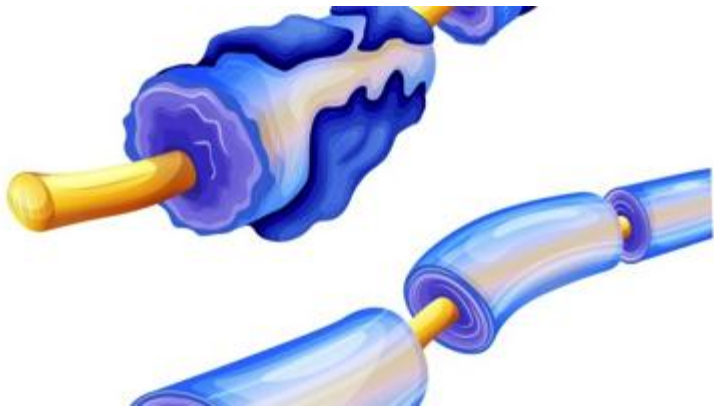


Síndrome de Guillain – Barré y Zika

Jairo Lizarazo MD FACP
Neurólogo

Hospital Universitario Erasmo Meoz
Cúcuta



Doctors: Upsurge in paralysis condition accompanies Zika



By **FRANK BAJAK** and **LIBARDO CARDONA**

February 16, 2016 1:20 PM

AP



AP Foto/Ricardo Mazalan

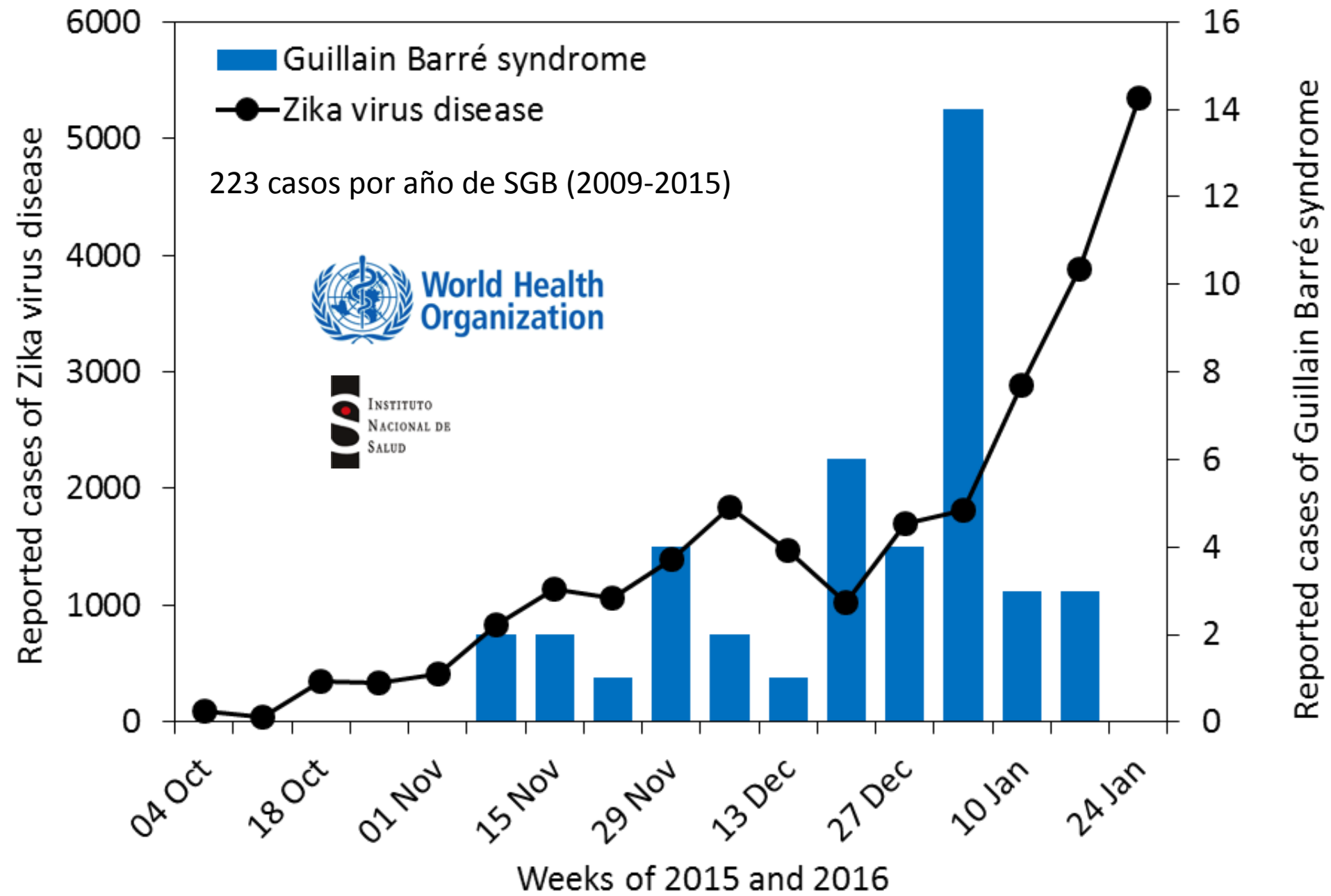
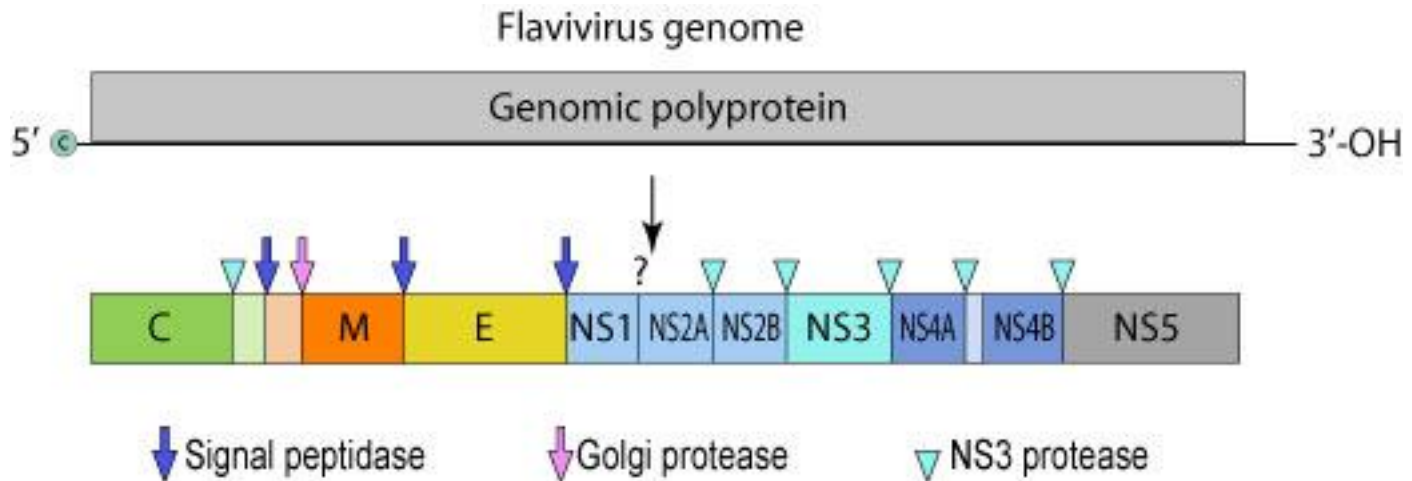
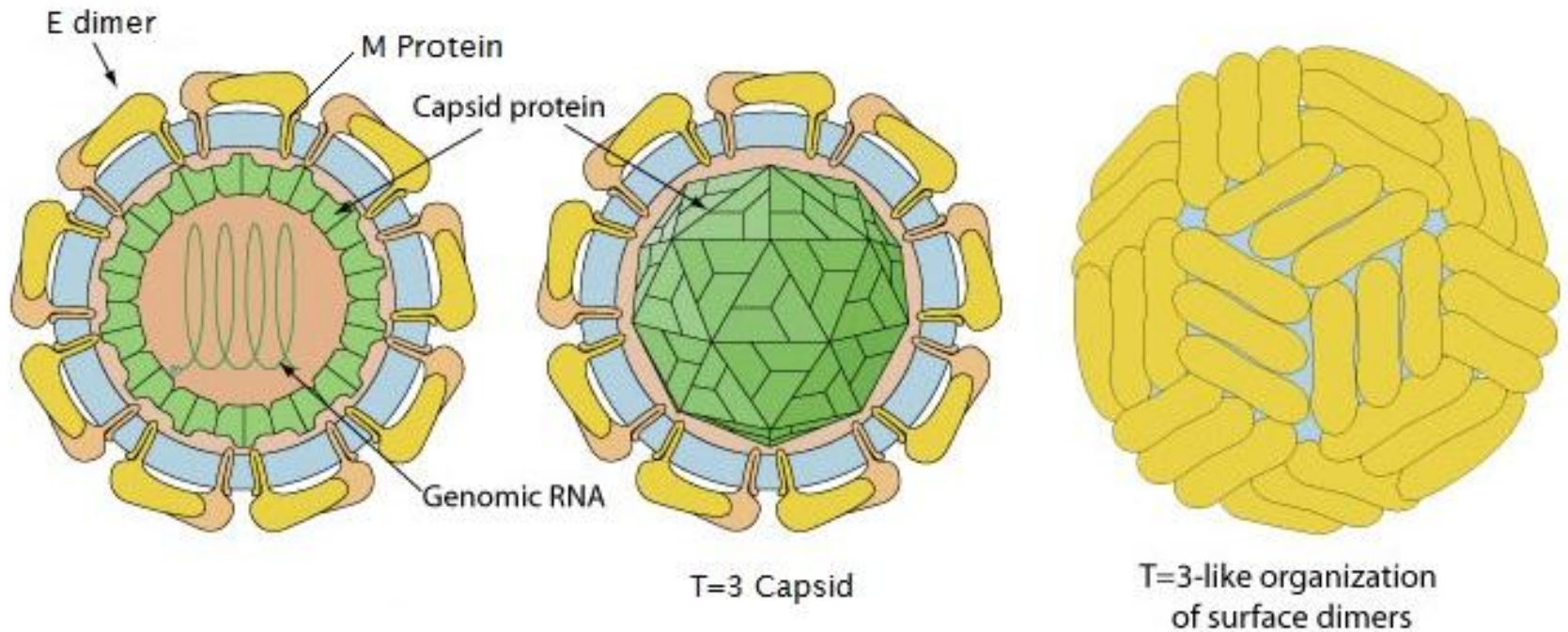


