

Epidemiological Update

Carbapenemases of type New Delhi Metallo- β -lactamase (NDM)

7 March 2014

In light of the spread of microorganisms with the New Delhi Metallo- β -lactamase (NDM) resistance mechanism, both across bacterial species and across geographic boundaries, the Pan American Health Organization / World Health Organization (PAHO/WHO) emphasizes the importance of strengthening established surveillance and control strategies to prevent further spread of this resistance mechanism.

Situation Summary for the Americas

Since 2008, worldwide circulation of microorganisms with the antimicrobial resistance mechanism, New Delhi Metallo- β -lactamase (NDM), has been documented. NDM, a type of carbapenemase, is known to cause resistance to all beta-lactam antibiotics except aztreonam. Thus far, there are 12 countries in the Region of the Americas that have detected microorganisms with the NDM resistance mechanism (see figure).

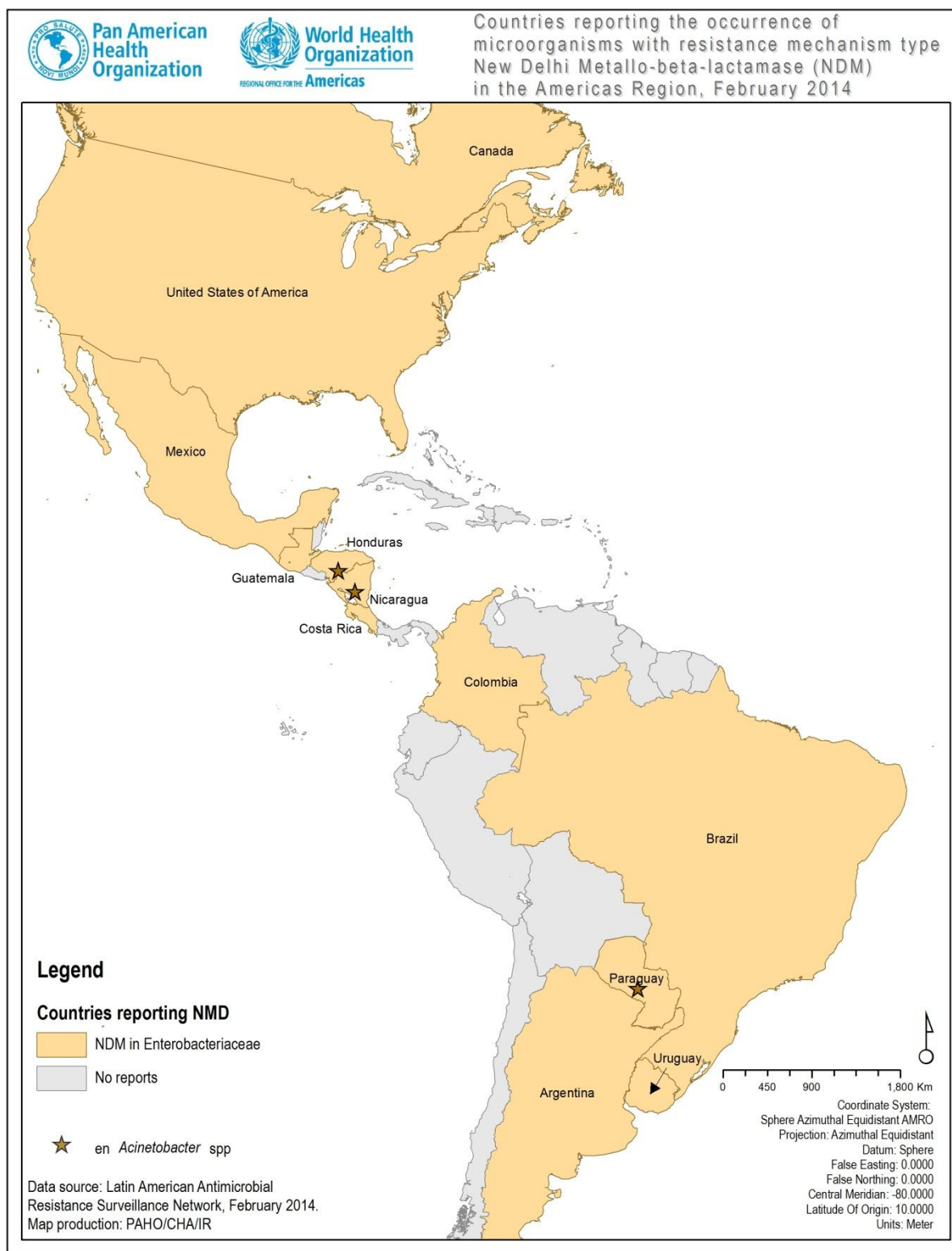
The first findings in the Americas occurred in 2010, in the **United States of America** and in **Canada**, in patients who had recently received medical care in countries outside of this Region.

In 2011, the NDM resistance mechanism was detected in **Guatemala**. In 2012, **Colombia** detected it in *Klebsiella pneumoniae*, **Paraguay** detected it in *Acinetobacter pittii* and **Uruguay** detected it in *Providencia rettgeri*. In 2013, other countries reported the discovery of the NDM mechanism; **Argentina**, **Brazil** and **Mexico** detected it in *P. rettgeri*; **Honduras** detected it in *A. baumannii*; **Nicaragua** detected it in *A. baumannii*, *K. pneumoniae*, *Escherichia coli* and in *Enterobacter cloacae*; and most recently, **Costa Rica** detected it in *E. coli*.

Recommendations

Given these findings, PAHO/WHO reiterates the recommendations made in the [22 November 2011](#) and [19 December 2012](#) Epidemiological Alerts on NDM and highlights the importance of establishing timely prevention and infection control in health care services, as well as surveillance and detection of this resistance mechanism. The mechanism causes outbreaks and is associated with increased nosocomial morbidity and mortality.

Figure. Countries reporting the occurrence of microorganisms with resistance mechanism type New Delhi Metallo-beta-lactamase (NDM) in the Americas Region, February 2014



Source: Latin American Antimicrobial Resistance Surveillance Network, February 2014.

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