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USAID

Nutrition

Programs:

An Overview

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Nutrition: Essential for Development

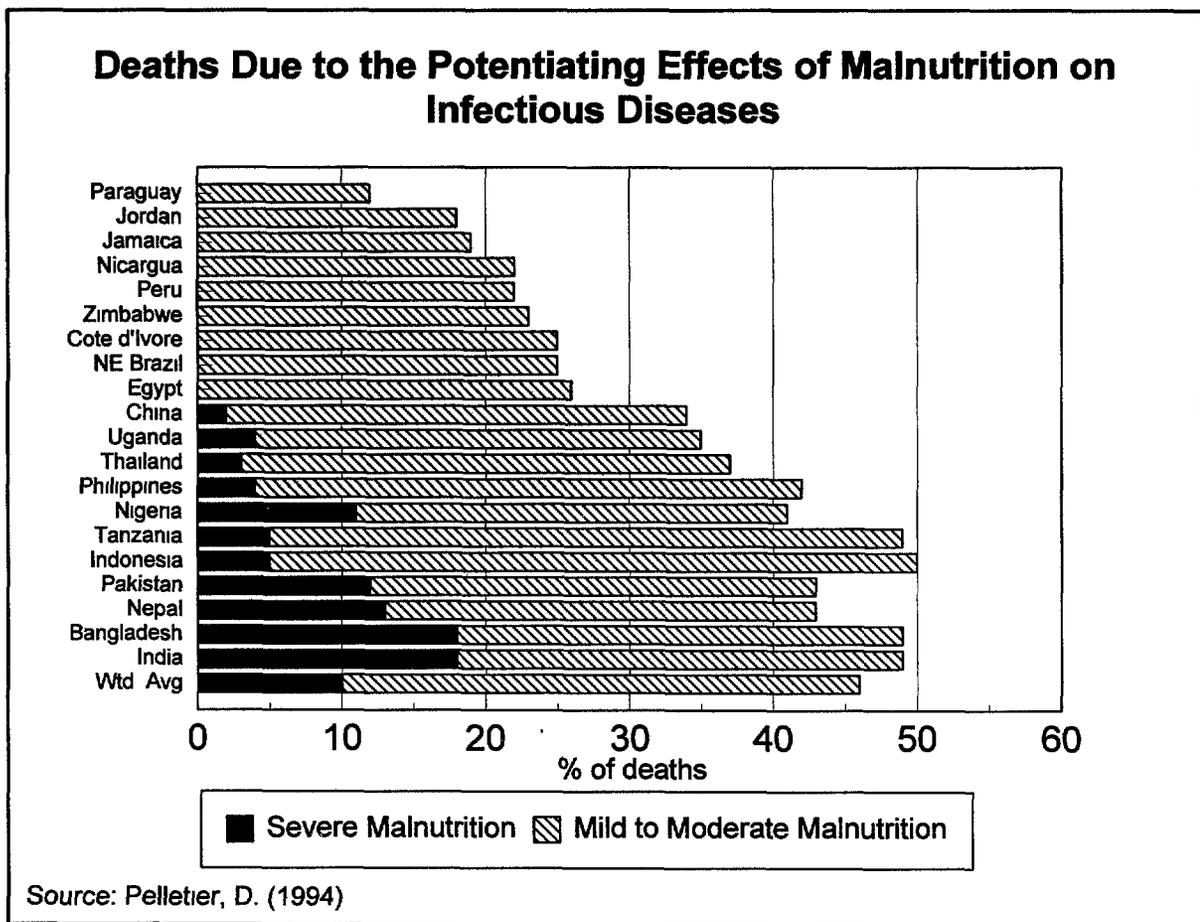
More than 2 billion people worldwide do not consume a diet which meets their nutritional requirements. An estimated 56 percent of the 13 million child deaths (under five years old) worldwide each year are the deaths of children who were malnourished. And of those 7 million nutrition-related deaths, some 80 percent are the deaths of children who were only mildly or moderately malnourished. Furthermore, deficiencies of micronutrients such as vitamin A, iron, and iodine and inappropriate breastfeeding practices afflict one in three people and further add to this toll.