Figure 3: Reported cases of illness due to suspected and confirmed Zika infections (line), along with reported cases of Guillain-Barré syndrome in Colombia.

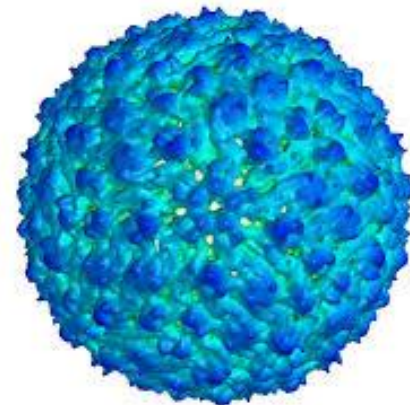
INS 2016

Virus zika (ZIKV)



Arbovirus

| | |
|--------------|--|
| Flaviviridae | <u>Yellow Fever, Dengue, Zika</u> , Japanese Encephalitis, Saint Louis Encephalitis, West Nile, Kyasanur Forest, Omsk |
| Togaviridae | <u>Chikungunya</u> , O'nyong-nyong, Ross River, Equine Encephalitis (East, West, Venezuelan), Sindbis |



El genoma de ZIKV fue totalmente secuenciado en el 2006

Arch Virol (2007) 152: 687–696
DOI 10.1007/s00705-006-0903-z
Printed in The Netherlands



**Archives of
Virology**

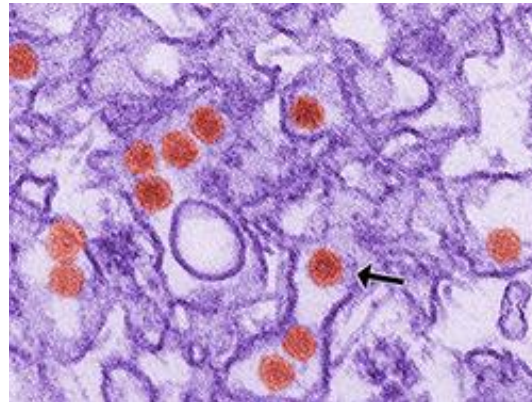
Full-length sequencing and genomic characterization of Bagaza, Kedougou, and Zika viruses

G. Kuno and G.-J. J. Chang

Arbovirus Diseases Branch, Division of Vector-Borne Infectious Diseases, National Center for Zoonotic,
Vector-Borne, and Enteric Diseases, Centers for Disease Control and Prevention, Fort Collins, Colorado, U.S.A.



