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## **Progress on Children's Environmental Health in the Americas: A Perspective from the Pan American Health Organization**

### **Introduction**

One of the most important actions to improve the lives and health of children around the world was undertaken by the United Nations at the turn of the 21st Century, when it convened all member nations and declared a worldwide vision of improved development and poverty eradication. The resultant *United Nations Millennium Declaration* of September 2001 led to the creation of *Millennium Development Goals*, which track progress in eight key areas associated with development and growth, including aims to eradicate poverty, eliminate hunger and make safe and affordable drinking water available throughout the world and improvement of living conditions. It also calls for primary education of all boys and girls along with access to all levels of education. In addition, goals involve child mortality reduction and combat of diseases. It strives to improve the lives of slum dwellers, to promote gender equality and to give young people everywhere a real chance to find decent and productive work. It reminds the world of commitments made to safeguard the environment and ecosystems and reminds the world of commitments made to safeguard the environment and ecosystems and highlights the need to hand down to children a world rich with natural resources. Attainment of these goals is positively impacted by investments in the environment that are targeted to children's health. In fact, a progress report on the *Millennium Development Goals* stated that development could not be attained without serious investment to improve environmental conditions.<sup>1</sup> This Declaration notes up from the responsibility of leaders to accommodate the needs of “the children of the world, to whom the future belongs”.

The *Millennium Declaration* drew from many international commitments and declarations that had been adopted and affirmed by nations throughout the world over the preceding decades. The nations of the Americas had overwhelmingly supported the *Millennium Declaration* and the agreements preceding it. The 1989 *Convention on the Rights of the Child* had been signed and put into law by all United Nations member states of the Americas, excluding the United States of America.<sup>2</sup> This convention stressed the importance of nutrition and environment for the well-being of children, and noted the

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<sup>1</sup> Naciones Unidas. *Objetivos de Desarrollo del Milenio. Una Mirada desde América Latina y el Caribe.* Naciones Unidas: Santiago de Chile, 2005

<sup>2</sup> Note: Primarily because certain states of the USA want to maintain their right to execute criminal youth ages 16-18, convicted of capital crimes, the USA is unable to sign and ratify the *Convention on the Rights of the Child*; however, the USA upholds the convention and fully participates as an observer.

dangers of environmental pollution and the need for safe drinking water and safe and adequate food supplies. The International Labor Organization protocols 138 and 182 to the convention ensured safe and fair employment for adolescents and a minimum age of 15 for child workers. The United Nations hosted a General Assembly Special Session on Children in May 2002, reaffirming national commitments to the *Convention on the Rights of the Child* and continuing the campaign to improve the status of children worldwide. At the Special Session, United Nations agencies sponsored a side event on children's environmental health, stressing the importance of the environment as an integral element of the holistic approach toward attaining child health and welfare.<sup>3</sup>

The second world environmental summit, called the 1992 United Nations Conference on Environment and Development, and held in Rio de Janeiro, Brazil, resulted in a set of non-binding agreements among countries as the world headed toward the 21st Century, *Agenda 21*. This agenda indicated concerns regarding the special vulnerability of children to environmental threats, stating that children accounted for a large percentage of the population, that they stood to inherit the world and that they were "highly vulnerable to the effects of environmental degradation."<sup>4</sup> A follow-up conference ten years later, the 2002 World Summit on Sustainable Development, convened in Johannesburg, South Africa, called for an international movement to improve healthy environments for children. A worldwide alliance was established, encouraging countries to voluntarily take actions to improve children's environmental health. Initiatives on children's environmental health indicators, improved indoor air and cleaner fuels were touted as key initial implementation steps.

