



Pan American
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Americas

Epidemiological Update

Outbreaks associated with medical and health tourism

7 July 2023

Given an increase in outbreaks caused by different microorganisms associated with medical and health tourism, the Pan American Health Organization / World Health Organization (PAHO/WHO) encourages Member States to strengthen their capacity to detect and manage infections caused by microorganisms resistant to antimicrobials in patients who traveled outside of their country of residence to receive healthcare. Furthermore, PAHO/WHO urges to review preventive measures to reduce healthcare-associated infections at all levels of the health system.

Introduction

In recent years, the world and especially the Region of the Americas has experienced an exponential growth of international travel in search of health care. While most patients seek health care in the country in which they reside, there is an increasing proportion of people who travel for medical, dental or surgical care in a variety of ways. This practice is known as medical and health tourism. For example, each year millions of Americans travel to other countries for health care, primarily to Mexico, Canada and other countries in Central America, South America, and the Caribbean (1).

While there are few published studies about the number of persons seeking healthcare outside of their country of residence, it is estimated that for the United States alone, the annual number has increased from 750,000 to 1.4 million over a 10-year period (2007 to 2017). This number of people is expected to increase by 25% every year, both in the United States and around the world (2). Some of the main motivations for seeking outsourced medical care include lower costs, avoiding long waiting lists, the possibility for accessing procedures that are not available in the country of residence, and the opportunity to combine health care with a vacation destination. Interventions related to aesthetic and cosmetic surgery represent the largest proportion of procedure types, followed by organ transplants, cardiac surgery, dental procedures, cancer treatment, joint procedures, bariatric surgery, and assisted reproduction techniques (2, 3, 4).

This type of medical care can pose a risk to both public health and to the life of the person seeking this type of care. The occurrence and spread of outbreaks by resistant microorganisms are among the public health risks, which are often related to suboptimal practices for preventing health care-associated infections (such as inadequate sterilization

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of materials and the reuse of syringes), the local epidemiology of antimicrobial-resistant organisms, related to the inappropriate use of antimicrobials.

In relation to the patient, the most common complications are surgical wound infections and bacteremia. Health care risk (1) in other countries is related, among other factors, to:

- The quality of health care: the requirements for accrediting health professionals and facilities may be different from those in the country of origin. There is also a risk of counterfeit medicines and unauthorized medical devices being used.
- Air travel: the change in atmospheric pressure during a flight, after certain surgeries, increases the risk of generating blood clots and producing complications such as deep vein thrombosis.
- Continuity of treatment: Upon returning to their country of residence, patients may require treatment for complications of the procedure performed which may have high costs and not be covered by their health insurance.
- Communication challenges: if another language is spoken at the destination or a language different from that of the country of residence is used, it could generate difficulties in communication with health professionals and could lead to misunderstandings about their care, indications to follow, prescribed treatment, among others.

Situation in the Americas

In recent years, several outbreaks have been reported in the Region of the Americas, including those caused by multidrug-resistant bacteria, some of them related to healthcare received in a country other than the patient's residence. The implementation of the Action Plan on Antimicrobial Resistance is planned to reduce the incidence of antimicrobial resistance (5).

Some of these outbreaks for which information is available are listed below:

In 2010, three isolates of *Enterobacteriaceae* carrying the blaNDM-1 (New Delhi metallo- β -lactamase-1) resistance gene were reported in the United States from samples of 3 patients who had received medical care in India (6).

In 2012, an outbreak of multiresistant gram-negative carbapenemase-producing bacteria (*Klebsiella pneumoniae*, *Escherichia coli*, and *Acinetobacter baumannii*) was documented at a hospital in Alberta, Canada. The index case was a Canadian patient who had received medical care in India (7).

In February 2019, an outbreak of surgical site infections caused by VIM metallo-beta-lactamase-producing carbapenem-resistant *Pseudomonas* was reported among 20 patients (16 confirmed, 4 suspected) from 9 states in the United States who had undergone bariatric surgery at a hospital in Tijuana, Mexico. Of the 20 cases, 2 were reported retrospectively in patients whose samples were collected in 2015 and 2017, respectively, while the remaining 18 cases had samples collected between September 2018 and January 2019. Among 17 cases with available information on sex and age, 14 (82%) were female, and ages ranged between 29 and 62 years (8).