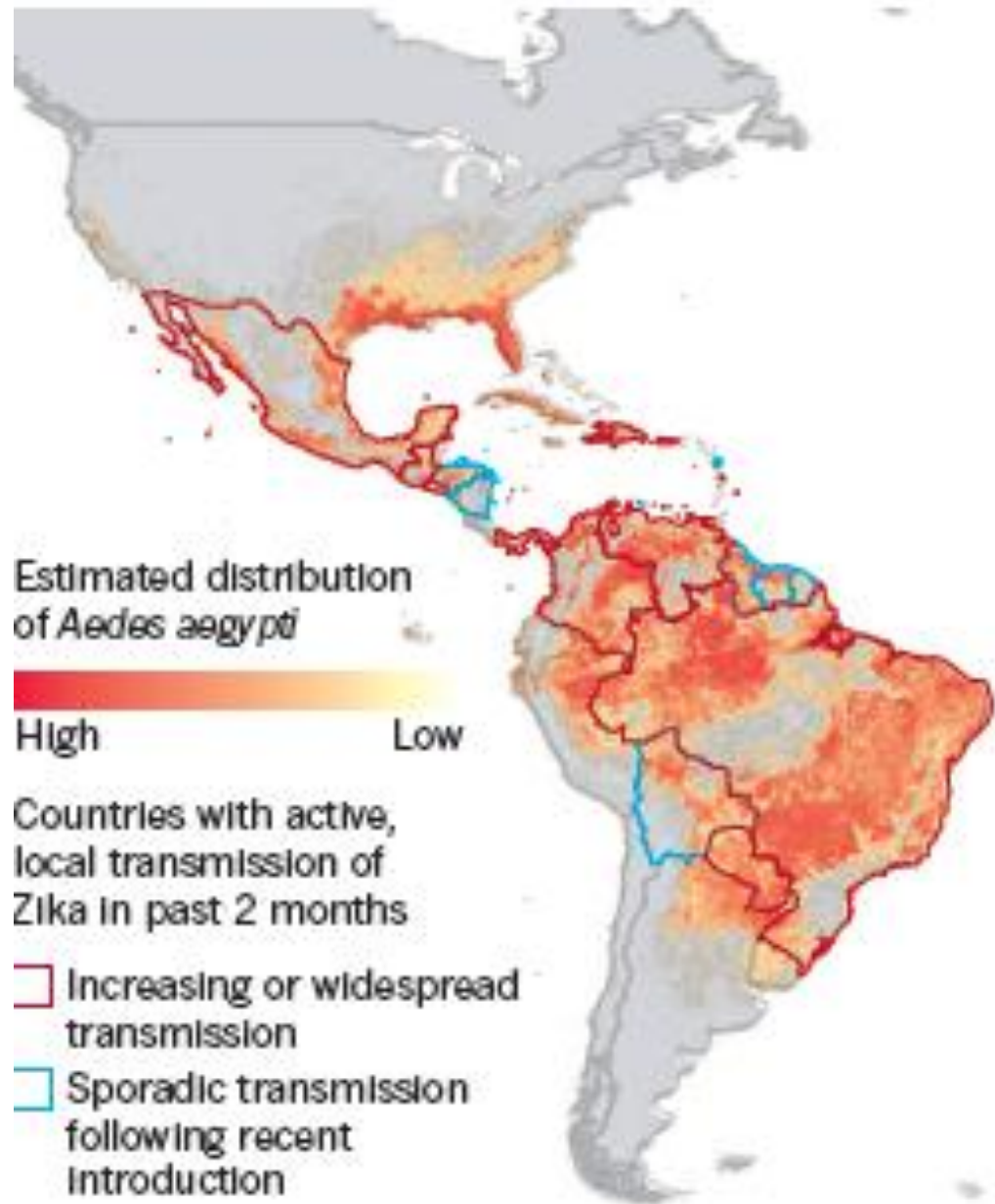
Zika

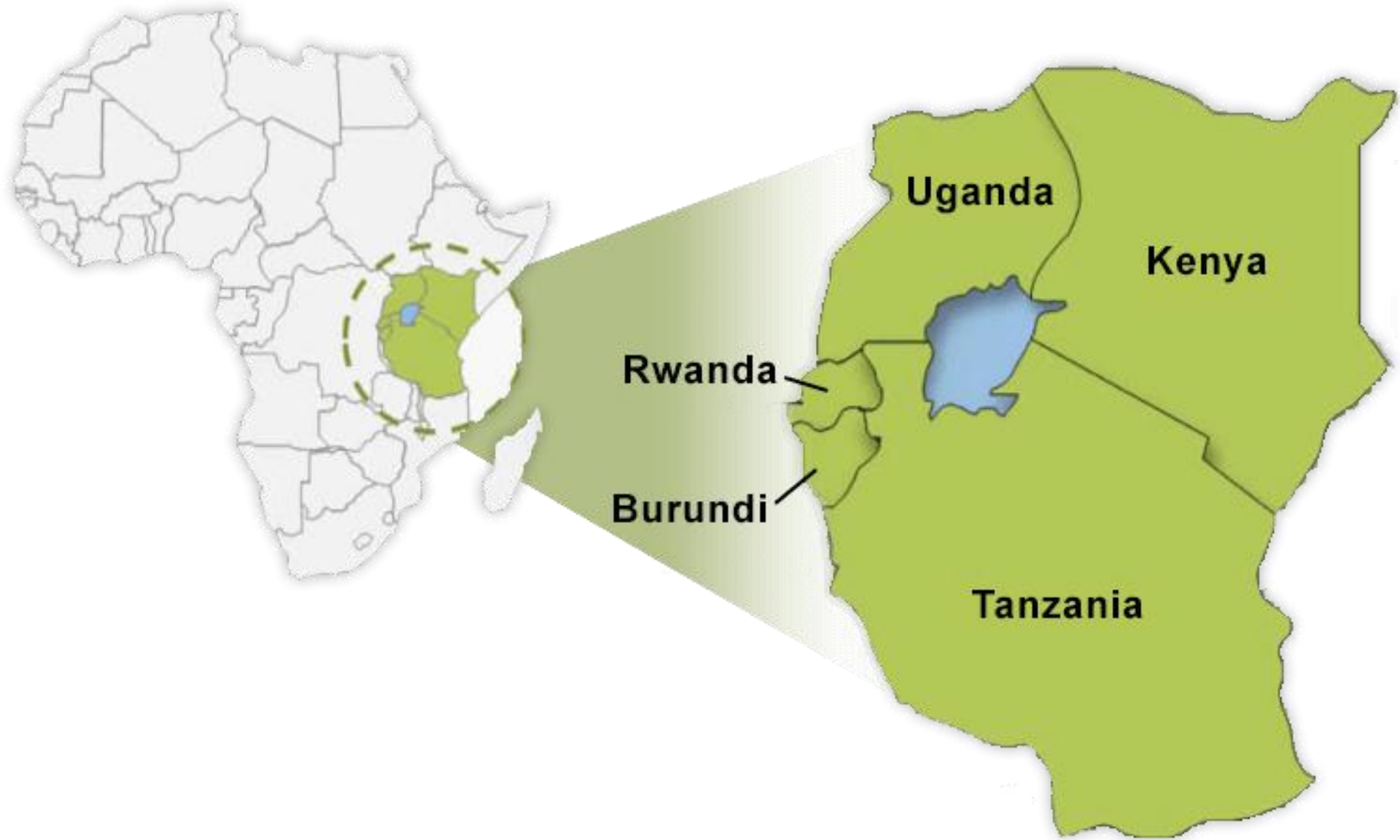


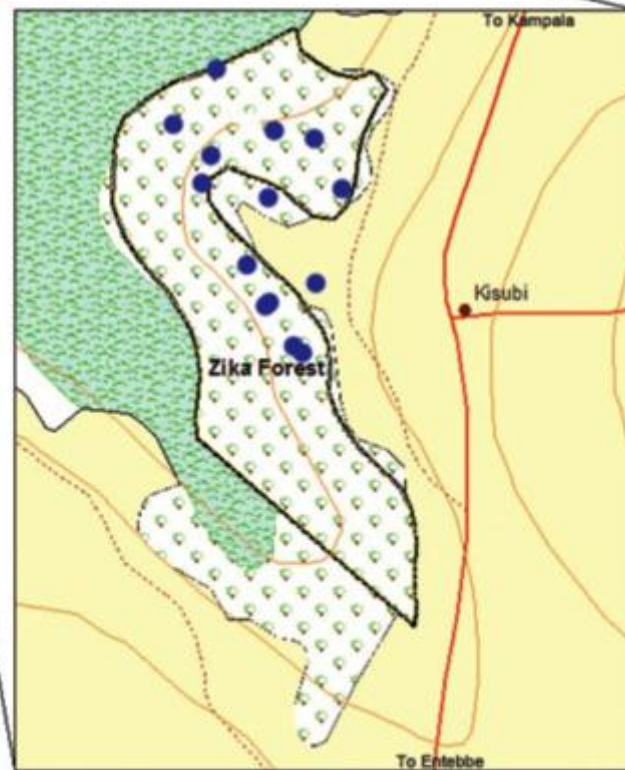
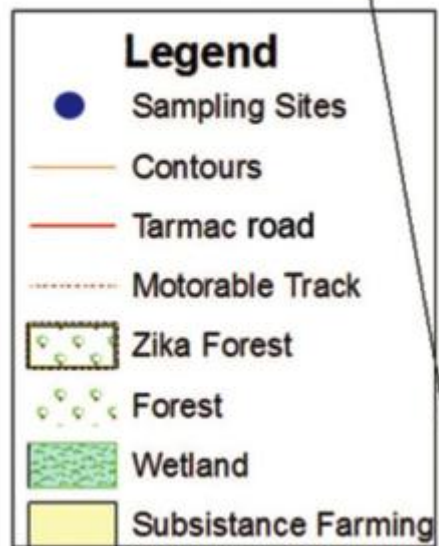
Mem Inst Oswaldo Cruz. 2015











Source: Digitized from Series Y633 Protected Area of Uganda Forest Department Sheet No 71/3





Bosque Zika, Uganda



COMMUNICATIONS

ZIKA VIRUS

(I). ISOLATIONS AND SEROLOGICAL SPECIFICITY

BY

G. W. A. DICK,

The National Institute for Medical Research, London

S. F. KITCHEN,

Formerly staff member of the Division of Medicine and Public Health, The Rockefeller Foundation, New York, U.S.A.

AND

A. J. HADDOW,

Formerly staff member of International Health Division, The Rockefeller Foundation, New York, U.S.A.

(From the Virus Research Institute, Entebbe, Uganda.)



TRANSACTIONS OF THE ROYAL SOCIETY OF
TROPICAL MEDICINE AND HYGIENE.
Vol. 46. No. 5. September, 1952.



ZIKA VIRUS

(II). PATHOGENICITY AND PHYSICAL PROPERTIES

BY

G. W. A. DICK

National Institute for Medical Research, London.

(From the Virus Research Institute, Entebbe, Uganda.)



TRANSACTIONS OF THE ROYAL SOCIETY OF
TROPICAL MEDICINE AND HYGIENE.
Vol. 48. No. 2. March, 1954.