Nutritional well-being is a necessary and crucial input to and outcome from the development process. It leads to improved learning capacity, greater labor productivity, and reduced health care expenditures. Better nutrition improves child survival, which has been shown to increase family planning practices and ultimately reduce population growth. It lowers a society's risk of experiencing civil strife and the exploitation and degradation of marginal lands in order to survive. A society with a well-nourished population is the mirror that reflects the success of development efforts.

Over the last 20 years, rates of protein-energy malnutrition worldwide have declined as a consequence of development programs. USAID's role in this process emphasizes *preventive* action that improves long-term "food security" by promoting the availability of, access to, and consumption of a quality diet.

Improved food *availability* for countries experiencing food emergencies and deficits is achieved in part through food assistance programs. The nutritional impact of these programs is enhanced by targeting those in greatest need, ensuring that the food provided meets nutritional requirements, and by using monetized food aid to support long-term policies and projects which improve nutrition. Longer-term food availability is addressed through programs which promote increased food production. In this case, nutrition is the bridge between the agriculture and health sectors: an emphasis on the quality and safety of foods through improved processing and storage techniques, and food fortification means more nutritious and better utilized foods.

An even larger share of malnutrition, however, stems from a lack of *access* to food rather than from emergencies or acute food shortages. USAID addresses this issue through income-generating activities, such as the development of microenterprises, and credit programs that also provide nutrition education to loan recipients.



Area of Focus: Improving Consumption at the Household Level

The ultimate goal of nutrition is optimal *consumption* and use of nutrients by the individual. USAID recognizes that health and nutrition are inextricably linked. In the example of diarrheal disease, which causes 3 million child deaths each year, nutritional interventions such as the prevention of food contamination, promotion of exclusive breastfeeding, and appropriate feeding during illness play a vital role in complementing the efforts of health services.

USAID focuses on those specific nutritional interventions which can most effectively improve health, learning, and economic growth.

Women and children are of highest priority because they have increased nutritional needs associated with childbirth and rapid growth. In women 15-45 years of age, nutritional status is an important determinant of reproductive health and birth outcome. Children, especially those less than two years of age, are at risk of growth stunting, impaired cognitive function, and increased vulnerability to infectious disease as a result of even mild malnutrition.

The full impact of *exclusive breastfeeding* on child survival and maternal health and fertility have brought breastfeeding to the center stage of USAID's behavior change efforts. It is now known that exclusively breastfed children are 14 times less likely to die from diarrhea, and are 3 times less likely to die from respiratory disease and other infections.

The importance of *diet quality* is increasingly recognized as key to good health. A quality diet is diversified, rich in essential nutrients and free of contaminants. Over 2 billion people are anemic, including 80 percent of all pregnant women and over half of toddlers in developing countries. More than 40 percent of the deaths associated with pregnancy and childbirth in the developing world may be due to *iron* deficiency anemia. There are 34 countries where *vitamin A* deficiency constitutes a public health problem, yet have no large-scale prevention programs in place. In these countries, vitamin A deficiency can increase child death rates from common diseases by as much as 25 percent. In addition, it is the leading cause of blindness among preschool children, blinding at least 250,000 children each year. Evidence is now emerging that IQ may drop about ten IQ points in *iodine* deficiency, and an additional ten points in iron deficiency.

USAID has made a priority those people most vulnerable to malnutrition, and is making available technologies to prevent the unnecessary, widespread burden of malnutrition. Finally, improved *monitoring and evaluation* of the nutritional impact of interventions will further incorporate nutritional objectives into development programs and policies.

USAID promotes improved nutrition, particularly for women and children, through food-based approaches which promote dietary diversification, adequacy, and appropriate dietary practices. These two complementary goals are:

- **the development and application of appropriate food and nutrition technologies which increase access to a quality diet;**
- **the promotion of healthy dietary practices through nutrition communication and education.**

Sustainable impact is sought by strengthening the human and institutional capacity of developing countries to address nutritional concerns. Technical staff from over 20 countries have received comprehensive training and follow-up support in micronutrient program management, in addition to advocacy, quality control, and social marketing—areas that program managers as well as international donor agencies recognize as being critical to launching effective national programs. Often vital to the success of many nutrition programs is political commitment and consensus. USAID provides global leadership through support to international consultative groups and fora, such as the 1992 International Conference on Nutrition in Rome, and by supporting developing country professionals through training, research, and program implementation. Successful programs involve the collaboration of USAID with host country governments, non-governmental organizations, and other donors, as will be described in the examples that follow.