In May 2023, a multi-country outbreak of fungal meningitis was identified among people undergoing procedures under epidural anesthesia in the city of Matamoros, Tamaulipas state, Mexico. According to the research, a total of 547 people underwent these procedures between January and April 2023 in two private clinics in the city, of which 304 (56%) reside in Mexico, 237 (43%) in the United States of America and one in Canada. In the United States, 35 people developed compatible meningeal symptoms and fungal meningitis was confirmed in 9 cases (including 6 deaths). In Mexico, 24 cases were detected, of which one died. Cerebrospinal fluid samples from cases in the United States and Mexico detected fungal signs consistent with the *Fusarium solani* species complex (9,10,11).

Advice for national authorities

The following are guidelines for health services, epidemiological surveillance, laboratory diagnosis, case management and infection prevention and control related to outbreaks of resistant microorganisms associated with medical or health tourism.

Quality of health care

It is recommended the development and implementation of policies related to the safe and appropriate use of medicines and medical devices, which includes guidance for the rational use and selection of medical technology that best meets the needs of the target population, as well as the identification of the human and financial resources necessary for its implementation.

The importance of developing and implementing policies on health technology is highlighted, which include not only the component of regulation, accreditation, management of health technology and health technology, but also the component of evaluation and monitoring; and that it be framed within the context of a national health plan.

Epidemiological surveillance

The establishment and strengthening of epidemiological surveillance are fundamental for the identification of risk factors and implementation of appropriate public health prevention and control measures. To this end, the following is recommended:

- Promote the rapid and timely detection and notification to competent authorities of infections in patients who have undergone surgical procedures or were hospitalized outside the country of residence.
- Conduct a rapid and timely outbreak investigation following the initial detection of early cases of healthcare-associated infections, report findings and results, and implement a communications strategy for information dissemination.
- Implement appropriate prevention and control measures and make recommendations to alert health workers and decision makers, at all levels.

- In accordance with the International Health Regulations, immediately report the findings to the competent authorities of the country where infection is likely to be acquired.

Laboratory

Microbiology laboratories are essential for the detection of the etiologic agent and resistance profile. Therefore, it is recommended to:

- Implement, at the level of national reference laboratories, the regional protocol for the detection of resistance and reference of strains in case of suspicion¹.
- Train clinical laboratory personnel in the detection of health care-associated pathogens most commonly acquired from international destinations.
- Ensure clinical laboratories have the capacity to detect and confirm resistance mechanisms that are prevalent within the country as well as imported as a result of outsourced medical care, and also have the capacity to identify alternative treatment for resistant pathogens.
- Strengthen the capacity of the national reference laboratories for identification of resistance mechanisms and for performing molecular epidemiology techniques to rapidly characterize isolates from outbreaks and compare them with strains from other countries that are potentially related to the same event.
- Disseminate the findings through existing laboratory networks by the national level in a timely manner to alert for the potential occurrence of other cases, along with guidance for their detection.

Case management

Healthcare providers should consider the possible diagnosis of infections caused by resistant microorganisms in patients who have undergone surgical procedures and who subsequently acquired surgical site infections that fail to respond to standard antimicrobial treatment. When infections caused by resistant microorganisms are suspected, it is essential to collect adequate microbiological samples based on the clinical presentation and to process the samples in a microbiology laboratory for confirmation and for guiding the appropriate antimicrobial treatment. These treatment regimens vary depending on the severity and location of the infection, as well as the underlying clinical conditions, the antimicrobial susceptibility testing results, and national regulations.

Infection prevention and control of healthcare-associated infections

Promoting and meeting minimum requirements for infection prevention and control programs at the national and health facility levels (12) is key to preventing the emergence and spread of infections caused by resistant microorganisms.

¹ Available in Spanish from: <http://antimicrobianos.com.ar/category/algoritmos-manuales-protocolos/>

Below is a summary of the key measures that should be implemented:

- Ensure adequate implementation of multimodal hand hygiene strategy (13).
- Implement the recommendations for the prevention of surgical wound infections (14).
- Clean, decontaminate, and sterilize all medical equipment and devices according to the current guidelines (15).
- Implement contact precautionary measures for patients infected as well as for persons colonized with resistant microorganisms.

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Additional resources

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