoc, has
>been the cost, specifically the initial investment and continuing operating
>costs. According to the Statistical Abstracts of the U.S., in the year
2000
>it was projected that the cost per pupil/year would be just under \$8,000,
>but consider the figure, from the Department of Justice, of the amount of
>people projected to be in prison, on probation, or on parole in the year
>2008, 15.3 million. We are all quite aware that it costs around
>\$40,000/year per inmate for incarceration and these costs are increasing
>dramatically. I just completed a county finance committee meeting before
>coming here and our Human Services Director, Tom Stanton, was just speaking
>of the costs last year for juvenile detention at Lincoln Hills, \$886,000,
>and his fear of increased gang activity.
>
>Wouldn't it be prudent to consider that any amount of investment in our
>children would greatly enhance their chance for success and less of a
chance
>of following the path to personal destruction.
>In the 1999-2000 year budget for food services, the TRPS generated \$509,
851
>in revenue and \$488, 273 in expenses, which gave them an ending fund
balance
>of \$46, 994. In 2000-2001, the TRPS generated \$526, 032 in revenue and
>\$502, 166 in expenses, which gave them an ending fund balance of \$70, 860.
>The TRPS plans to use \$40,000 of the ending fund balance for the purchasing
>of kitchen equipment for the new high school, which still leaves them \$30,
>860 left in the fund, in the positive. So the argument of not being able
to
>zero or positive balance a food service budget in the MPS is not true.
>Granted there is an initial investment in infrastructure to get the program
>going, but over a period of time these costs would be made up and the
>program would be self-sufficient. This clearly answers the question of
>fiscal responsibility towards the taxpayers.
>
>The TRPS serves approximately 1,300 lunches and 300 breakfast's per day,
>employs 5 full-time/7part-time staff, and has the main production kitchen
at
>LB Clarke School. The meals are transferred to satellite kitchens in the
>other schools for the program.
>
>Breakfast costs are as follows:
>
>Elementary \$.90
>Middle \$1.00
>H.S. \$1.10
>
>Lunch:
>
>Elementary \$1.40
>Middle \$1.50
>H.S. \$1.60
>
>Reduce pay's \$.30 for breakfast and \$.40 for lunch.

The connection between learning and nutrition is well established by scientists, but there has been a disconnect by school boards, administrators, and certain members of the public as to the effects of what is being served in school cafeterias in relation to academic performance.

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I personally cannot fathom why a school district, specifically the school board, would not want to give children the maximum advantage in learning by providing a school lunch program. We all know nutrition is essential in the development and learning processes of our children and affects the outcome of our children. I also cannot believe our local, state, and federal politicians will not come out in favor or against this proposal. It's about time they support something that supports children. It is their duty to do what is best for the community and if they can't do what is best for the community, then they need to get out of office. I was also shocked to find out MPS staff and PTA members were going to Peter's Pantry to get peanut butter/jelly/bread to feed children who forgot their lunches. This indeed should be an embarrassment for the MPS Administration and School Board. Children need to be our focus of attention.

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The TRPS serves approximately 1,300 lunches and 300 breakfast's per day, employs 5 full-time/7part-time staff, and has the main production kitchen at LB Clarke School. The meals are transferred to satellite kitchens in the other schools for the program.

Breakfast costs are as follows:

Elementary	\$.90
Middle	\$1.00
H.S.	\$1.10

Lunch:

Elementary	\$1.40
Middle	\$1.50
H.S.	\$1.60

Reduce pay's \$.30 for breakfast and \$.40 for lunch.

We all expect government to be efficient, but in being efficient we must all understand that we still must maintain our effectiveness. If government cannot maintain it's effectiveness in the administering the public's demands for accountability and services, then in being efficient, we are not able to be responsible to the needs of our community. We have no problem in purchasing items that are clearly wants and not needs. What it costs for one ticket and snacks to see a movie would more than pay for the weekly lunch of one child. What is then more important; I would believe our children must be the focus of our attention.

