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is a collaborative effort by
a diverse group of scientists
and health professionals
committed to promoting
One Health.*

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One Health Newsletter

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*This quarterly newsletter is dedicated to enhancing the integration of animal, human,
and environmental health for the benefit of all by demonstrating One Health in practice.*



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respondents reported that OHS was needed and that their work would benefit from having OHS. The solutions developed by workshop participants will be communicated to a wide audience, so groups working in One Health contexts will have potential solutions for some of the problems and issues they are facing.

ISDS has initiated a One Health Surveillance (OHS) working group to communicate the need and value of OHS, to promote OHS in support of OHP, and to develop other strategies for supporting and enhancing surveillance to meet the needs of OHP. The working

group is currently inviting anyone with an interest in OHS to consider joining the group.

We thank ISDS for providing coordination and for hosting the workshop, as well as the Skoll Global Health Threats Fund for financial support. Most of all, we would like to thank everyone who participated in the survey and the workshop.

For information about or to join the OHS working group, please visit the OHS working group website: <http://www.syndromic.org/programs/one-health-surveillance>

Chikungunya Virus Infection: Ecoepidemiological Considerations of a New Threat for Latin America

Alfonso J. Rodriguez-Morales, MD, MSc, DTM&H, FRSTM&H, FFTM RCPS, PhD(c)

During the last year multiple countries from across the Americas experienced the arrival of a new emerging infectious disease, Chikungunya virus (CHIKV) infection (Clouet-Huerta, Alfaro-Tolosa & Rodriguez-Morales, 2014). For the first epidemiological week of 2015, a cumulative incidence rate of 116 cases/100,000 pop. was reported by the Pan-American Health Organization (PAHO) (1,118,732 cases) (PAHO, 2015). Beyond that, some countries reported rates much higher, such as those in the Latin Caribbean area: Martinique (18,246.3 cases/100,000 pop.), Guadeloupe (17,517.2 cases/100,000 pop.), Saint Barthélemy (17,247.2 cases/100,000 pop.), and Saint Martin (15,755 cases/100,000 pop.), among others (PAHO, 2015).

In some countries domestic inequity influences the incidence of CHIV infection. For example, in Colombia, where 96,433 cases were reported (up to the epidemiological week 53 of 2014) (National Institutes of Health of Colombia, 2014), for a cumulative incidence rate of 202.33 cases/100,000 pop., many municipalities in the north of the country, or the Caribbean coast region, reached rates > 1,000 cases/100,000 pop.: San Juan de Nepomuceno reported more than 14% of its

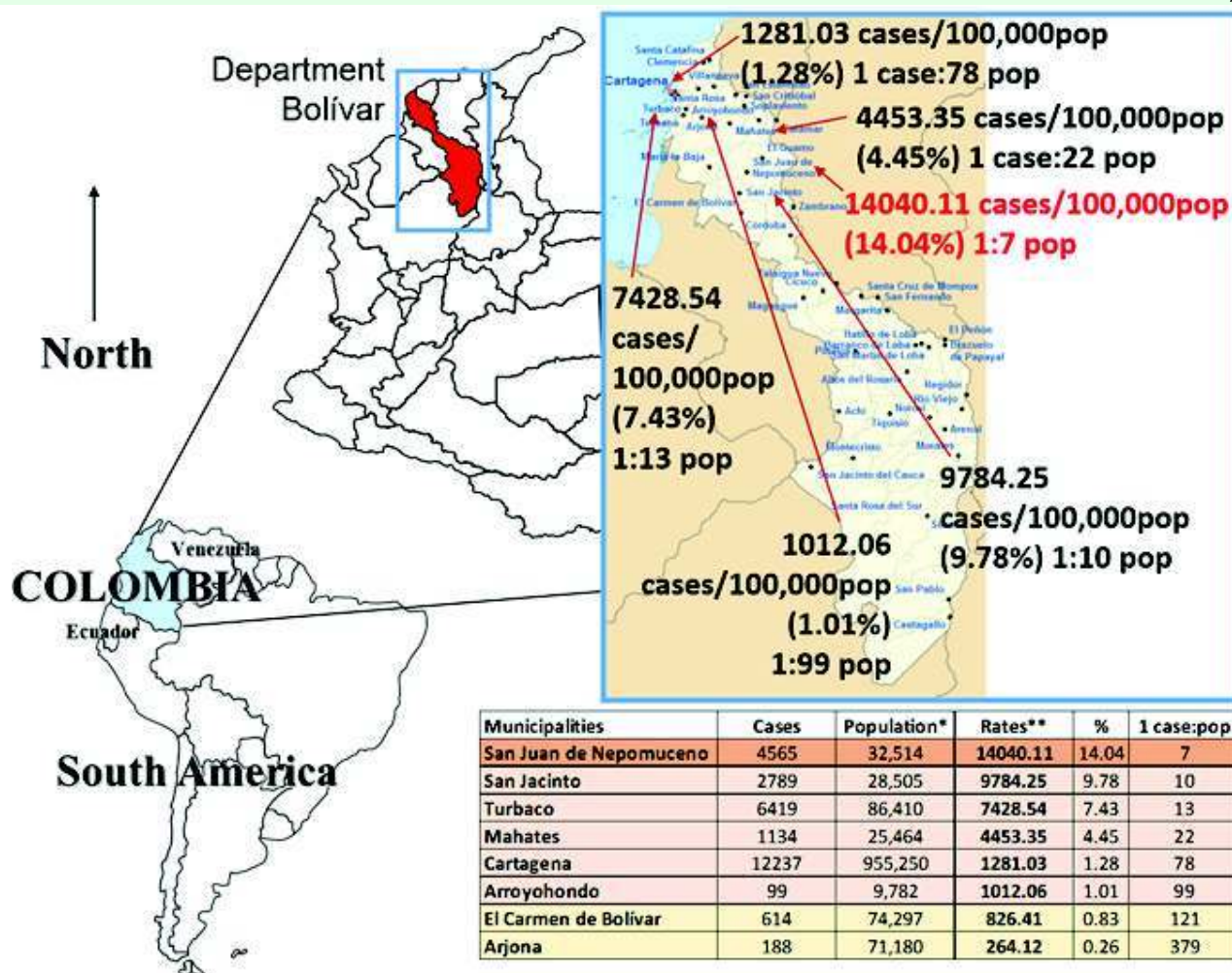
population having CHIKV during the year (14,040.11 cases/100,000 pop.) (Figure).