### **The Pan American Health Organization (PAHO/WHO) Actions**

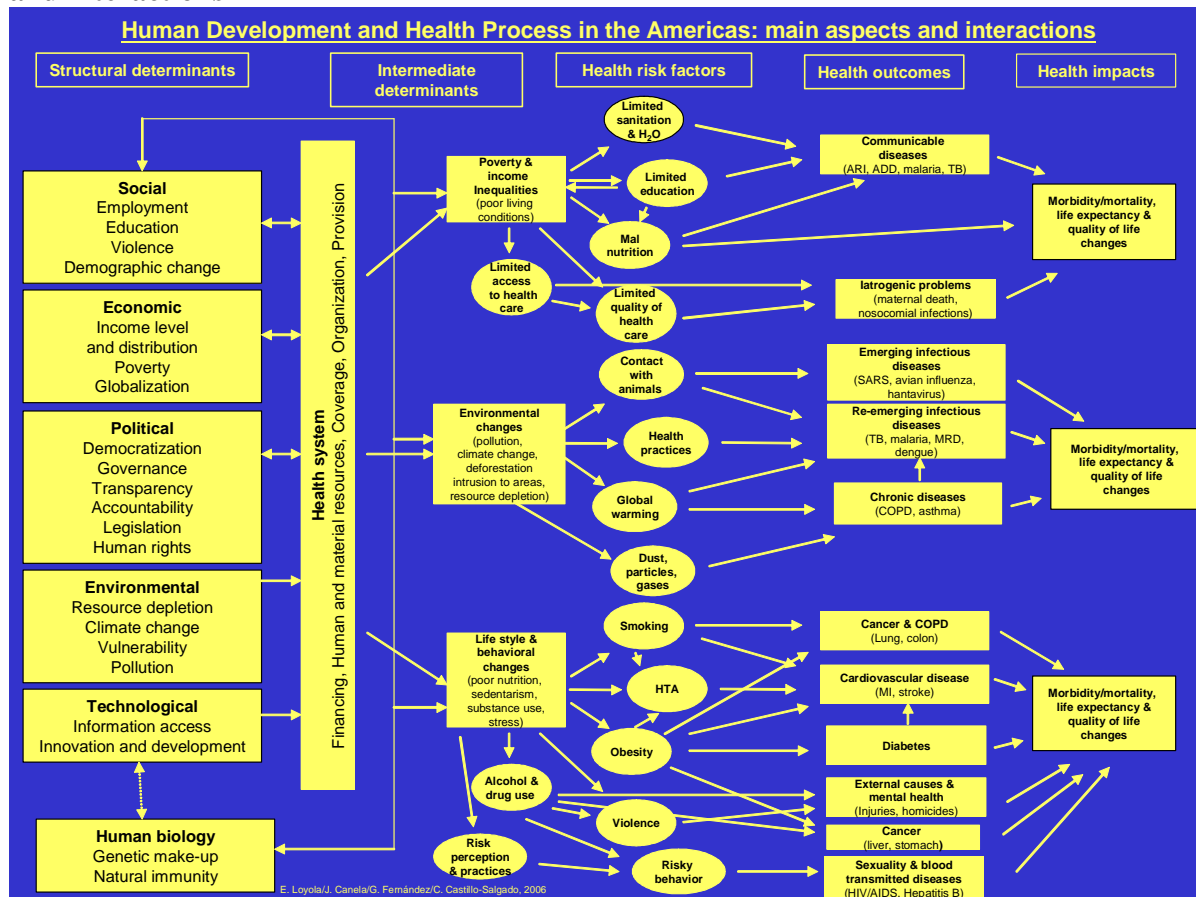
Over the past years, PAHO and its Member States have increasingly recognized the interdependence of determinant factors, operating at various levels, on the health of people in different situations of the Americas. Using this framework, some aspects of main of risks factors have been identified in order to address their consequences (health outcomes and impacts) but also to propose actions aiming to modify their determinant causes (Figure 1). Social, economic, political, environmental and technological structural determinants interact with the health systems and, in turn, as a response generate poor living conditions, including limited accessibility to health services, environmental contamination and degradation, life-style and behavioral changes. These intermediate factors create exposures that eventually modify the health of individuals and populations. Taking into consideration the above context, key concerns on children's environmental health in the Americas are related to water and sanitation coverage and quality, outdoor and indoor air quality, solid waste management, pesticides and toxic substances and food safety.

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<sup>3</sup> United Nations. *A World Fit for Children*. Resolution adopted by the General Assembly, October 11, 2002.

