

RESEARCH COMMUNICATION

Perspectives on Strategies for Establishing Cancer on the Global Health Agenda: Possibilities of Creating Infrastructure for Cancer Prevention Information using School Health Classes

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Abstract

The Asia Cancer Forum is a body that is committed to strategic analysis in the area of cancer research. The ultimate objective of the Forum is to achieve the inclusion of cancer in the Millennium Development Goals (MDGs) of the United Nations. The MDGs have a tremendous influence on the setting of the global health agenda and the inclusion of cancer within their scope would be greatly beneficial to the global development of cancer research. Although diseases such as HIV/AIDS and malaria remain priority issues for global health, the time has come for policy transformation. Preventive activities and measures require a long period of time before results become apparent and as the cost-benefit effect of allocated funds cannot be measured in the short-term, preventive activities have therefore tended to be given a low priority in terms of national policy. We must take a long-term perspective that looks ahead to the issues that will face future generations. Transcending challenges presented by cultural diversity, we must work to position cancer as a central theme on the global health agenda, even in the face of limited medical resources. Promoting cancer prevention activities through readily available infrastructure in the form of health classes in schools is also of great significance in terms of setting the agenda for global health. As a joint China-Japan research project, in China a questionnaire survey has been implemented through school pupils, with pupils and parents being asked about health classes implemented in schools. From the perspective of formulating strategy for establishing cancer on the global health agenda we will use the data gained from the surveys to analyze and examine the possibilities and significance of creating an infrastructure for a multilateral information network about cancer prevention.

Key Words: School health classes for cancer prevention - cultural diversity - China

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Introduction

The Asia Cancer Forum (<http://www.asiacancerforum.org>) is seeking to find various directions in a quest to elucidate what are the possible main themes for scientific research in the Asian region, what would be beneficial in the short term and what can be achieved in the long term. This is achieved by focusing on clinical and epidemiological information concerning cancer and embarking upon wide-ranging exploratory activities, which are shared through the forum itself. Although the global development of cancer research urgently requires the global health community to share common challenges, diseases such as HIV/AIDS and malaria still remain priority issues for global health.

The time for policy transformation, however, has now arrived. Deaths caused by cancer continue to increase around the world. People living in low- and middle-income countries are in greater danger than people living in high-income countries of succumbing to risks that can be relatively easily avoided by man-made interventions. These risks include smoking, unhealthy eating and

lifestyle, lack of exercise, excessive intake of alcohol, and chronic infections such as HPV or hepatitis. The World Health Organization projects that if the challenges facing low- and middle-income countries are not addressed, by 2015 an estimated 5.7 million people will die annually in those countries, rising to 8.9 million by 2030. However, preventive activities and measures require a long period of time before results become apparent and as the cost-benefit effect of allocated funds cannot be measured in the short-term, preventive activities have therefore tended to be given a low priority in terms of national policy. Since the Declaration of Alma-Ata the World Health Organization (WHO) has set about revising primary health care measures and objectives. Rather than focus on a disease-specific approach, discussion has turned to strengthening health care systems and global health as a whole. The failure to achieve the MDGs set by the United Nations has prompted vociferous calls for healthcare systems to be strengthened. However, the definition of what is meant by "strengthening the global health system" has yet to be established, and a benchmark for evaluation and assessment also remains undefined, which impacts

the allocation of funds. Furthermore, the positioning of cancer in the global health community is still at a low level. Given these circumstances the Asia Cancer Forum is seeking to establish an approach whereby the governments of each country engage in cross-cutting efforts on healthcare policies that will address preventive and control measures against cancer, and also to find ways to further expand activities through cooperation with existing international collaborative programs and measures. We must take a long-term perspective that looks ahead to the issues that will face future generations. Transcending challenges presented by cultural diversity, we must work to position cancer as a central theme on the global health agenda, even in the face of limited medical resources. Promoting cancer prevention activities through readily available infrastructure in the form of health classes in schools is also of great significance in terms of setting the agenda for global health.