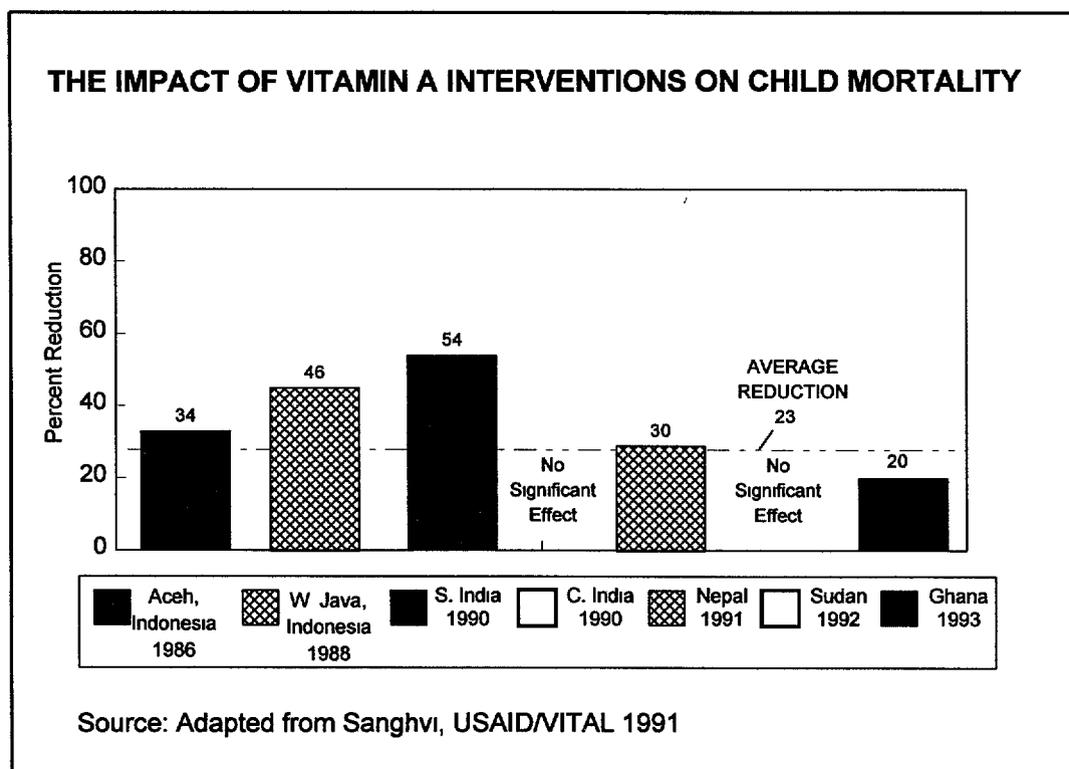
I. The Development and Application of Appropriate Food and Nutrition Technologies Which Increase Access to a Quality Diet:

- (a) *Prevention and alleviation of micronutrient malnutrition*
- (b) *Food science and technology transfer*
- (c) *Development of appropriate food security and nutrition monitoring systems*

(a) Prevention and alleviation of micronutrient malnutrition

USAID has played a leading role in guiding the research that has established micronutrient interventions that are effective, affordable, and sustainable. USAID's work centers on three micronutrient deficiencies which have the greatest prevalence and impact worldwide and for which there are proven, cost-effective methods of control: Vitamin A, iron and iodine.

- For two decades USAID has been the global leader in identifying and combatting the health consequences of vitamin A deficiency. USAID-supported research demonstrated that mild vitamin A deficiency increases the risk of child mortality and that deaths among preschool children in developing countries can be reduced by 30 percent or more by supplementing children with vitamin A—an effort that could prevent up to 2.5 million early childhood deaths each year.



Research has developed accurate, yet practical methods of assessing vitamin A and iron status. State-of-the-art technology is further guided by USAID-supported advisory groups, such as the International Vitamin A Consultative Group (IVACG) and the International Nutritional Anemias Consultative Group (INACG). They have been the fora for scientists, policymakers, and program managers from developing and developed countries to exchange information on ways to reduce vitamin A and iron deficiencies worldwide.

