

Assessment of Child Health in National Adaptation Programmes of Action for Climate Change

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Study/Objective: This paper compares and assesses the child health component of one cross-cutting initiative aiming to support climate change adaptation in the least developed countries: National Adaptation Programs of Action (NAPAs) for the United Nations Framework Convention on Climate Change (UNFCCC).

Background: Climate change is expected to impact human health in numerous ways, positive and negative. Some of the most serious adverse consequences are expected to fall on children in least developed countries. The reason is, the already present vulnerability coupled with a lack of mechanisms for reducing this vulnerability. Adequate climate change adaptation measures for child health are needed as part of wider disaster risk reduction, but attempts to formulate and enact such measures have encountered numerous difficulties in least developed countries.

Methods: This paper compares and assesses the child health component of one cross-cutting initiative aiming to support climate change adaptation in the least developed countries: National Adaptation Programmes of Action (NAPAs) for the United Nations Framework Convention on Climate Change (UNFCCC). All NAPAs were read for mentions, information, policies, and actions related to child health.

Results: The results show that child health is hardly mentioned, with almost no specific focus or specific policies or actions for dealing with child health as part of climate change adaptation. Children's vulnerabilities and possibilities for coping with climate change are barely recognized; children are not adequately included in any form of national adaptation measures or actions.

Conclusion: Further progress in terms of developing public child health adaptation measures is needed, and could easily be an extension of typical child health measures for development, or as an impetus for enacting basic child health initiatives.

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Impact of the Subsidized Rotavirus Vaccination Program in the Disaster-affected Area

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Study/Objective: This study investigated the effectiveness of the subsidized rotavirus vaccination program implemented in the Kesen area between January 1, 2012 and March 31, 2014.

Background: The Great East Japan Earthquake Disaster (2011) inflicted tremendous damage on the wide area, including its medical work forces and institutions. Bold interventions were required to maintain the child health care system in disaster-affected areas.

Methods: This program was designed by the Working Group of the Child Health Support Project in the Kesen area, established within the Japan Pediatric Society. The indices used to determine the effectiveness were the number of children hospitalized for rotavirus gastroenteritis (RVGE), and the number of children that visited emergency rooms for gastroenteritis (GE) per 10,000 children aged <5 years. The study was conducted between January 1, 2009 and December 31, 2013.

Results: (1) The number of children vaccinated and the vaccination rate were 367 children (92.4%) in 2012, and 342 children (95.6%) in 2013 in the Kesen area. (2) The number of children hospitalized for RVGE fell by 41% in 2012, and 84% in 2013. In 2013, the number of children hospitalized for RVGE in the Kesen area was significantly lower than that in the three regions where the program was not implemented ($P < .001$). (3) The number of emergency patients increased after the disaster struck, but the number of GE patients was significantly lower (2013; $P = .008$).

Conclusion: The results of this study strongly suggest that the subsidized rotavirus vaccination program was effective. Three municipalities of the target areas agreed to continue this program by their own budgets. This advanced model program implemented in a disaster-affected area will hopefully lead to the revitalization of the target region and greatly contribute to the advancement of child health care services.

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Issues of Disaster Medical Management for Children in Japan

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Study/Objective: Children are included in the vulnerable population in disasters. To protect children, we need to clarify issues in disasters and make a framework which can resolve these problems.

Background: We had the Great East Japan earthquake in 2011 and the Kumamoto Earthquake in 2016. An inland earthquake is likely to occur in Tokyo in the near future; however, we have not established enough disaster management systems for children.

Methods: We reviewed the issues and problems associated to children in the recent major earthquakes in Japan.

Results: Children are not little adults and require special support in disasters. However, there are very few pediatricians in Disaster Medical Assistance Teams (DMATs) and other medical relief teams. Disaster medical coordinators in the headquarters of local government have limited knowledge of pediatric medicine. After the Kumamoto Earthquake, the

biggest Neonatal Intensive Care Unit (NICU) in Kumamoto had to be evacuated due to the damaged building. There were 38 NICU babies transported to other hospitals by medical helicopters and baby ambulances, cooperating with DMATs and pediatricians. Fortunately, there were no deaths during transportation. This luck was caused by quick and appropriate decisions made by medical staff on-site.

Conclusion: Cooperation between disaster medical networks and pediatric medical networks is absolutely necessary in any disaster phase to protect children in the aspect of medical and

health care support. In Japan, we have started to improve the disaster medical systems for children. One of these systems is the development of a pediatric and perinatal disaster medical coordinator. When disaster occurs, coordinators connect everyday pediatric and neonatal medical networks and disaster medical networks. In 2016, we will train 100 coordinators and are expecting to improve disaster medical management for children.

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