The Asia High Technology Network was the forerunner of the Asia Cancer Forum and under its auspices joint research between Japan and China has been advanced. This research targets not only cancer, but also continues to engage in survey-based research targeting children in an educational environment, given children's importance as the adults of the next generation. A network already exists across China with the ongoing support of IBM Japan, through its Arithmetic Olympics network, which encourages exchange activities between elementary school students from Japan and China. There have also been requests from the Chinese central government to promote the "sound development of young people," and schools around China are seeking ways to promote cooperation between schools and other external organizations. From the Mao Zedong era the concept has become firmly rooted that societal awareness should begin from the earliest stages of childhood education, namely the kindergarten stage. There is also a strong awareness that children can act as a window through which to breathe new life into the family setting, serving to enhance social awareness as a whole. The role that school health classes have to play is therefore thought to be most significant. The structures and values of Chinese society and the social safety net role played by education through school health classes can therefore be seen to be mutually complementary.

We have implemented questionnaire surveys in China through school pupils, with pupils and parents being asked about health classes implemented in schools. Based on data analysis we seek to forecast the possibilities for creating an infrastructure for a multilateral information network about cancer prevention and consider strategies for incorporating cancer into the global health agenda.

Materials and Methods

Purpose of Questionnaire Implementation

A cancer prevention educational DVD was planned and produced as part of efforts to raise awareness among children—the adults of the next generation—in Japan and China about cancer prevention measures. This DVD was screened in schools as part of a class about cancer

prevention measures and the survey asked pupils how they had perceived the class.

In the future, it is anticipated that by sharing cancer prevention education targeting children through the format of school health classes, which will act as a starting point for an international cancer prevention information infrastructure, it will be possible to gain information about how behavior patterns are changing in children, their parents and also their teachers, and what their aspirations and hopes for the future are. This data could then be utilized in the formulation of basic materials that will facilitate the creation of useful information channels through a society-wide Plan-Do-Check-Act (PDCA) cycle (these basic materials could include assessments of how the provision of prevention information has changed people's behavior). The behavior patterns and responses of people involved in this survey and research will also be instructive for future developments and as a focus for examination.

Period and Location for Questionnaire Implementation

November 23, 2007, Nanjing City, Jiangsu Province, China and March 2, 2009, Harbin City, Heilongjiang Province, China.

Targets for Questionnaire Implementation

Nanjing, 4th grade elementary school children (37), parents of elementary school children (39), 2nd grade junior high school children (48), parents of junior high school students (47). Harbin, 5th grade elementary school children (120), parents of elementary school children (84) 2nd grade junior high school children (92), parents of junior high school students (62)

Questionnaire Implementation Method

Elementary and junior high school pupils were shown a DVD in class about the dangers of tobacco and also about eating habits. Following the class, questionnaires were distributed to pupils and their parents. The collected questionnaires were then tabulated and analyzed.

Number of Items on the Questionnaire

A total of three questionnaires were compiled, paying attention to the age and level of the questionnaire respondent. The three questionnaires were for (1) elementary school pupils, (2) junior high school pupils and (3) the parents of both elementary and junior high school pupils. In order to reduce the burden on respondents and enable clear numeric conversion of the responses received it was thought to be appropriate to compile a multi-choice-type questionnaire. However, from the point of view of establishing to what extent Chinese respondents are prepared to provide responses of their own volition, which is as yet a relatively unknown quantity, there were also strong opinions voiced that the questionnaire should allow for free hand-written responses. The final decision was made to produce a questionnaire that required hand-written responses. The activity of filling in the questionnaire itself was thought to be also useful as a means of raising awareness, based on the assumption that it would provide a talking point

for parents and children. This format could become a model case for future awareness-raising activities. The tabulation method for the questionnaires was to categorize each response and derive statistics on the same or similar responses as a percentage of the total number of persons responding. In the case of multiple responses there are cases when the total exceeds 100%. In addition, in the case of no responses or invalid responses, these are also tabulated so that the total number of respondents remains unchanged. The specific questions asked were as follows:

For elementary school pupils

- Q1 What did you think of your lessons today?
- Q2 Tell us of anything you would like to tell your mum or dad about your lessons today.
- Q3 Have you heard of an illness called cancer?
- Q4 Does anyone in your family smoke?
- Q5 Are you doing anything at home to make sure none of you get sick?
- Q6 Although cancer is a frightening illness, it is one that can be reduced through everyone working together. Tell us what you know about ways of reducing cancer.

