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E. CHRONIC KIDNEY DISEASE IN AGRICULTURAL COMMUNITIES IN CENTRAL AMERICA

Background

1. Over the past two decades, the Central American subregion has reported a growing number of cases of people suffering, and dying, from chronic kidney disease (CKD). Among these cases, a type of CKD has been reported whose etiology is not linked to the most frequent causes of CKD, such as diabetes mellitus and hypertension. The frequency of this type of nontraditional chronic kidney disease, that is, CKD from nontraditional or unknown causes (CKDnT), is higher than that observed in the Region of the Americas overall and exhibits an upward trend (1). Recognizing this situation, the Member States of the Pan American Health Organization (PAHO) adopted Resolution [CD52.R10](#) (2013), Chronic Kidney Disease in Agricultural Communities in Central America,¹ during the 52nd Directing Council (2). This report summarizes progress achieved in implementation of that resolution.

Analysis of Progress Made

2. There have been advances in developing a clinical case definition and an epidemiological case definition of CKDnT, as well as in establishing functional mechanisms to strengthen epidemiological surveillance. PAHO, in collaboration with the United States Centers for Disease Control and Prevention (CDC), the Latin American Society of Nephrology and Hypertension (SLANH), the Executive Secretariat of the Council of Ministers of Health of Central America and the Dominican Republic (SE-COMISCA), and representatives of the health ministries of Central America, has developed a proposal for a case definition to be used in epidemiological surveillance as well as a clinical case definition. Together, these agencies have reviewed the document on harmonization of procedures in order to improve notification and the quality of the registry of deaths from CKD. The Latin American and Caribbean Network for the

¹ Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

Strengthening of Health Information Systems (RELAC SIS), of PAHO/WHO, has achieved improvements in the coverage and quality of the information on mortality and in the standardization of definitions, and has developed a proposal for implementation of the new codes that will appear in the International Classification of Diseases, 11th revision (ICD-11).

3. Although there is still no consensus on the formulation of a regional research agenda, the countries have moved forward in conducting studies, publishing articles, incorporating CKDnT into national research agendas, and participating in research. MEDICC Review (International Journal of Cuban Health and Medicine) devoted a special issue to the subject (3). During the period, collaboration has been strengthened between the Pan American Sanitary Bureau (the Bureau) and the PAHO/WHO Collaborating Centers in occupational and environmental health,² which have incorporated CKDnT into their support activities. A collaboration network was also formed to undertake research on the epidemic: the Consortium for the Epidemic of Nephropathy in Central America and Mexico (CENCAM) (4). To date, although the etiology remains unknown, the scientific community has reached consensus on characterization of the disease, establishing that CKDnT is essentially occupational in character. Therefore it is vital to strengthen environmental and occupational health promotion to prevent this disease.

4. Although advances in environmental and occupational health have been limited, the legal framework for pesticide control has been updated in El Salvador, where the use of 53 highly toxic active ingredients has been prohibited (5), and new national regulations on occupational health and safety have been approved in Guatemala, including measures for the prevention of CKD (6). Guatemala is also working to modify its regulations on the management of domestic pesticides.

5. Countries have held training activities on intersectoral action to address environmental risks, clinical toxicology, and risk assessment methodology. The Bureau, together with the PAHO/WHO Collaborating Centers in occupational and environmental health, is developing protocols for situation analysis and for implementation of preventive and corrective interventions in work environments. The Bureau has also implemented an online tutorial course with regional experts on diagnosis, treatment, and prevention of acute pesticide poisoning (7).

6. There have been some advances in incorporating comprehensive care for CKD into the health services, among them the development of clinical care guidelines for CKD patients at the first level of care, updating of national standards, and development of services for prevention and comprehensive care of CKD, with emphasis on primary care. Two countries, El Salvador and Nicaragua, reported advances in

² The Regional Institute for Studies on Toxic Substances (IRET), Costa Rica; the National Public Health Institute of Quebec (INSPQ), Canada; and the United States Centers for Disease Control and Prevention (CDC) and its National Institute for Occupational Safety and Health (NIOSH).

establishment of legal and regulatory frameworks for organ and tissue donation and transplantation.

7. The Bureau has completed a review of essential drugs and technologies for treatment of CKD with a view to their possible inclusion in the product list of the PAHO Strategic Fund (8). PAHO consolidated the demand for these drugs; however, except for insulin, the Member States have not used the Fund to acquire these drugs.

8. The Bureau has continued its technical cooperation efforts to improve access to and coverage of transplants for the treatment of CKD. These activities include the high-level meeting of the Iberoamerican Network/Council of Donation and Transplantation, held in Panama in November 2014, and the meetings of COMISCA XXXVIII and XL, held in Costa Rica and the Dominican Republic in June 2013 and 2014, respectively.

Actions Needed to Improve the Situation

9. It is important to complete, with urgency, the formulation of the regional agenda for research on this topic, and to identify resources with which to carry out two key types of studies to guide prevention efforts: *a)* etiologic studies, and *b)* operational research studies on the effectiveness of interventions.

10. Once agreement has been reached on case definitions for surveillance of CKDnT (suspected case, clinical case, and mortality coding), it is crucial that countries develop and use a standardized surveillance platform and periodically share agreed information from the surveillance. It is also necessary to continue efforts to develop and strengthen dialysis and renal transplantation registries, and to strengthen environmental and occupational health surveillance.

11. The Member States should urgently analyze the comprehensive response to CKD in light of the agreed commitment to advance toward universal access to health and universal health coverage. This should include analysis of how CKD is incorporated into the package of universal comprehensive services, taking into account not only clinical care of the disease, but also promotion and prevention.

12. Since CKDnT is essentially occupational in character, immediate intersectoral action is required to address the risk factors and social determinants of health clearly related to this problem and to identify environmental and occupational health promotion initiatives that can help prevent the disease.

13. Available estimates show that the cost of treatment for CKD is very high and that the financing and sustainability of health services will be greatly affected by the capacity of countries to implement measures for the prevention of CKD. The estimated cost of

dialysis per patient ranges from US\$355³ to \$2,249 in the public sector (9), and the monthly cost of immunosuppressants per transplant patient ranges from \$725 to \$4,250 (9). In these countries, total health expenditure per capita (public + private) ranges from \$144 to \$951, and per capita government health spending ranges from \$78 to \$710 (10). Cost-benefit studies should be conducted to inform processes aimed at expansion and sustainability of access to treatment, as well as to explore options for negotiating better prices, in the context of country health plans and policies.

14. Steps should be taken to strengthen the local-level response capacity for comprehensive care of CKD, including greater capacity of human resources for management of peritoneal dialysis and hemodialysis, treatment protocols, and mental health interventions, in order to support not only patients but also their families.

Action by the Directing Council

15. The Directing Council is requested to take note of this report and formulate the recommendations that it considers appropriate.

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³ Unless otherwise indicated, all monetary figures in this report are expressed in United States dollars.

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