
we describe four well documented fatal cases of Zika virus infection in Tolima, Colombia.

Between Oct 2 and Oct 22, 2015, four febrile patients attended Tolima’s Hospitals in the central region of Colombia. Patients were a 2-year-old girl, a 30-year-old woman, a 61-year-old man, and a 72-year-old woman, with 2–6 previous days with fever. The infant girl also had dehydration, somnolence, hepatomegaly, mucosa haemorrhage, and thrombocytopenia, evolving to respiratory distress, disseminated intravascular coagulation, and shock. The 30-year-old woman had exanthema in upper and lower limbs, severe thrombocytopenia, and leukopenia, evolving in 10 days to intracerebral and subarachnoid haemorrhages, sepsis, acute respiratory failure, seizures, and shock. The older man had myalgias and arthralgias, with dehydration, mucosa haemorrhage, also evolving to respiratory distress, acute coronary syndrome, and shock. This patient’s history included high blood pressure under medication control. The older woman presented with abdominal pain, vomiting, dehydration, somnolence, and thrombocytopenia, evolving to acute respiratory failure and shock. This patient’s history included diabetes mellitus type 2 under control with insulin. In all four patients, giving the endemicity of the zone, dengue fever or chikungunya were suspected. All patients presented with anaemia (haemoglobin range 90–120 g/L), three of them with leukopenia. The 30-year-old woman had leukocytosis, and all but the older man had severe thrombocytopenia (<14 000 platelets per mL). Despite medical management at the intensive care unit, all of four patients died. The infant girl died 24 h after admission (5 days after symptoms began); the 30-year-old woman died after 10 days (12 days after symptoms began); the 61-year-old man at 24 h (7 days after symptoms began), and the 72-year-old woman in less than 24 h (48 h after symptoms began). In all these cases, RT-PCR for dengue (including tissues), anti-dengue IgM, and NS1 ELISA and western-blot tests were negative. In the 61-year-old man, IgM for chikungunya was positive. IgM for Leptospira spp was negative in all cases. Finally, in all patients RT-PCR for Zika virus was positive, confirmed at the Colombia national reference laboratory. In the infant girl and 30-year-old woman, necropsy revealed probable acute leukaemias (lymphoblastic and myeloid, respectively). In the 61-year-old man, necropsy showed ischaemic lesions in the brain with areas of necrosis in the liver and of systemic inflammatory response in the spleen. In this patient, RT-PCR of tissues was positive for Zika virus. In the 72-year-old woman, necropsy showed oedema and ischemic lesions in brain.

From Sept 22, 2015, to March 19, 2016, there were 58 838 cases of Zika virus infection in Colombia (2361 laboratory-confirmed, 49 211 diagnosed by clinical criteria, and 7266 suspected); nevertheless before the current report, only one previous fatal case has been described, from our group in Colombia.5 Before the current outbreak in Latin America, Zika virus was not linked to deaths,2,3 but as of Nov 28, 2015, the Brazil Ministry of Health has also reported three deaths associated with Zika virus infection (two in adults and one in a newborn baby).3 These cases call attention to the need for evidence-based guidelines for clinical management of Zika, as well as the possible occurrence of atypical and severe cases (including possibly congenitally-related microcephaly).2,3 Based in our first case report,6 such guidelines have been considered and suggested by the European Centre for Disease Control in its recent Rapid Risk Assessment.

We declare no competing interests.

Andrea Sarmiento-Ospina, Heriberto Vásquez-Serna, Carlos E Jimenez-Canizales, Wilmer E Villamil-Gómez, *Alfonso J Rodriguez-Morales arodriguezm@utp.edu.co

Epidemiological data accessibility in Brazil

Concerns about data sharing and transparency during epidemiological emergencies are not new.1,4 Dye and colleagues5 have announced an initiative called Zika Open through which the manuscripts and respective data submitted to Bulletin of the World Health Organization would be published as open access from the date of submission onwards, under a Creative Commons License (CC BY IGO 3.0). This is an important initiative. Here we report challenges faced, particularly in Brazil, for timely, lawful access to governmental collected disease-notification data that are essential to understand the current Zika virus epidemic, and any future public health emergency.

Brazil has a country-wide disease notification system, SINAN, that allows for continuous assessment of epidemiological dynamics throughout the country. Created in the 1990s, it continually records cases of many diseases via compulsory notification by health-care facilities all over the
country. Case reports come mostly from public health-care facilities, because the private health-care sector does not seem to comply with the required notifications. SINAN is centrally managed and releases annual reports with aggregated data. It also has a web interface where one can tabulate notified cases of diseases per municipality, month, and covariates. This open notification system has fed many hundreds of epidemiological studies and has contributed to the development of a strong Brazilian epidemiological research.

However, there are major drawbacks in SINAN,4 mainly its slow update cycle and restrictive data-access policies and tools. In the advent of public health emergencies, such as the current Zika virus epidemic, this is not satisfactory. First, there is a delay of months to years for data to be available to researchers. This is due to the logistics, but also the policy of cleaning the data before publishing. However, to be used for real-time epidemiological analysis, data are needed as they appear, even if they are to be corrected and updated later. Secondly, SINAN only provides access to monthly data, which is too coarse a time-scale for disease modelling. In general, many of the challenges regarding the usability of SINAN are related to the use of legacy database management systems and of data entry systems, which provide insufficient tools to prevent data entry errors.