For junior high school pupils

- Q1 Have you heard of an illness called cancer?
- Q2 What kind of illness do you think it is?
- Q3 Did you know that cancer is preventable?
- Q4 What did you think when you saw these learning materials?
- Q5 Does anyone in your family smoke?
- Q6 What will you tell your family when you go home today?
- Q7 Do you think you will smoke in the future?
- Q8 Cancer is a disease that can be reduced through everyone working together. It can be cured if it is detected at an early stage. What are your ideas about how we can reduce cancer?
- Q9 How do you think you can tell everybody about this kind of information and knowledge?

For parents of both elementary and junior high school pupils (common questions)

- Q1 What sort of things have you heard from your child?
- Q2 What do you think about your child being taught about cancer?
- Q3 Did you know that cancer is preventable?
- Q4 What do you think about this fact?
- Q5 Is there anything you take care about on a daily basis to prevent cancer?
- Q6 Do you or anyone in your family smoke?
- Q7 What do you think about smoking?
- Q8 Are doing anything to ensure that your child does not take up smoking?
- Q9 Cancer is a disease that can be reduced through shared knowledge. If it is detected at an early stage it can be properly cured. Tell us what you know about ways of reducing cancer.
- Q10 What sort of ways do you think could be used to share this sort of cancer prevention information?
- Q11 Have you ever been tested for cancer?

Results

Results of Questionnaire Survey Data

The survey results carried in Harbin City, Heilongjiang Province, are summarized as follows.

Comparison of Elementary and Junior High School Pupils

Given the age difference between elementary and junior high school pupils the major findings of the survey results are as follows. The number of elementary school pupils evaluating the class as “very good” exceeded the number of junior high school pupils giving this evaluation. The responses showed that the class was something new and fresh for the students. In the case of elementary school pupils it can be assumed that there are few similar classes held in schools.

Regarding awareness of cancer, 95.8% of elementary school pupils knew about cancer, with the figure rising to 97.8% for junior high school pupils. Furthermore, the survey showed that junior high school pupils have a more concrete awareness of cancer.

For knowledge about reducing cancer (see Figure 1), the most prevalent responses from elementary school pupils were “do not smoke” (62.5%), “take regular medical check-ups” (28.3%), and “exercise often” (15.0%). Among junior high school pupils the most prevalent responses were “do not smoke” (67.4%), “exercise often” (9.8%), and “stay away from smokers” (7.6%).

Comparison of Parents of Elementary and Junior High School Pupils

The results of questionnaires received from parents of elementary and junior high school pupils were largely as follows. Regarding educating children at home about cancer, in the homes of elementary school pupils less than half of parents (both mother and father) had spoken with their child about cancer prevention, which was less than the number of parents with junior high school pupils who had spoken to their child. Six percent of parents of elementary school pupils thought that there was no necessity to talk about cancer, approximately double the number of parents of junior high school pupils. The reasons for cancer prevention being thought unnecessary as a topic for discussion included the fact that the children were still young and parents did not want to upset them. China still has a one child policy in place and it is thought that parents are protective of their child due to this policy.

Regarding efforts to ensure that children do not smoke, 76.2% of homes with elementary school pupils were making efforts to ensure that their child did not smoke, and for junior high school pupils this figure was 69.8%. Regarding knowledge about reducing cancer, 86.9% of homes with elementary school pupils were making efforts on an everyday basis to prevent cancer, a larger figure than that for homes of junior high school pupils (85.9%). In terms of knowledge and information sharing methods, both sets of parents were about equal.