Increasing the consumption of micronutrients can be achieved through food fortification, micronutrient supplementation, promotion of breastfeeding, and dietary diversification. The challenge is to tailor the “mix” of these interventions to country-specific conditions. In many cases, the private sector is prominent in the production, processing, and distribution of food, and thus is a key agent through which micronutrient efforts can be channeled.

- **Indonesia is one of the few countries in the world which can scientifically document the elimination of nutritional blindness as a public health problem. Fifteen years ago, the first surveys indicated a severe public health problem. Nationwide vitamin A supplementation efforts, dietary behavior change programs, and advocacy directed to policymakers were supported by USAID. A subsequent 1992 re-survey documented that nutritional blindness had fallen below WHO-defined levels of a public health problem. Fifteen years ago, 60,000 children every year were going blind from lack of sufficient vitamin A—now that number is close to zero.**

Fortifying foods people already consume raises micronutrient intake without having to change eating habits. It also may be one of the most equitable health interventions available because it reaches needy populations that health services can never completely cover. Through collaboration with local and transnational industries, USAID supports efforts in which common foods such as sugar, salt, oil, and wheat flour are fortified with essential micronutrients using existing, low-cost technologies.

- **More than 20 countries have initiated salt iodization programs with USAID support, and sugar has been successfully fortified with vitamin A in four Latin American countries.**
- **USAID has led in the development of iron EDTA for use in the fortification of staple foods, because it has been found to be better absorbed and more stable than conventional iron fortificants.**

Micronutrient supplementation can be provided at very marginal cost to school-based health clinics, immunization programs, birthing centers and other points of contact with women and children. Vitamin A supplements have proven to be the most cost-effective of all health and nutrition interventions in terms of dollars spent per life saved: Studies show that a 2-cent megadose of vitamin A administered twice a year can reduce child mortality rates by 30 to 50 percent. Annual iodine supplements to women, costing less than 5 cents per year, have dramatically reduced the frequency of mental and physical retardation of their offspring in regions where soils are iodine deficient.

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- **Approximately 1 million children in Nepal will not suffer from the debilitating effects of vitamin A deficiency this year. Vitamin A capsules are distributed by Female Community Health Volunteers (FCHVs) every six months through the primary health care system during pre-determined two-day campaigns. To date, over 12,000 FCHVs have been trained in distribution techniques, which have reached up to 90 percent of children in many districts.**

Increasing the local production and **consumption of micronutrient-rich foods** often provides the most feasible and sustainable approach. Dietary diversification begins early in life with the promotion of appropriate breastfeeding and child feeding practices, which significantly improve children's micronutrient status.

- **A USAID-funded effort with the Ministry of Health and local NGOs in Bangladesh promotes increased production and consumption of vitamin-A rich foods through social marketing and home gardening. The project currently reaches 81 villages with more than 1000 participating households. A nutritional surveillance system complements the gardening initiative to ensure that the program's positive outcomes are maintained.**
- **Women's groups are using simple technologies to preserve fruits and vegetables during short growing seasons. Solar dried foods, rich in micronutrients such as pre-vitamin A carotenoids, are an attractive addition to children's diets, and can be stored for months. In addition, solar drying is effective as an income generating activity for women's groups.**

(b) Food Science and Technology

USAID helps to increase the nutritional quality, safety, and availability of foods in developing countries through technical assistance to indigenous food industry. Food scientists, technologists, and other professionals from US food manufacturing companies and academia share expertise and practical know-how through technical assistance and training. As trade globalizes and food products move across borders more freely, the demand for knowledge and technologies to improve food quality and safety will increase.

Many benefits can accrue to developing countries through improvements in food processing, preservation, and fortification. These technologies can help meet food safety and nutritional requirements, in turn reducing foodborne disease, and mitigating malnutrition. Strengthening indigenous food businesses helps reduce poverty by providing a means for enhancing job and economic growth in poor urban and rural communities.