<sup>4</sup> United Nations Environment Programme, *Agenda 21* accessed at <http://earthwatch.unep.net/agenda21>

**Figure 1. Human development and Health Process in the Americas: main aspects and interactions**



PAHO has put forth a strong and enduring program on children's environmental health, first responding to calls from the Group of Eight highly industrialized countries in their *1997 Declaration of the Eight on Children's Environmental Health*. The initial development of a PAHO strategy, acquisition of external resources, and the international focus on children's environmental health have given PAHO a strategic advantage to promote actions and define mandates to protect children of the Americas from environmental hazards. Actions culminated in the Health and Environment Ministers of the Americas inclusion of children's environmental health as one of three key themes for discussion at their meeting in Mar del Plata in 2005. As a result of Mar del Plata, a new agenda and regional strategy have been drafted toward improving the settings in which children live, grow, learn and play. Highlights of the PAHO program demonstrate progress and indicate next steps to improve the environmental health of children in the Americas.

PAHO has demonstrated leadership, expertise and ongoing interest to work toward the vision of the above mentioned declarations and in 2002 outlined goals in its strategic plan on children's environmental health, called *Healthy Environments: Healthy Children*. PAHO's Area of Sustainable Development and Environment (SDE) spearheaded planning and implementation of a program to improve children's environmental health in the Americas. Financed by external resources from the United States Centers for Disease Control and Prevention (CDC), the United States Environmental Protection Agency (EPA), the United Nations Environmental Program (UNEP) and the World Bank, among others, the strategy set forth a vision, goals, objectives, strategies and actions (Box 1).

**Box 1. Healthy Environments: Healthy Children Strategy: Vision and Goals**

**Healthy Environments: Healthy Children**

**Vision**

Children in the Latin American and Caribbean Region live, grow, learn and play in an environment that is supportive of good health.

**Goals**

We make all people, especially children, aware of the special vulnerability of children to environmental threats and of the need to protect children from environmental hazards.

We promote scientific research and are a source of expertise, scientific information and indicators on the prevalence of environmental exposures and their impact on children's health.

We advocate for children's environmental health and enhance the capabilities of health and environmental authorities to develop and implement prevention and control measures that better protect children from environmental threats.

We contribute worldwide to improve the status of children's environmental health.

This strategy has served as a guiding tool to develop projects and support fund-raising to ensure strong and continuous program implementation. All of the SDE actions on children's environmental health are tied to the goals and objectives outlined in its strategy.

In 2003, in celebration of World Health Day, SDE convened a regional workshop in Lima, bringing together science and policy experts from throughout the Americas to assess and discuss key environmental threats to children and related health impacts. Results of National Profiles on Children's Health and the Environment were presented by participating countries. A series of consensus recommendations to improve children's health and control environmental threats throughout the region were constructed by the

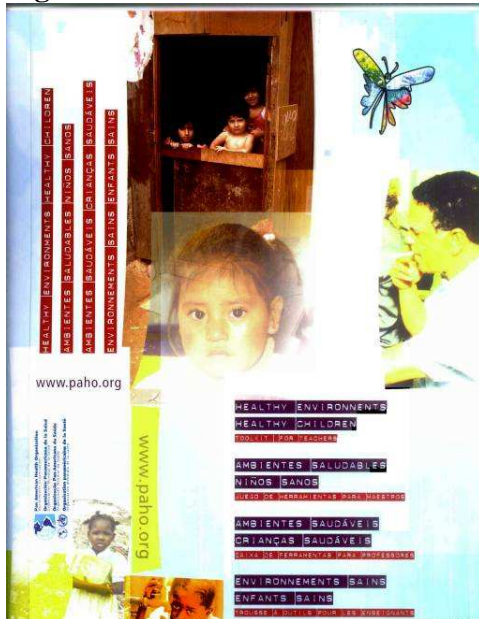
group of international scientific and policy experts, largely reaffirming the PAHO strategic plan on children's environmental health, paving the way for actions under the four set goals.

In preparation for the Lima workshop, SDE assisted member states in the development of National Profiles of Children's Environmental Health. This brought together governmental, industrial, non-governmental, academic and community-based actors within the participating countries to explore and characterize environmental influences and effects on children's health, development and well-being. SDE led the profile development by creating a format that engaged national multi-stakeholder discussion through a series of questions on a range of topics including economics, health data, communication, education, industrial sector and more. The project was so successful that three times the planned number of countries participated. Eighteen National Profiles on Children's Health and the Environment were presented at the Lima workshop, providing a wealth of information about the status of children's environmental health in the region and leading to a regional summary of the data and findings. This also demonstrated the countries' willingness and ability to engage in cross-sectoral collaboration, an area identified for increased guidance by the countries. Through work with the World Health Organization (WHO), and specifically its Regional Office for Africa (AFRO), the National Profiles of Children's Environmental Health have been promoted throughout the world. SDE worked with WHO to develop a publication on how to form and use the profiles.