Overall Tabulation and Analysis of Results

The following points can be drawn from the overall

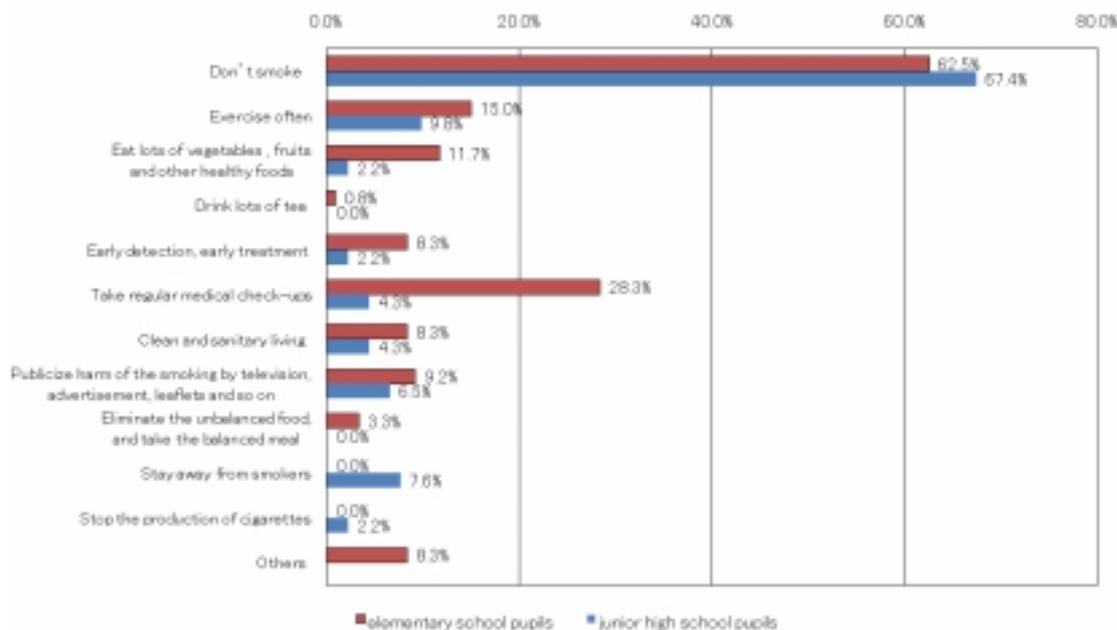


Figure 1. Answers to the Question Regarding Means to Reduce Cancer

tabulation and analysis of the results of the questionnaire.

Regarding significance of the educational event implemented on this occasion, it was found that this class was highly evaluated by both pupils and their parents. In Nanjing, as there was an event about health-related knowledge known as the “Health Knowledge Olympics”, there was a tendency for response patterns to veer close to stereotypical responses. As this was the first event and experience of its kind in Harbin, there were many different kinds of expressions in the responses, with respondents drawing on their own personal experience and lifestyle. In the future a detailed survey will be required to assess the relationship between changes in people’s behavior and their degree/volume of knowledge.

It is thought that there are few similar educational events being held in China as a whole and there are expectations that in the future such events could be held jointly between Japan and China.

Current status of smoking and future challenges

The percentage of households in China with at least one smoker is still at a high level, above 70% (see Figure

2). Among these there are parents who responded that they could not stop smoking as it was a personal lifestyle custom or for work-related reasons. This suggests that in the future it will be necessary to revise lifestyle customs and make efforts to change business-related customs too.

However through this survey it became apparent that children’s education leads to children making requests to their parents such as “don’t smoke”, and “please quit smoking”. As such, this could link to enhanced health consciousness in the future.

Current status of medical check-ups and future challenges

From the survey it was revealed that less than 20% of people in Chinese homes are attending medical check-ups. In order to detect cancer in its early stages and provide prompt medical treatment it is therefore important to encourage more people to attend medical check-ups.

Education about cancer

The survey showed that in Chinese homes less than half of all parents talk to their child about cancer being a preventable disease. It is therefore thought to be necessary

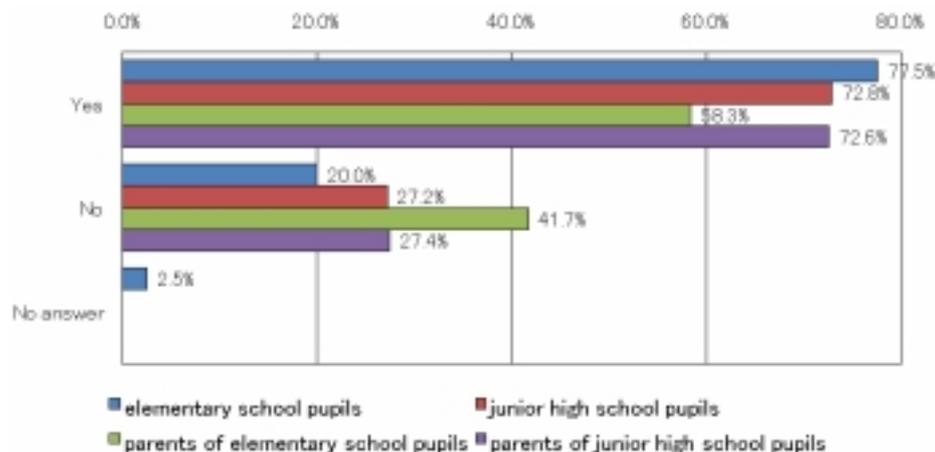


Figure 1. Answers from Pupils and Parents to the Questions Regarding Smoking Rates