Let's also be realistic of our society and how today's roles of parents have changed. I'm divorced, so when my daughter stayed with me, she attended Magee School in Two Rivers. She often told me of children that came to school without a lunch or without any

breakfast. Granted some of this is parental responsibility, but we also have people in our communities that are financially challenged, poor. A school lunch program is not only one of convenience, but insures the success of all children and is a great intangible investment in our children's future and our communities.

Just some statistics of poverty rates in Manitowoc County from the U.S. Census Bureau.

People under 18 in poverty Estimate	(90% Confidence)
2,124	1,572 to 2,675
Related Children age 5-17 Estimate	(90% Confidence)
1,483	1,032 to 1,934
Median Household Income Estimate	(90% Confidence)
\$40,097	\$37,134 to \$43,045

Another dose of reality is that we all pay for the federally sponsored school lunch program already through our taxes, but the citizens of MPS are not able to realize the dollars back in their communities through this program. Realize this, the citizens of MPS are already paying for the school lunch program of every school district in Wisconsin and the nation through their taxes. You don't get a tax break by refusing to participate, you just lose federally sponsored dollars that could come back toward your community. Shouldn't it be the responsibility of the community and school board to ensure that as many federal dollars come back to the MPS, so that the tax burden on the citizens is lessened. Shouldn't the school board and community feel a commitment to the responsibility that all children have the chance to be successful in their academic performance. Nutrition is essential to the performance of our students. Wisconsin is a leader in the nation in education, but unless we secure that position by ensuring our children have all the tools necessary for academic excellence, we will soon fall to the side. Thank you.

Now I will take any questions.

Henderson, Patrick

From: randr [randr@lakefield.net]
Sent: Tuesday, October 23, 2001 8:54 AM
To: patrick.Henderson@legis.state.wi.us
Subject: Fw: Resolution



nslpres.wpd

Hi,

FYI. I just made sure you are on the NSLP Coalition email list. I believe Senator Baumgart will want to stay infomed on this issue.

MO

-----Original Message-----

To: randr@lakefield.net <randr@lakefield.net>
Date: Monday, October 15, 2001 7:28 PM
Subject: Resolution

>
>
>
>-----
>Get your FREE download of MSN Explorer at <http://explorer.msn.com/intl.asp>
>

Resolution in Support of the National School Lunch Program

TO THE CHAIRPERSON AND BOARD OF SUPERVISORS
OF MANITOWOC COUNTY, WISCONSIN

WHEREAS, the National School Lunch Program (NSLP) is a federally assisted meal program operating in more than 96,000 public and nonprofit private schools and residential child care institutions; and

WHEREAS, the National School Lunch Program provides nutritionally balanced, low-cost or free lunches to nearly 27 million children each school day; and

WHEREAS, the program was established under the National School Lunch Act, signed by President Harry Truman in 1946; and

WHEREAS, the United States Congress expanded the National School Lunch Program in 1998 to include reimbursement for snacks served to children in after-school educational and enrichment programs to include children through 18 years of age; and

WHEREAS, the U.S. Department of Agriculture provides cash subsidies and donated commodities to school districts and independent schools that choose to take part in the National School Lunch Program; and

WHEREAS, the school lunches under the National School Lunch Program must meet the Dietary Guidelines for Americans, which recommend that no more than 30 percent of an individual's calories come from fat, and less than 10 percent from saturated fat; and

WHEREAS, according to the U.S. Census Bureau, model-based income and poverty estimates for Manitowoc County, Wisconsin in 1997, approximately 2, 124 people under the age 18 are in poverty; and

WHEREAS, by not participating in the National School Lunch Program, the taxpayers of a school district do not realize a reduction in taxes paid, they just do not receive federal tax dollars into their perspective communities; and

NOW, THEREFORE, BE IT RESOLVED that the Manitowoc County Board of Health supports the National School Lunch Program; and

BE IT FURTHER RESOLVED that the Manitowoc County Board of Health recommends that all public school districts participate in the National School Lunch Program; and

BE IT FURTHER RESOLVED that a copy of this resolution be distributed to Governor Scott McCallum; Elizabeth Burmaster, Wisconsin Superintendent of Public Instruction; Manitowoc School Board President, Jeanette Mueller; and the Manitowoc Public School District Superintendent, Dr. Wayne Johnson.