SINAN and other public health information systems also suffer from accessibility issues. They were designed for manual query by a human being. Modern mathematical and statistical epidemiology methods can consume large volumes of data and provide unique insight into the early dynamics of transmission, but demand machine readable data (ie, data endpoints that can be automatically queried by analytical software). There is an opportunity for SINAN and other national notification systems to rethink their structure and data access policies. If this is not done, SINAN is risking complete obsolescence.

A good example of an application from better access to readily accessible data are early warning and nowcasting systems for transmissible diseases, such as the InfoDengue, which is now running in Rio de Janeiro. By properly integrating data from different sources, such as climate, social media activity, and disease notification, each with its own level of sensitivity and specificity, InfoDengue acknowledges uncertainties in each of the individual sources and provide alerts and warnings to guide public health action. However, restrictive access policies make it very difficult to run nowcasting systems. The need for specific permissions and human interference to access data imposes limitations to such initiatives. Unfounded concerns about confidentiality and potential ill-effects of data transparency are among the main barriers to data-sharing, but these could be properly managed by well established techniques, such as some level of aggregation. Both the Brazilian and the international academic communities would greatly benefit from a clear stance on the part of the government, favouring open data access, along with the necessary investments required to make it a reality. On our part, InfoDengue is prepared to make our enriched dataset available to all interested under a Creative Commons License, as suggested by Dye and colleagues.5 However, the regulatory foundations for such a service are still not clear.

We hope that the current Zika virus epidemic can serve as wake-up call to change these outdated policies. Once we start to see the positive effect of better data accessibility on the response to epidemiological emergencies, perhaps the private health sector will begin to see the importance of better compliance with notification requirements.

We declare no competing interests.

Praziquantel for schistosomiasis in pregnancy

We read with interest the findings of Remigio Olveda and colleagues,5 who reported results of a randomised, double-blind, placebo-controlled, phase 2 trial to evaluate the efficacy and safety of praziquantel for the treatment of Schistosoma japonicum infection in pregnant women. Treatment with 60 mg/kg praziquantel given in two divided doses showed no significant effect on birthweight, and side-effects were similar between pregnant and non-pregnant women. Case reports come mostly from public health-care facilities, because the private health-care sector does not seem to comply with the required notifications. SINAN is centrally managed and releases annual reports with aggregated data. It also has a web interface where one can tabulate notified cases of diseases per municipality, month, and covariates. This open notification system has fed many hundreds of epidemiological studies and has contributed to the development of a strong Brazilian epidemiological research.

However, there are major drawbacks in SINAN, mainly its slow update cycle and restrictive data-access policies and tools. In the advent of public health emergencies, such as the current Zika virus epidemic, this is not satisfactory. First, there is a delay of months to years for data to be available to researchers. This is due to the logistics, but also the policy of cleaning the data before publishing. However, to be used for real-time epidemiological analysis, data are needed as they appear, even if they are to be corrected and updated later. Secondly, SINAN only provides access to monthly data, which is too coarse a time-scale for disease modelling. In general, many of the challenges regarding the usability of SINAN are related to the use of legacy database management systems and of data entry systems, which provide insufficient tools to prevent data entry errors.

SINAN and other public health information systems also suffer from accessibility issues. They were designed for manual query by a human being. Modern mathematical and statistical epidemiology methods can consume large volumes of data and provide unique insight into the early dynamics of transmission, but demand machine readable data (ie, data endpoints that can be automatically queried by analytical software). There is an opportunity for SINAN and other national notification systems to rethink their structure and data access policies. If this is not done, SINAN is risking complete obsolescence.

A good example of an application of better access to readily accessible data are early warning and nowcasting systems for transmissible diseases, such as the InfoDengue, which is now running in Rio de Janeiro. By properly integrating data from different sources, such as climate, social media activity, and disease notification, each with its own level of sensitivity and specificity, InfoDengue acknowledges uncertainties in each of the individual sources and provides alerts and warnings to guide public health action. However, restrictive access policies make it very difficult to run nowcasting systems. The need for specific permissions and human interference to access data imposes limitations to such initiatives. Unfounded concerns about confidentiality and potential ill-effects of data transparency are among the main barriers to data-sharing, but these could be properly managed by well established techniques, such as some level of aggregation. Both the Brazilian and the international academic communities would greatly benefit from a clear stance on the part of the government, favouring open data access, along with the necessary investments required to make it a reality. On our part, InfoDengue is prepared to make our enriched dataset available to all interested under a Creative Commons License, as suggested by Dye and colleagues. However, the regulatory foundations for such a service are still not clear.

We hope that the current Zika virus epidemic can serve as wake-up call to change these outdated policies. Once we start to see the positive effect of better data accessibility on the response to epidemiological emergencies, perhaps the private health sector will begin to see the importance of better compliance with notification requirements.

We declare no competing interests.

Praziquantel for schistosomiasis in pregnancy

We read with interest the findings of Remigio Olveda and colleagues, who reported results of a randomised, double-blind, placebo-controlled, phase 2 trial to evaluate the efficacy and safety of praziquantel for the treatment of Schistosoma japonicum infection in pregnant women. Treatment with 60 mg/kg praziquantel given in two divided doses showed no significant effect on birthweight, and side-effects were similar between pregnant and non-pregnant women.