The scenario is complicated by the presence of existing arbovirus and vectors (Rodriguez-Morales & Paniz-Mondolfi, 2015). In 2013, the year CHIKV began to spread throughout the Americas, this virus arrived first to areas where *Aedes* spp was already an efficient vector of dengue virus (DENV) serotypes 1-4. Currently, CHIKV is present in all tropical countries of South



Typical balcony in the colonial walled city of Cartagena de Indias, Colombia. The city was founded on June 1, 1533. The colonial walled city and fortress was designated in 1984 by the United Nations Educational, Scientific and Cultural Organization as a World Heritage Site. CHIKV infection rate is high in this city, which increases the risk to travelers.

Photo by Alfonso J. Rodriguez-Morales



Incidence rate estimations for high CHIKV infection incidence municipalities in the north coast Caribbean region of Colombia, 2014. (*Official estimates, **Cases/100,000 pop.)

America and the Caribbean, excepting Cuba and Peru (which reported imported cases) as well as in non-tropical countries such as the United States of America (USA), Canada, Chile and Argentina (PAHO, 2015). However, in the USA, autochthonous cases in Florida have been reported.

Like dengue fever, climate influences the emergence and intensity of CHIKV (Campbell et al, 2015; Fischer et al, 2013; Quintero-Herrera et al, 2015; Zambrano et al, 2012; Herrera-Martinez & Rodríguez-Morales, 2010). In general, there is a growing consensus that infectious diseases transmitted via vectors are especially affected by climate change, which influences the latitudinal and altitudinal extent of distributions (Fischer et al, 2013; Semenza et al, 2012). To best prepare public health systems, a comprehensive CHIKV

risk assessment that includes climatic risk zones and potential introduction gateways should be expanded to include societal and demographic drivers (Fischer et al, 2013; Semenza & Menne, 2009; ECDC, 2010).

As the incidence of CHIKV continues to increase, several factors need further attention. Although uncommon, coinfection between DENV and CHIKV is an emerging threat that requires more accurate diagnosis (Parreira et al, 2014). Vector surveillance is needed in most areas (Agudelo-Ospina et al, 2014), as well as primary prevention of disease, including community participation in health promotion and disease prevention, particularly in DENV and now CHIKV endemic areas of the Americas.

Another aspect to consider is related to travel. As the importation of DENV and CHIKV in North America

and Europe is increasing proportional to the worldwide spread of these viruses (Tomasello & Schlagenhauf, 2013), prevention and management in travelers is also another important aspect related to the current ecoepidemiological scenario of both viral diseases in the Americas. For example Cartagena de Indias in Colombia is one of the major tourism sites on the Caribbean coast of South America. During 2014 incidence rates reached >1,000 cases/100,000 pop., representing a risk for travelers. Finally, in endemic and emerging zones, where CHIKV was not previously known, surveillance is needed and health care workers must be adequately trained to diagnose and treat the infection (Bedoya-Arias et al, 2015).



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Excerpts from "Progress and Challenges in Controlling Neglected Zoonotic Diseases," Published in Veterinary Record on 24 January, 2015

Suzanne Jarvis, Managing Editor, Veterinary Record and In Practice

Abstract: Suzanne Jarvis reports from the Fourth International Meeting on the Control of Neglected Zoonotic Diseases, hosted by the World Health Organization in Geneva in November. The meeting looked at progress that has been made in controlling these diseases and at what the next steps should be for further control.

"While progress has been made on controlling 'neglected' zoonotic diseases, if further inroads are to be made there is a need for greater political commitment, sustainable One Health collaborations and the participation of communities in control programmes. This was among the conclusions reached at the meeting, which took the theme 'From advocacy to action'.

"Dirk Engels, of the World Health Organization (WHO), explained the context of neglected zoonotic diseases within the framework for neglected tropical diseases that had been identified by the WHO. In May 2013, the World Health Assembly had adopted a WHO resolution and roadmap to accelerate work to control

17 identified neglected tropical diseases (www.who.int/neglected_diseases/WHA_66_seventh_day_resolution_adopted/en/); of these, seven were zoonotic diseases, including rabies, cysticercosis, echinococcosis, foodborne trematode infections and leishmaniasis. Good progress had been made with four of these diseases, said Dr Engels, so it was time for a rethink on the three others, namely rabies, cysticercosis and echinococcosis. The WHO, together with the Food and Agriculture Organization of the United Nations (FAO) and the World Organisation for Animal Health (OIE), would now focus on controlling these three diseases. The countries that would benefit from action, and the point where disease transmission could be interrupted, had been identified and, said Dr Engels, the 'time is right to take action'."

Please read the full report at the following toll-free links generously provided to One Health Newsletter readers by the [Veterinary Record: Abstract](#), [PDF](#), [Full Text](#)

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