to raise awareness among parents about cancer prevention. In addition there were also parents who did not talk to their child about cancer prevention due to the reason that “the child is still small and therefore there is no need to talk about this”, which suggests that measures to overcome this perception are required.

Opinions were received from school-related personnel, noting that the format of showing a DVD about cancer prevention awareness in a structured classroom environment, and then having the pupils return home to explain their experiences to their parents and also collecting questionnaires from pupils and parents alike was an effective method for home-based learning. The experience had served to raise interest in the topic among parents, teachers and pupils alike.

Discussion

In order to rapidly expand measures in a joint approach against cancer, which is increasing rapidly in many countries around the world, examination of measures against cancer will also be required as a cornerstone of international cooperation. However, in order to acquire scientifically significant and comparable data it is further necessary to gain an understanding of the current status of medical concepts in various countries. To do this, basic research is needed to ascertain whether people are receiving information connected to cancer and cancer prevention and in what format this information is being presented.

Survey-based research is precisely “information that must be gained from the general population”, and depending on national mentalities and mindsets, responses to survey questionnaires are prey to the danger of falling into stereotypical patterns. It is therefore necessary for researchers in different countries to engage in proper cooperation and create surveys that are appropriate for the cultural setting in which they are to be implemented, in other words, avoid sensitive issues and being aware and alert to cultural diversity. In order to collect empirical data in a systematic manner the utilization of school-based infrastructure is thought to be a beneficial and useful method.

Sending a clear message about “the importance of understanding how information about cancer is being acquired as an essential means of promoting awareness among the next generation” is undoubtedly significant. Whether such a message will become a social resource for future efforts can be explained through the results of our data analysis.

The questionnaire method implemented in this research has its limitations, particularly for larger-scale surveys targeting more people. Instead, surveys could, for example be implemented using mobile phone terminals which are widespread in China, with responses being provided through text messages, etc. Mobile phone technology is a useful tool in developing and emerging economies. Not only is it a technology that is shared by many people, assuming the relevant software can be developed, it has the potential to be used as an IT tool for large-scale social experiments.

Living standards and customs vary greatly from region to region and in order to gain a better understanding of the current situation it is necessary to implement a questionnaire survey by region. As detailed in the reference materials for this survey, the survey locations were Nanjing, a typical city in southern China, and Harbin, a typical city in the north of the country. The survey on this occasion showed that there are differences in awareness of cancer depending on climate conditions, living standards and customs and other factors.

In order to raise awareness about cancer it is necessary for all stakeholders in society to make efforts, including governments, schools and parents, etc. In particular, support in terms of funding and personnel, as well as understanding and cooperation, are all essential for the implementation of questionnaire surveys.

The smoking rate in China is high and accordingly there are many teachers who smoke. More than half of the schools to which we requested cooperation turned down our request. There was a significant trend for schools with a female principal to look on our request favorably. In addition, due to factors such as schools’ strong concerns over the burden the research would place on the educational environment and how the research would not link through to academic progress, the selection process for cooperating schools was tremendously time consuming. However, the Asia High Technology Network, which was the forerunner of the Asia Cancer Forum, has experience in implementing the Arithmetic Olympics program and we were successful in using the channels developed by the Asia High Technology Network to gain the cooperation of schools. In addition, elementary schools in Nanjing already have experience in holding an event known as “Health Knowledge Olympics” and were therefore very positive to our approaches. This underlines the necessity of creating incentives and motivation so that the people involved in the educational institutions feel involved in the research. The participation of people in medical research is also a wide-ranging and significant issue, and this survey showed the importance of arousing people’s interest by making the linkage that by providing their own information they are supporting medical research while also protecting their own health.