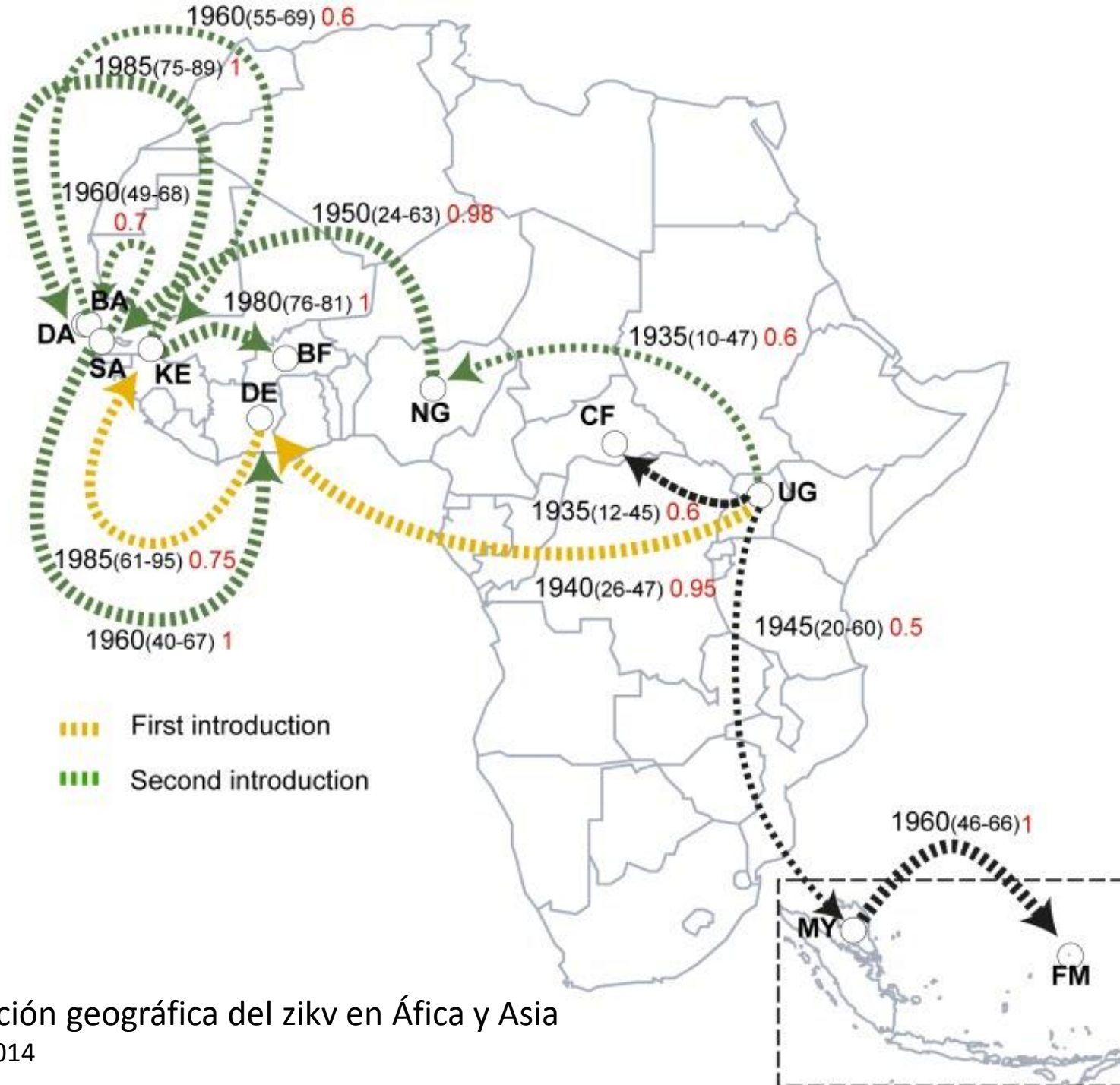


ZIKA VIRUS : A REPORT ON THREE CASES OF HUMAN INFECTION
DURING AN EPIDEMIC OF JAUNDICE IN NIGERIA

BY

F. N. MACNAMARA*

Acting Director, Virus Research Institute, Yaba, Nigeria

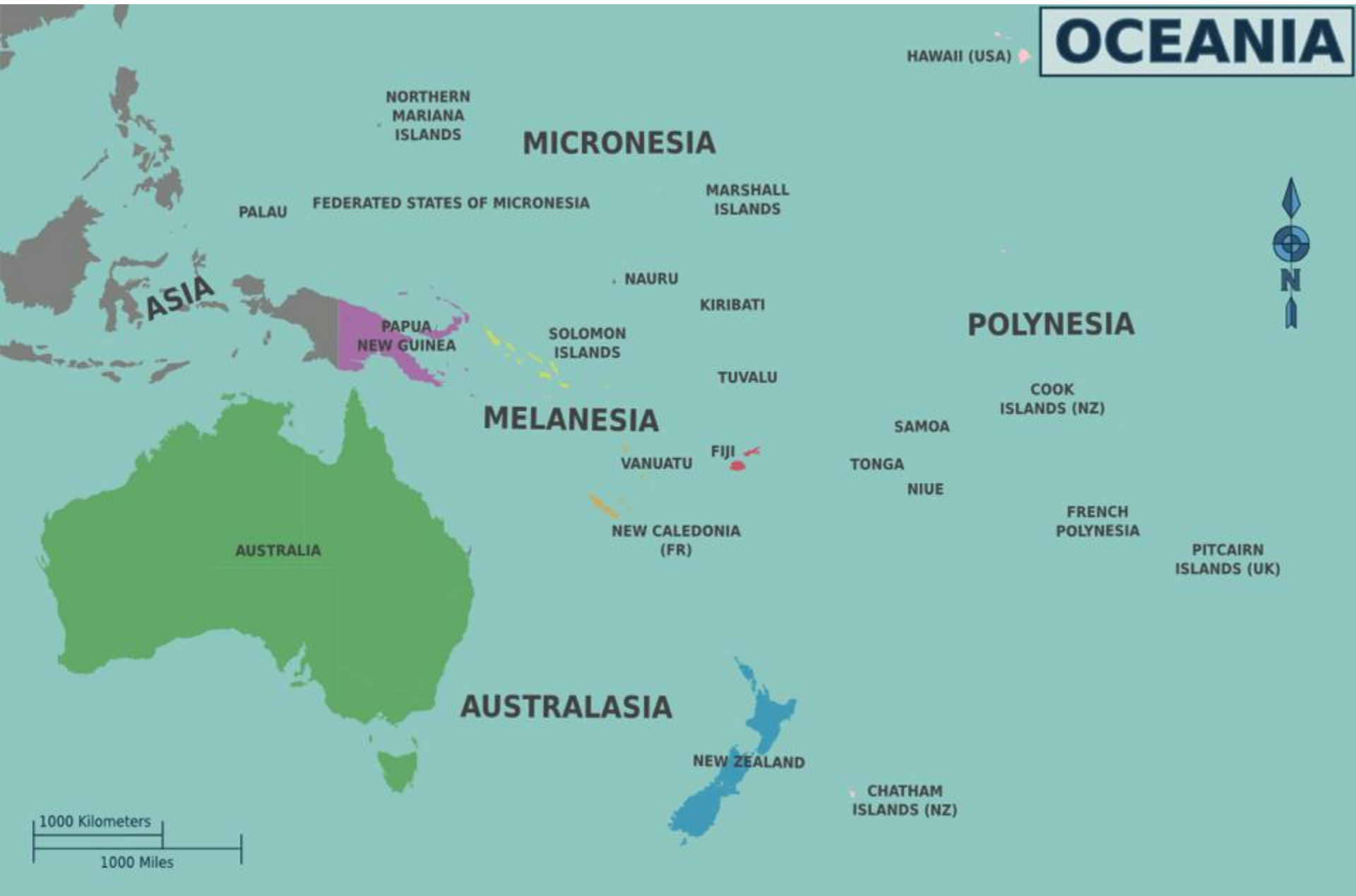


Diseminación geográfica del zikv en África y Asia