- **US food industry know-how has been applied in the field to help transfer fortification technology to small and medium- sized bakeries in Central America and to improve the overall consistency, quality, and safety of baked products for school-aged children. The improvements include fortification with the B complex vitamins, vitamin A, iron, and calcium.**

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- **A training-of-trainers course was organized at INCAP (Institute of Nutrition of Central America and Panama), in conjunction with the Guatemalan Association of Food Technologists, on food safety, quality assurance and control. INCAP nutrition staff and quality control managers from a variety of Central American food businesses attended the training.**
 - **In Guatemala, hands-on training has been delivered on processing micronutrient-rich fruits and vegetables utilizing a mobile processing plant to demonstrate processing and storage technologies. These technologies reduce losses of highly perishable foods which are available in great quantity at harvest time, but unavailable during other periods of the year.**

(c) Development of appropriate food security and nutrition monitoring systems

Nutritional status is a dramatic and revealing indicator of the effectiveness of development programs, as well as of the welfare of a population. USAID's operating principle is that reliable information and its sound analysis are key elements of any strategy to improve food security and nutrition; it leads to more effective early warning, identification of vulnerable groups and targeting of resources, and to improved capacity to monitor and evaluate the nutritional impact of interventions.

USAID projects develop, disseminate, and institutionalize state-of-the-art information systems for use by host country organizations, PVOs, and USAID missions. This includes (a) operations research to improve the availability, relevance and quality of food security and nutrition information; (b) assistance to host country and PVO assessments of nutritional status and food security; and (c) short-term training in the development and implementation of monitoring and surveillance systems, and their use in program management and evaluation.

- **With assistance from USAID, the Ministry of Health in Sri Lanka has completed an extensive national Nutrition and Health Survey. The findings of the survey have stimulated interest in the fortification of wheat flour to combat iron deficiency.**
- **Research to improve the monitoring of household food security (with special focus on the role of women) has been conducted in several countries, and to develop "alternative indicators" for evaluating nutritional status.**

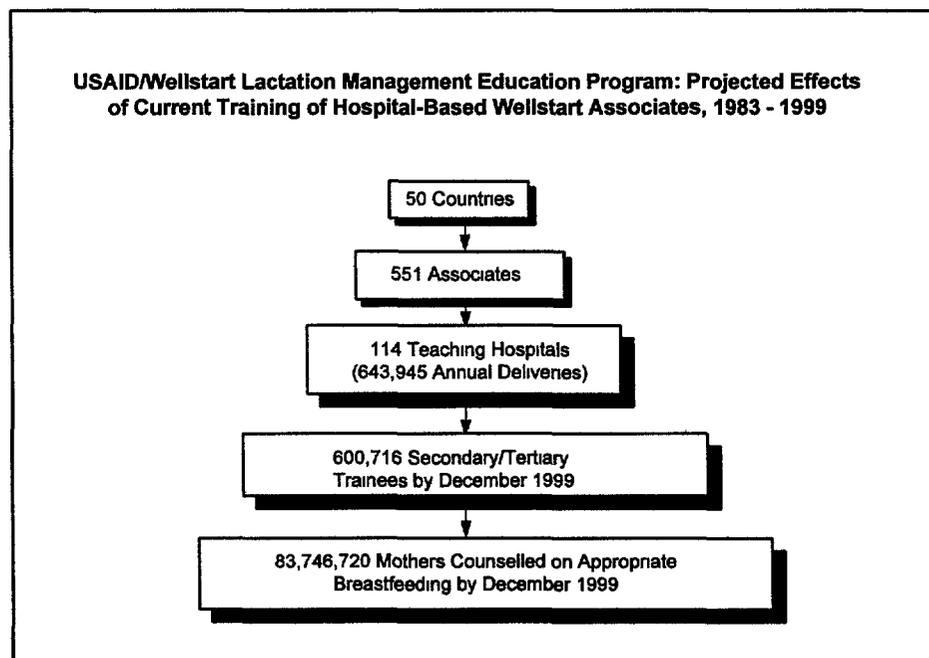
II. The Promotion of Healthy Dietary Practices Through Nutrition Communication and Education

Dietary practices are the primary determinant of most nutritional outcomes. USAID's communication and education interventions, which use a consumer-centered approach to inform and motivate behavior change or protect positive behaviors, have been shown to improve child feeding practices and maternal nutrition.