Dated this 15 day of October 2001.

Respectfully submitted by the Manitowoc County Board of Health.

Marion Nate, Chairperson _____

Henderson, Patrick

From: randr [randr@lakefield.net]
Sent: Tuesday, October 23, 2001 8:47 AM
To: patrick.Henderson@legis.state.wi.us
Subject: Fw: GOP Blocks Bill to Help Farming Families, Self-Employed

Hi,

I note that the UW conducted a study showing the need for BadgerCare for farmers. Surely there must be a University department that will do a nutrition needs assessment of students attending public schools without the NSLP. Could Senator Baumgart approach the university (perhaps, ag school) and ask them to do a nutrition needs assessment. I believe a researcher would find all the children in a school district without the NSLP are lacking in basic nutrition. It's too hard to prepare a bag lunch, day after day, that will meet 1/3 of the daily nutrition requirements. The MPSD would be a good school district to study with 5600 students and 14% from minority communities. The peanut butter sandwich option offered by the MPSD to children who don't bring a lunch would be of particular interest to a researcher. There is no way children are receiving proper nutrition under this peanut butter sandwich option.

Thanks,

MO

-----Original Message-----

From: demfacts@wisdems.org <demfacts@wisdems.org>
To: randr@lakefield.net <randr@lakefield.net>
Date: Wednesday, October 17, 2001 1:47 PM
Subject: GOP Blocks Bill to Help Farming Families, Self-Employed

>>From the Assembly Dems:

>
>
>ASSEMBLY DEMOCRATS SUPPORT AFFORDABLE HEALTH CARE FOR FARMERS
>But GOP Blocks BadgerCare for Farmers, Self-Employed
>
>
>Assembly Democrats Tuesday supported affordable health care for farm
>families, but the Republican-controlled Assembly voted 54-41 to block
>efforts to provide BadgerCare health insurance to farmers and other
>self-employed business people.
>
>All Republicans voted against taking up the proposal by Representative
>Mary Hubler (D-Rice Lake). Her bill (AB272) would make an estimated
>10,000 Wisconsin residents eligible for BadgerCare, the state's
>program to help working families obtain affordable health care
>coverage.
>
>Tuesday's action means the BadgerCare bill will stay bottled up in the
>GOP-controlled Assembly Committee on Health, which has not held a
>public hearing or scheduled a vote on the proposal.
>
>"Every day, Wisconsin loses another four or five family farms, and the
>high cost of health care is one of the biggest reasons. A farmer who
>can't afford health insurance puts his or her family at risk of being
>financially ruined by a serious injury or sickness," Hubler said.
>
>Wisconsin farmers are more than twice as likely to lack health

>insurance as other Wisconsin residents. A recent UW survey found that
>18% are uninsured, compared to 7% of the general Wisconsin population.
>Another 23% of farmers are considered underinsured.

>
>"If we value the working families on Wisconsin' farms, we can't ignore
>the health care crisis they face. BadgerCare could be a big part of
>the solution for thousands of farmers and their families," said
>Assembly Democratic Leader Spencer Black.

>
>Hubler's bill would change BadgerCare's income limits, which currently
>deny coverage to thousands of farmers and other self-employed business
>people. While the federal tax code allows farmers to deduct the
>declining value of business assets like tractors and silos from their
>income, BadgerCare requires them to add it back in-- pushing most of
>them over the eligibility limit.

>
>"The idea that farmers are too rich to deserve affordable health care
>is ludicrous. A majority of the Assembly supports BadgerCare coverage
>for farm families. Every day the legislature fails to approve it,
>more family farms will be lost," Black said.

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>Contribute to the Democratic Party of Wisconsin online - visit
<http://www.wisdems.org>

>
>To subscribe, send a blank message to demnetwork-on@mail-list.com
>To unsubscribe, send a blank message to demnetwork-off@mail-list.com
>To change your email address, send a message to
demnetwork-change@mail-list.com
> with your old address in the Subject: line

>
>
>

>This message was launched into cyberspace to randr@lakefield.net

>