Following up on the 2003 workshop and international calls to action, SDE engaged in discussions with donors that led to extramural funding from the U.S. Environmental Protection Agency, supporting the creation of products and the implementation of pilot projects in 2004, including:

**Toolkits for Information, Education and Awareness:** As part of its role in promoting children's environmental health, SDE has witnessed a change in overall awareness, acceptance, and level of importance given to environmental health in general and children's environmental health, specifically. This project designed an array of multi-media messages to capture the attention of children and community members and increase general awareness throughout the region on the importance of clean and healthy environments to children's health. PAHO's in-house public relations staff worked with SDE to develop technical material, write scripts, and compose artwork to develop a set of posters, comic books, teaching methodologies, videos and pre-recorded public service announcements for radio and television. A summary of the country profiles was used to target needs, interest and communication style. Two thousand copies of the video, DVD and supporting material were combined into folders for dissemination in four languages (Figure 2). These were distributed throughout the region and were made available on the PAHO website for free public access and download. In addition, copies were donated to AFRO in an effort to share materials across regions, with particular interest in making materials available in Portuguese.

**Figure 2. Multimedia toolkit for children's environmental health**



**National Action Plans of Children's Environmental Health:** This activity extended the National Profiles on Children Health and Environment to action planning at the national level, aiming to increase country capability in developing and refining policies to improve protections of children from environmental hazards. The stakeholders involved in the development of national profiles, convened again to identify areas for urgent action, based on the outcome of the profile. SDE worked with four countries to develop these pilots, which were intended to then spread to other countries. The countries were: Argentina, the Dominican Republic, Ecuador and Paraguay. SDE developed a guide for national committees and worked with consultants to guide the work. All of the countries completed their plans. Paraguay adopted theirs as part of the national policy of the health ministry and presented its plan at the international conference on children's environmental health in 2005. Argentina, which focused on establishing pediatric environmental health centers, completed a tour of pediatric environmental health centers in the United States of America, established its own first unit of pediatric environmental health in 2005, and announced its plan for additional units throughout the country.

**Children's Environmental Health Indicators:** PAHO and its Member States are aware of the needs for information and have started to produce health-related subnational level country indicators on a routine basis (Figure 3). PAHO led or participated in three efforts related to children's environmental health indicators. One was as a steering group member of the North American Free Trade Agreement Commission for Environmental Cooperation (CEC) indicators initiative. Work on this publication began in 2002 and involved a series of meetings, document reviews, eventual agreements and final publication. A second initiative intended to mirror the North American initiative for the rest of the region. SDE convened a regional meeting, working with interested countries in advance of the meeting so that they could prepare data and background to engage in

specific discussions. The third initiative was an indicator pilot connected with the national action plans in three of the four countries that were selected for creating national action plans. The WHO Global Initiative provided support to the countries through a series of tables and other guidance. CEC published, in 2006, a set of indicators in three environmental health arenas: air quality, chemical exposures and water quality. In the rest of the Americas, countries convened at a meeting in Costa Rica and were able to identify the first set of children's environmental health indicators for the region. A background paper and a meeting report served as tools to country representatives when they returned from the meeting and set to gather the needed information. On the third indicators initiative, despite technical assistance from WHO and SDE, countries seemed unable to identify the specific information sources or lacked quality assurance in the information collected. The pilots offered lessons learned and tested tables created by the Global Initiative even when little in usable product resulted. As witnessed in both region-wide indicator initiatives, providing information to populate the indicators has pointed out a challenge and indicates future action for SDE or other organizations.