 PLOS NTD 2014

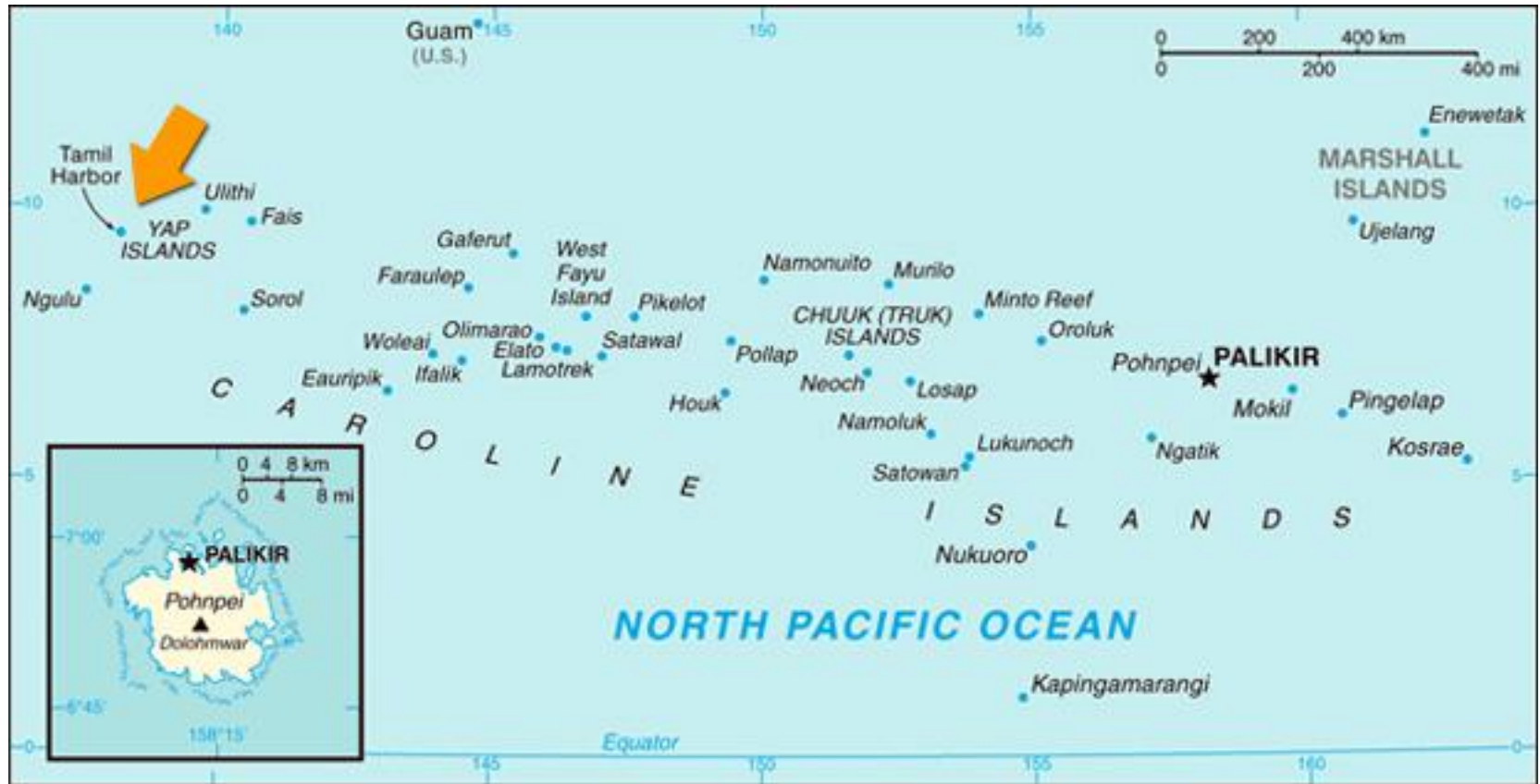
Indochina



OCEANIA



Estado Federado de Micronesia



ORIGINAL ARTICLE

Zika Virus Outbreak on Yap Island, Federated States of Micronesia



Mark R. Duffy, D.V.M., M.P.H., Tai-Ho Chen, M.D.,
W. Thane Hancock, M.D., M.P.H., Ann M. Powers, Ph.D.,