In addition, in Nanjing a program is being implemented for the purpose of raising awareness about the necessity for breast cancer checks. The program is implemented under the slogan “protect the breasts of your mother who fed and suckled you”, and children are provided with pink ribbon brooches and pamphlets to pass on to their mothers. This program recognizes the important role that women and particular mothers play in society and encourages children to appreciate that role and promote fairness and equality between different generations. Women tend to have a low standing in Asia, and in the home—the smallest unit of society—it is the women who attend to the health and welfare issues affecting elderly relatives and children, while their own health can easily be neglected. Through this survey, the provision of cancer prevention information from children to their mothers, whose daily healthcare needs tend to be overlooked, is thought to be significant in that it transcends

existing mother-child health care provision paradigms. The responses received from the questionnaire also show that this opportunity provided both parents and children with a stimulus to consider their own health.

International health care has come to be termed as “global health” and various actors are emerging to engage in “global initiatives” backed by huge sums of money. Global health is therefore one of the key agenda items for the international community. In an era of globalization it is not enough merely to overcome disease, as global health is imbued with a plethora of complex factors, encompassing socio-economic elements and political priorities in foreign policy. The era in which the slogan of “disease eradication” served as the rallying cry for international cooperation is already over. Global health presents us with truly complex aspects, and it is therefore a challenge of the utmost importance that funds, personnel and data be mobilized and strategy be formulated for the inclusion of cancer as an item on the global health agenda.

However, proceeding with strategic initiatives alone raises the possibility that sensitivity to the real situations facing people who need assistance could be lost and that a purely top-down approach will have no meaning, resulting only in a loss of momentum in efforts to arouse independent actions in the people the initiatives are aimed at. Just as cancer is a disease that perniciously attacks its victims over a long period, it is necessary for meticulous preparations to be made that take into account the lifestyle rhythms of the affected person and also make allowances for the affected person’s concerns. This transcends simple assessments of how the provision of preventive information changes people’s behavior and calls into question how we perceive human dignity.

Amartya Sen has eliminated use of the word “capacity” in his writings, preferring instead to use the word “capability”. He has expounded the notion that “Development can be seen as a process of expanding the real freedoms that people enjoy”, and positions people as the beneficiaries of development that has sought to expand human capabilities. From the inclusive perspective, rational beliefs that determine human and societal resolve and actions are nurtured in society, and their basis is grounded in scientific research. The approach we have adopted through school health classes is sustainable, it is highly cost effective and also has an educational effect. In particular, since the G7 Summit in Denver, USA, where then Prime Minister Ryutaro Hashimoto proposed the Initiative for Global Parasite Control, Japan’s assistance to developing countries has focused on equal partnership, which has enabled cooperation in health care activities, with the Japan International Cooperation Agency (JICA) engaged in efforts in the area of parasite control. In the global context, WHO and UNICEF are among the international organizations proceeding with the creation of frameworks, including health promotion in schools and the FRESH (Focusing Resources on Effective School Health) initiative. The provision of cancer prevention information in school health classes is therefore a possibility and through the efforts of the World Bank and others it should be feasible in the future to make this information provision initiative a reality. Furthermore, due

to advances in IT and the spread of the internet, blogs and social networking sites, in developing countries too, mechanisms of governance are changing as the flow of global information is being changed from top-down communication to bottom-up communication. Looking forward to the next generation it is necessary to open and develop information channels that are even better suited to the mass society we are becoming. The role of school health classes is important in that schools provide crucial infrastructure from which equal partnership can be developed.

Since the reforms of Deng Xiaoping, China has implemented education reforms that position education as a part of state mechanisms and structures. Given the important roles that schools play in regional communities, their strong links with parents, and the huge responsibility imposed upon school principals, schools in China constitute a system that can respond flexibly to changes in Chinese society. With a school system that governs a large population in a large country brimming with cultural diversity, China has great potential to lead the world and become a role model for cancer prevention education through school health classes. In the future we intend to learn from existing theories relating to teaching methods in school health classes and further enhance, expand and develop our research.

In the face of the common challenge presented to humankind of winning the fight against cancer, the Asia Cancer Forum aims to bring its bottom-up approach to building a discourse on human security. By continuing to make efforts through school health classes, this bottom-up approach can surely play a role in bringing to the real world the concepts of fairness, human rights, growth and sustainability, which are inherent elements in the concept of human development.

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