**Figure 3. Subnational level country core health indicators in the Americas.**



**Promotion of Coordinated International Research:** SDE hosted the Second Informal Consultation on Long Term Studies (LTS) on Environmental Threats to the Health of Children in Developing Countries and participated in subsequent meetings held in

Mexico. The second meeting was convened at PAHO in 2004 with objectives to further discuss the implementation of long-term cohort studies on children's environmental health in developing countries and address issues of funding, networking, awareness-raising and agreement on a core set of environmental health factors for investigation. A third meeting of the international interest group in long-term cohort studies on children's environmental health was hosted by the Government of Mexico in November, 2004.

**Children in Persistent Organic Pollutants (POPs) National Implementation Plans:** SDE worked with a Central American research group to develop and recommend guidelines for incorporating health into the National Implementation Plans arising from the 2001 Stockholm Convention on (POPS). Guidance from the United Nations Environment Program and the World Bank for developing National Implementation Plans for this convention had incorporated five phases, the second of which called for the establishment of POPS inventories and the assessment of national infrastructure and technical capacity, which included assessment of health impacts of POPS.

**Environmental Health and Trade:** SDE worked with the Organization of American States (OAS) to develop a paper on environmental health and trade, to explore research findings, examples of how trade affects public health, examples of mitigation efforts, identification of potential environmental health issues associated with expanded trade, and recommendations. The report stirred discussion on environmental health impacts of trade within the OAS and with the U.S. Environmental Protection Agency. The final paper was posted on the OAS website in 2005. While a new topic, the interest in environmental health impacts of trade promises to grow with the proliferation of trade pacts within the Americas.

**Ambient Air Pollution and Effects on Children's Health:** Using data and expertise from throughout the region, SDE produced a scientific paper on air pollution, largely focusing on particulate matter, and its effect on children's health. It showed that the combination of widespread air pollution and elevated population density of many urban areas of the region lead to a large number of people at risk of developing adverse health effects. The paper highlighted many economic implications for society ranging from an increased need of medical care to reductions in productivity and quality of life. The research was inspired by the 2002 World Summit on Sustainable Development statement on the need to reduce respiratory and other diseases in children that were linked to air pollution. SDE convened a series of meetings, an international workshop, and a drafting group of scientific experts to develop the publication, entitled "An Assessment of Health Effects of Ambient Air Pollution in Latin America and the Caribbean".<sup>5</sup> Published in both English and Spanish, this document characterizes population exposures to particles and other air pollutants in Latin America and the Caribbean, defines special at-risk populations (including children), and adds to the scientific knowledge base regarding levels at which air pollution exposures create adverse health effects.

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<sup>5</sup> PAHO. An assessment of ambient air pollution in Latin America and the Caribbean. PAHO: Washington, DC, 2005

**Reducing Childhood Lead Poisoning in the Americas:** SDE has worked for over a decade on reducing lead exposure in the Americas, both by providing technical assistance as part of an inter-institutional project to remove lead from gasoline, and by coordinating a report on successes and next steps. Development of the report incorporated country-by-country research to assess the effectiveness of eliminating lead from gasoline. SDE convened representatives from international organizations, governments, and non-governmental organizations to review the draft report, which also outlined next steps and elimination of other sources of lead exposure. Since 2006, the Americas use only unleaded gasoline for private vehicles! While lead exposure from other sources remains a concern, the countries of the Americas have achieved great strides for children's health by eliminating lead from gasoline. SDE forwarded its report on lead exposure to country representatives throughout the Americas and presented a final draft at a working group meeting in Mar del Plata. Results and next steps of the report were incorporated into the draft regional strategy on children's environmental health, which was discussed by ministers in Mar del Plata. Language from the report was also included in the Mar del Plata declaration.

SDE was instrumental in the decision by health and environment ministers to incorporate children's environmental health into the 2005 agenda for discussion and agreement. Upon request from the preparatory committee, SDE drafted *Children's Environment and Health: Action Plan for the Americas* for ministerial decision. The action plan centers around the four goals that had been affirmed at the 2003 workshop, seeking to improve public awareness, advocate for children, recommend policy and programs and support information and research to support decision-making. It also drew on a children's environmental health plan for Europe, adopted at the 2004 Fourth Ministerial Conference on Environment and Health, and set forth actions in response to calls from leaders throughout the hemisphere to improve the health status of children. Not only did SDE submit a draft strategy to the Ministers of Health and Environment, it was also a member of the working group at the ministerial where it presented an overview of children's environmental health, highlighted key implementation actions, tabled a paper on reducing lead poisoning in children, and provided staff support, including drafting language for the declaration.