Infant Feeding. Paramount is the promotion of *breastfeeding* and appropriate *complementary feeding* practices for infants. The public health benefits in terms of reduced infant mortality and fertility make breastfeeding one of the more cost-effective child survival interventions. Education about feeding children adequately during illness is particularly important in dealing with the interaction of malnutrition and infection.

- **USAID assisted in establishing national and regional breastfeeding programs in 50 countries. Worldwide, over 500 health professionals are participating in an ongoing lactation education program through which an additional 600,000 health workers and administrators have been trained, reaching 83 million mothers over a fifteen-year period.**

Progress can be made with limited resources. For example, a program in the South Indian state of Tamil Nadu, in which behavior change was a main component, achieved a reduction in severe malnutrition of roughly 50 percent—even during a period when the economy and real incomes were on the decline or stagnant at best. Evaluations have demonstrated that investments in nutrition communication pay off. A small (10 percent) addition to health programs can ensure that services are used and that preventive health and nutrition measures begin to take hold.



It is now recognized that a behavior change approach that takes into account key target groups and their ability to enact specific behaviors within their society works better than earlier efforts that emphasized acquisition of knowledge alone. USAID directs communications for behavior change at three targets: policy makers, service providers, and household members.

Policy makers:

- The “attitudes and practices” of *policy makers* are the target of nutrition advocacy, through the use of an interactive nutrition software program called **PROFILES**. It graphically presents the impact of malnutrition on health outcome and costs, learning capacity, and worker productivity. **PROFILES** then creates alternative intervention scenarios and compares the cost-effectiveness of each. During a series of meetings with government officials in Bangladesh, **PROFILES** graphically demonstrated the economic and social benefits of a proposed Ministry of Health, UNICEF and World Bank integrated nutrition program. These advocacy efforts resulted in broad support for the nutrition program, and led to the approval of a \$70 million nutrition loan program.
- USAID projects have raised the visibility of breastfeeding’s importance at international fora, including the International Conference on Nutrition (Rome, 1992), the International Conference on Population and Development (Cairo, 1994), and the planned International Women’s Conference (Beijing, 1995).

Service providers:

- An international Clearinghouse on Maternal Nutrition and Infant Feeding assists developing countries in establishing local documentation centers used by health workers and program managers. This and other efforts to increase access to information—including state-of-the-art research findings and training materials—ensure that lessons learned can be shared among countries.
- In nearly 50 countries, a technical leadership and human capacity development program for doctor-nurse-nutritionist teams is having a major impact on the way hospitals are organized to promote breastfeeding. By actively supporting the Baby Friendly Hospital Initiative, and by addressing policy and medical curriculum changes, USAID has ensured that breastfeeding is both promoted and protected. Health workers and village volunteers are also being trained to help mothers nurse more successfully.

Households and vulnerable populations:

- Research has been conducted on the biological, cultural, and psychological factors that affect nutritional status of young girls. The research examines factors that contribute to the success or failure of programs to reach adolescent girls, and girls’ role within the household and community.

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- **In Honduras, a national communication effort to promote exclusive breastfeeding motivated 21 percent more women to practice optimal breastfeeding behavior in the first month postpartum.**

USAID is recognized worldwide as a leader in promoting dietary behavior change through communication activities, at the interpersonal level to the mass media. Replicating “positive deviance” rather than trying to correct behavioral “mistakes” have also been promising. Host country staff are trained in developing and implementing communication programs that are client-centered, flexible, and involve community participation in their design and implementation.

III. The Future: Sustaining Improved Nutrition

By reducing the burden of illness and preventing irreversible mental and physical damage, nutrition programs directly help families and communities and represent an investment in a country’s human capital and economic growth.

USAID programs have demonstrated that even with limited resources, countries can reap the significant health and economic benefits achieved through improving nutrition. Together with developing country counterparts, donors, NGOs and others, the challenge we face is to “scale up” these positive experiences to reach ever greater numbers of people in need. Today’s successes are largely due to yesterday’s investments in technological development, and USAID continues its commitment to developing state-of-the-art techniques to improve nutrition. With development resources currently at a premium, it is more important than ever that USAID continue to strengthen the political and institutional capacity of developing countries to implement locally-appropriate nutrition programs.

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