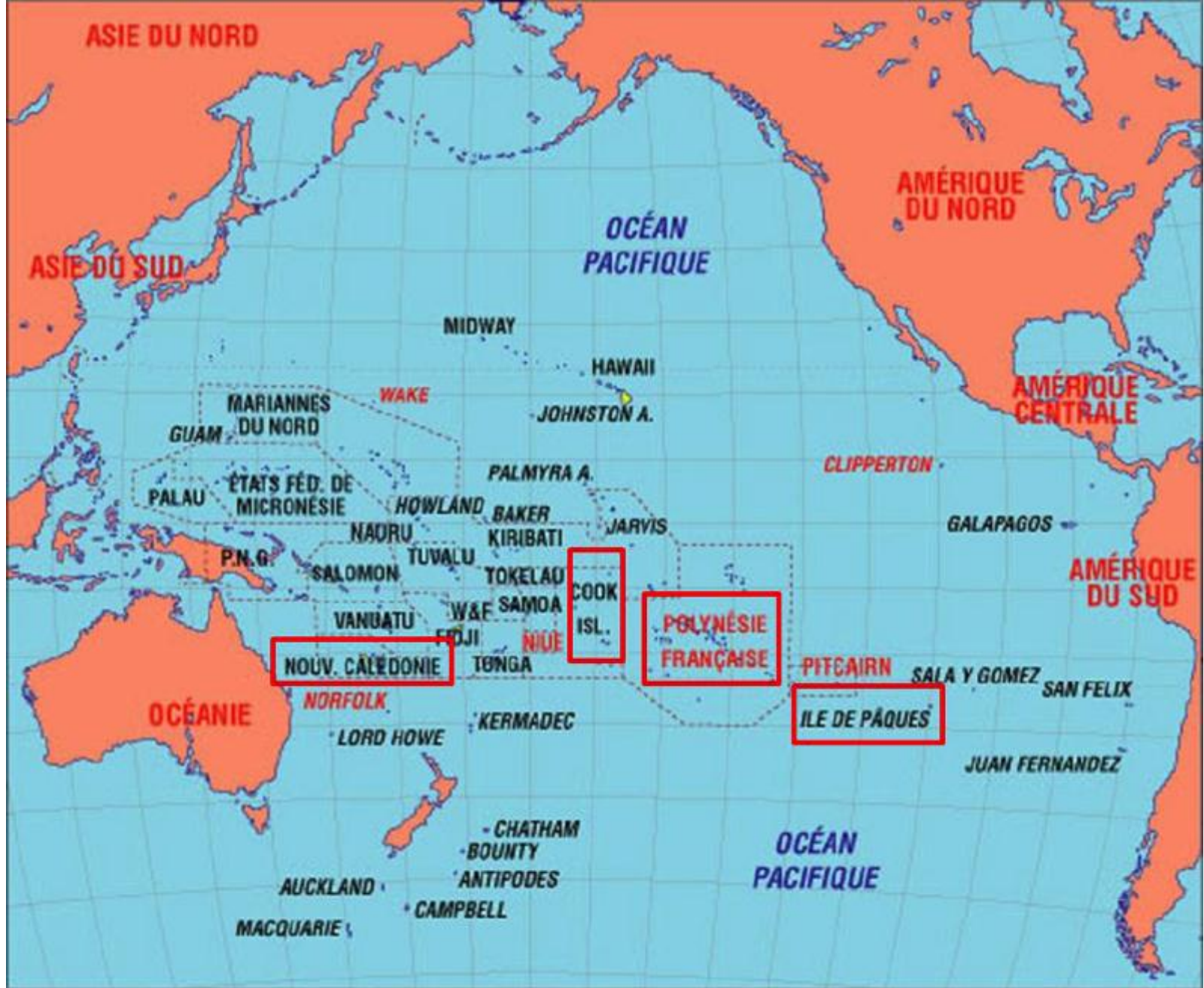
Jacob L. Kool, M.D., Ph.D., Robert S. Lanciotti, Ph.D., Moses Pretrick, B.S.,
Maria Marfel, B.S., Stacey Holzbauer, D.V.M., M.P.H.,

Christine Dubray, M.D., M.P.H., Laurent Guillaumot, M.S., Anne Griggs, M.P.H.,
Martin Bel, M.D., Amy J. Lambert, M.S., Janeen Laven, B.S., Olga Kosoy, M.S.,
Amanda Panella, M.P.H., Brad J. Biggerstaff, Ph.D., Marc Fischer, M.D., M.P.H.,
and Edward B. Hayes, M.D.