In 2005, SDE led an international steering group to convene a second WHO global conference on children's environmental health, *Healthy Environments, Healthy Children: Increasing Knowledge and Taking Action*. The conference focused on science and research needs while learning from and planning for concrete actions and policies at the community, country, regional and international levels. Convening this global conference fulfilled one call to action from the 2005 Health and Environment Ministerial of the Americas and brought in over 400 speakers and participants from every continent. A *Buenos Aires Declaration* was presented in draft and consensus was reached on forming a committee to finalize it. The conference offered a foundation for future work to integrate science and research into bases for action, to make decisions and to implement commitments at the public and individual levels.

SDE is currently developing a publication entitled, *How Are the Kids Doing? An Atlas of Children's Environmental Health in the Americas*, which is supported by many experts and offices inside and outside of the organization. The U.S. Environmental Protection Agency has provided funding for the project, which aims to inform policy makers in the Americas about environmental influences on children's health and offer policy actions toward mitigating health consequences from environmental hazards. The intent is to create an excellent policy-level document portraying the importance of the environment to children's survivability, health, development and future through a series of geographical information systems maps, graphs, text and pictures. The Atlas project targets policy level officials throughout the Americas. It aims to highlight key areas of concern for children's environmental health in the Americas, give a country-by-country picture of the environmental threats to children's health and well-being, and offer policy solutions for action.

### **Next Steps**

SDE has demonstrated expertise and continuity in its children's environmental health program. From defining its role, to building awareness, developing products, conducting research and influencing policy both nationally and internationally. While excellent progress has been made in the Americas, more work is needed. The commitments and calls to action made at the 2005 Mar del Plata ministerial express determination by the Governments to improve environments in which children live, play, learn and work. PAHO has a niche capability of bringing together science and policy that work to improve children's environmental health. Given the mandate of the *Millennium Development Goals* and other international calls to action, PAHO is able to continue its role in increasing awareness, advancing research and information, advocating for children through program and policy, and contributing worldwide. Areas identified for continued PAHO action are described below:

**Units of Pediatric Environmental Health.** The effort will be to assist at least one country in each of the sub-regions to plan a unit on pediatric environmental health. It will be necessary to make connections among new and existing centers across the Americas, provide access to information, documents and programs.

**Regional Lead Strategy.** PAHO aims to develop a public awareness campaign about the dangers of lead exposure to children, and a model strategy for the Americas to reduce and eliminate lead contamination and exposure from sources other than gasoline.

**Develop and Report Regional Indicators on Children's Environmental Health.**

SDE will follow up on the 2004 Costa Rica indicators meeting with assistance to countries on pulling together information to develop regional indicators on children's environmental health. It will also review, evaluate and modify the indicators suggested in the strategy, *Healthy Environments: Health Children* and begin collecting data for more specific progress and outcome reporting, such as the number and destination of children's environmental health products and materials sent within the region, recording the number

of participants in activities such as the workshops, conferences and events, and automatic tallies of children's environmental health materials accessed on or downloaded from the PAHO website. SDE will conduct evaluations of projects and materials, for example, the use and experience with the Toolkits for Education, Information and Awareness. Three years after the initial National Profiles of Children's Health and Environment were conducted, a re-run of this activity is considered, both to report progress and to expand the profiles to additional countries.

**Regional Children's Environmental Health Strategy.** PAHO has to follow up from HEMA on regional strategy on children's environmental health, receiving comments on the strategy drafted at HEMA 2005, and finalizing the document for national approval. In particular, work with countries to establish a national focal point on children's environmental health, as called for in the HEMA strategy. It is foreseen to review, evaluate and modify the PAHO regional strategy, *Healthy Environments: Healthy Children* to support planning for the next five years.

## **Conclusion**

PAHO and its Member States continue to strive toward a vision where all children in the Americas live, grow, learn and play in environments that are supportive of good health. Much has been accomplished in the Region of the Americas, in terms of both products and policy, but there is still a long way to go. More people are aware, more policies are in place, and many needs have been identified. However, more specific and up-to-date information and indicators that allow monitoring progress in children's environmental health and of programs aiming to improve it are needed.

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