MANAGEMENT OF INSECTICIDE RESISTANCE IN VECTORS OF PUBLIC HEALTH IMPORTANCE

REPORT OF THE NINTH MEETING OF THE GLOBAL COLLABORATION FOR DEVELOPMENT OF PESTICIDES FOR PUBLIC HEALTH

9-10 SEPTEMBER 2014



Management of insecticide resistance in vectors of public health importance

Report of the ninth meeting of the Global Collaboration for Development of Pesticides for Public Health

9–10 September 2014 Hotel Royal, Geneva, Switzerland



WHO Library Cataloguing-in-Publication Data

Management of insecticide resistance among vectors of public health importance: report of the ninth meeting of the Global Collaboration for Development of Pesticides for Public Health (GCDPP), 9–10 September 2014.

1.Insecticide Resistance. 2.Disease Vectors. 3.Insecticides. 4.Insect Control. I.World Health Organization.

ISBN 978 92 4 150824 7 240) (NLM classification: WA

© World Health Organization 2014

All rights reserved. Publications of the World Health Organization are available on the WHO website (www.who.int) or can be purchased from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: bookorders@who.int).

Requests for permission to reproduce or translate WHO publications – whether for sale or for non-commercial distribution – should be addressed to WHO Press through the WHO website (www.who.int/about/licensing/copyright_form/en/index.html).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

WHO/HTM/NTD/WHOPES/2014.5

CONTENTS

				Page	
Ał	obre	viation	S	iv	
	1.	1. Introduction			
	2.	Quan	tification of insecticide resistance: evidence of the impact		
		on transmission and entomological indicators			
	3.	Natio	nal and regional perspectives on insecticide resistance	6	
		3.1	Sudan	6	
		3.2	WHO Eastern Mediterranean Region	7	
		3.3	Philippines	9	
		3.4	Colombia	10	
		3.5	China	11	
4.	Ev	aluatin	g resistance in vectors of neglected tropical diseases	13	
		4.1	Insecticide resistance in dengue vectors	13	
		4.2	Insecticide resistance among leishmaniasis vectors		
			on the Indian sub-continent	14	
		4.3	Insecticide resistance in triatomine vectors	15	
		4.4	Insecticide resistance in <i>Culex</i> spp. vectors	17	
5.	Ins	secticid	e resistance prevention and management	20	
		5.1	Experience from Africa	20	
		5.2	Experience from South-East Asia	21	
		5.3	Innovative products against resistant mosquitoes	23	
		5.4	Lessons for public health from agricultural		
			resistance management	24	
6.	Stı	engthe	ning capacity for monitoring resistance to insecticides	28	
		6.1	The WHO Asia-Pacific Network for Vector Resistance	28	
		6.2	IR Mapper project	29	
		6.3	Implementation of the Global Plan for Insecticide		
			Resistance Management (GPIRM): opportunities		
			and challenges	30	
		6.4	Production and distribution of test kits for		
			determining the susceptibility of vectors to pesticides	32	
7.	En	abling	approaches and needs	35	
		7.1	Accelerating the progress of vector control products		
			to the market	35	
		7.2	Strengthening collaboration and information exchange	37	
8.	Final discussion and conclusions		38		
9.	Re	Recommended priorities			
Annex 1.		x 1.	Agenda	42	
Annex 2.		ĸ 2.	List of participants	45	

Abbreviations

ACT Malaria	Asian Collaborative Training Network for Malaria
CDC	Centers for Disease Control and Prevention
DDT	dichlorodiphenyltrichloroethane
GCDPP	Global Collaboration for Development of Pesticides
	for Public Health
GPIRM	Global Plan for Insecticide Resistance Management
IRS	indoor residual spraying
LLIN	long-lasting insecticidal net
WHOPES	WHO Pesticide Evaluation Scheme

1. Introduction

The ninth meeting of the Global Collaboration for the Development of Pesticides for Public Health (GCDPP) was held at the Hotel Royal, Geneva, Switzerland on 9–10 September 2014. The Collaboration provides a forum for exchange of information and ideas on the development and use of pesticides and pesticide application equipment in the context of WHO's global disease control strategies and serves an advisory and resource-mobilizing role to the WHO Pesticide Evaluation Scheme (WHOPES). The theme of the meeting was management of insecticide resistance in vectors of public health importance.

The meeting was opened by Dr Hiroki Nakatani, WHO Assistant Director-General, HIV/AIDS, Tuberculosis, Malaria and Neglected Tropical Diseases. Dr Nakatani said that, while noncommunicable diseases have been the primary focus of WHO's work, there is growing awareness of the seriousness of communicable diseases, such as Ebola virus disease and dengue, and increasing recognition of the significant role that disease vectors play in public health. The topic of World Health Day on 7 April 2014 had therefore been vectorborne diseases; it had provided an opportunity for individuals at all levels of the community to become involved in activities for better health. As evidence of insecticide resistance in vectors of human pathogens accumulates, it is critical to focus on this important issue. WHOPES functions at the intersection of efforts to control neglected tropical diseases and malaria; it maintains strong ties with pesticide manufacturers and researchers and also with public health interests from global to local level. Through the GCDPP, WHOPES brings together the private sector, national and international organizations and academic leaders to confront key issues in vector control and support the development of new pesticides and approaches to monitoring and managing insecticide resistance.

Dr Dirk Engels, Director, WHO Department of Control of Neglected Tropical Diseases, welcomed the participants, noting that the large, diverse participation reflected increasing interest in vector management for the control of neglected tropical diseases. The third report on those diseases, which is in preparation, will provide a vision beyond 2020 and describe progress in vector control tools and management strategies. The two objectives are: to go as far as possible with current tools and to develop new tools that can be evaluated quickly, made widely available and deployed to the field. As the GCDPP comprises a broad constituency of industry, academia, foundations, nongovernmental organizations and multilateral and bilateral partners, it can provide valuable input to WHOPES on key issues in vector control. We must keep ahead of the vectors, adjusting procedures to the rapidly changing global environment. The theme of the meeting is monitoring and managing insecticide resistance; protecting current tools and ensuring the continued availability of effective control methods are paramount to the future of neglected tropical diseases.

Dr Raman Velayudhan, Coordinator, Vector Ecology and Management, introduced the theme and objectives of the meeting, which were agreed by consensus:

- to review evidence on insecticide resistance in vectors of malaria, dengue, leishmaniasis, Chagas and other arboviral diseases;
- to discuss options for tools and approaches for managing insecticide resistance;
- to collect information on operational experience in insecticide resistance management;
- to collect evidence on innovative vector control techniques in the pipeline;
- to identify and acknowledge the role of partners in insecticide resistance management; and
- to discuss the potential of the GCDPP partnership and identify priorities.

预览已结束,完整报告链接

https://www.yunbaogao.cn/report/index/re