49 casos de zika confirmados en el 2007

Moneda piedra de la islas Yap





Casos de zika en la Polinesia Francesa 2014

TAHITI and her islands



42 casos de síndrome de Guillain-Barré 2013-2014

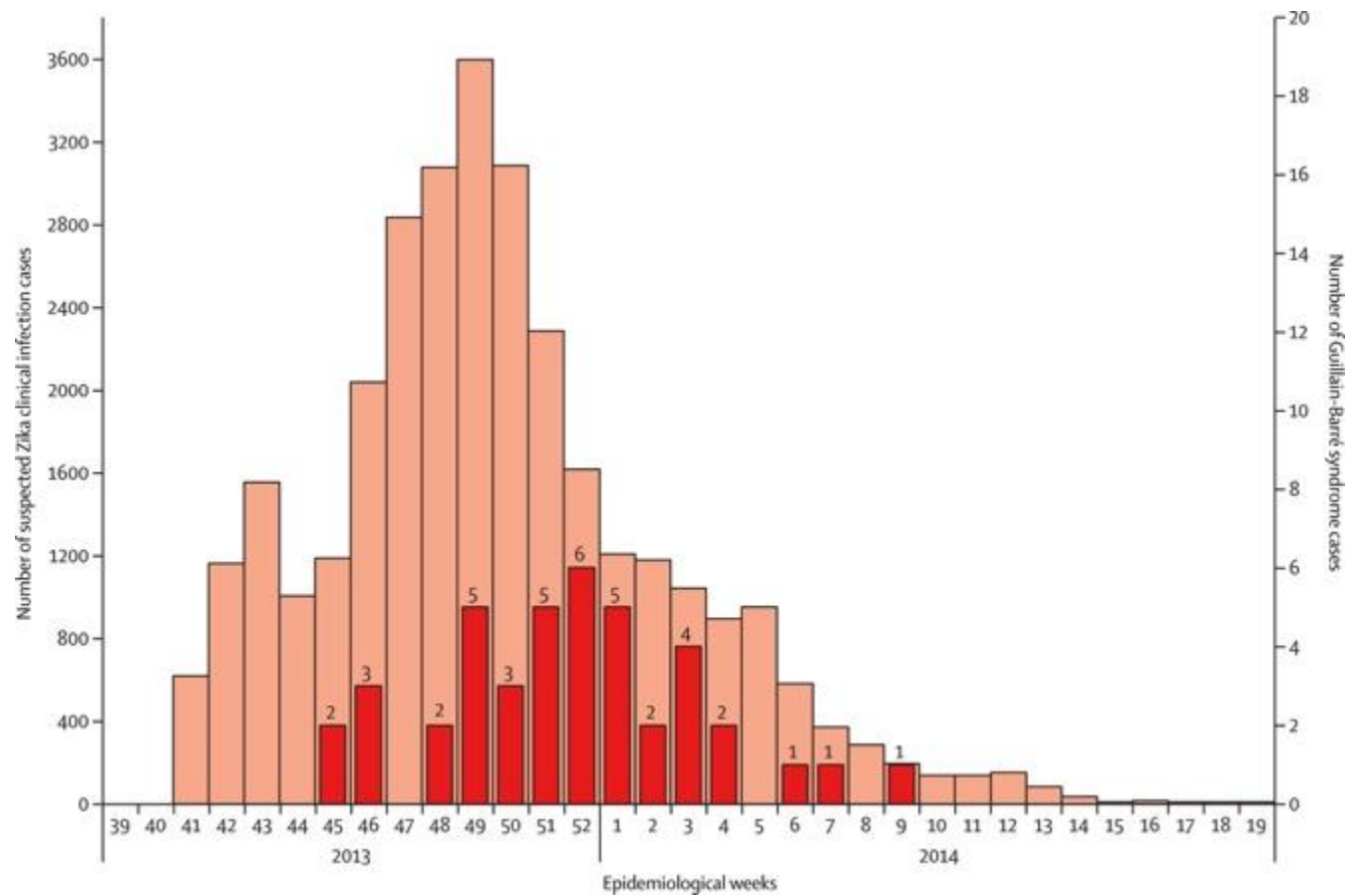


Figure: Weekly cases of suspected Zika virus infections and Guillain-Barré syndrome in French Polynesia between October, 2013, and April, 2014

Articles

Guillain-Barré Syndrome outbreak associated with Zika virus infection in French Polynesia: a case-control study

*Van-Mai Cao-Lormeau**, *Alexandre Blake**, *Sandrine Mons*, *Stéphane Lastère*, *Claudine Roche*, *Jessica Vanhomwegen*, *Timothée Dub*, *Laure Baudouin*, *Anita Teissier*, *Philippe Larre*, *Anne-Laure Vial*, *Christophe Decam*, *Valérie Choumet*, *Susan K Halstead*, *Hugh J Willison*, *Lucile Musset*, *Jean-Claude Manuguerra*, *Philippe Despres*, *Emmanuel Fournier*, *Henri-Pierre Mallet*, *Didier Musso*, *Arnaud Fontanet**, *Ian Neil**, *Frédéric Ghawché**

Interpretation This is the first study providing evidence for Zika virus infection causing Guillain-Barré syndrome. Because Zika virus is spreading rapidly across the Americas, at risk countries need to prepare for adequate intensive care beds capacity to manage patients with Guillain-Barré syndrome.

Lancet 2016

THE LANCET

Volume 378 - Number 9734 - Pages 1-60 - July 3-9, 2016

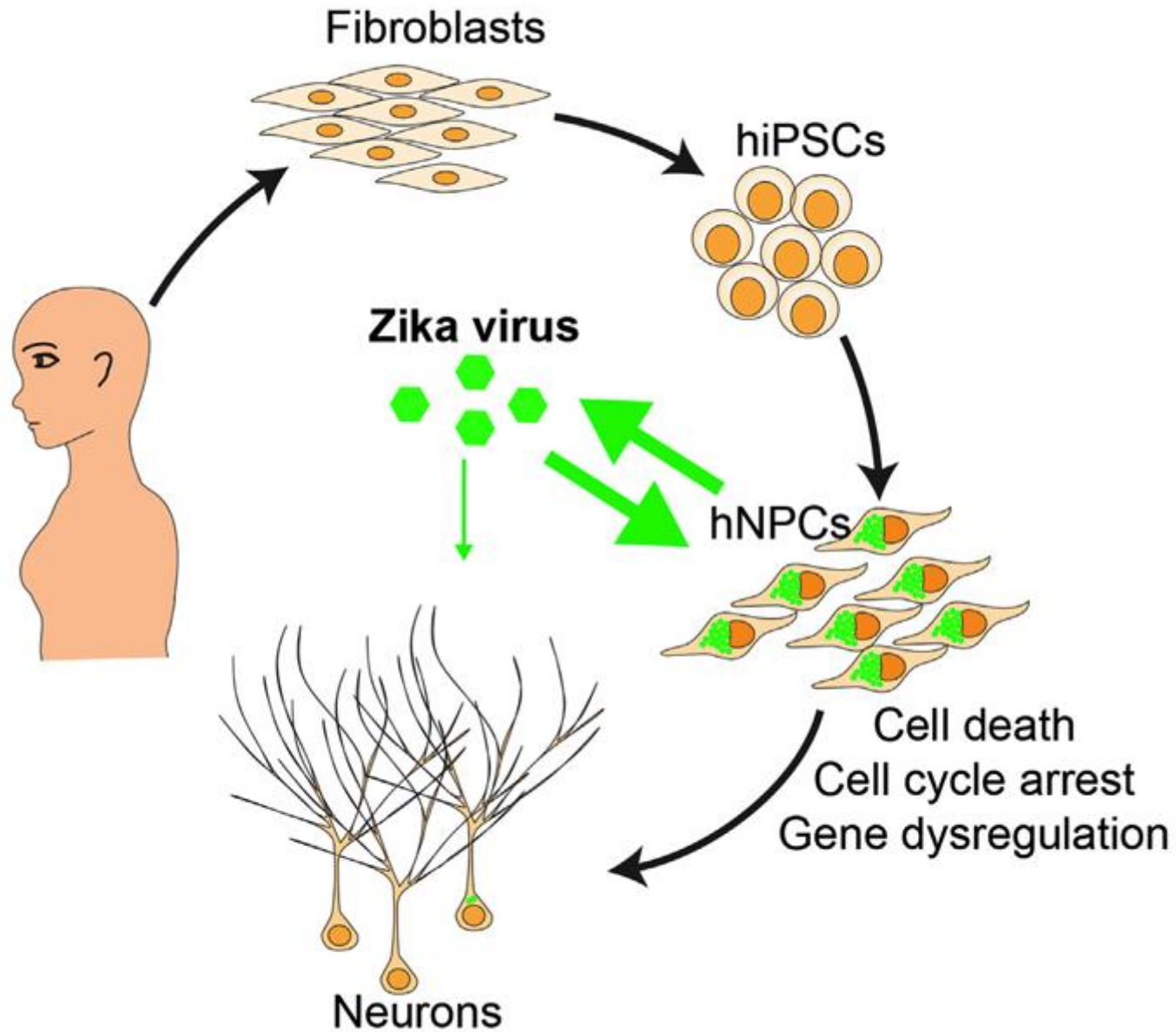
www.thelancet.com

Zika Virus Infects Human Cortical Neural Progenitors and Attenuates Their Growth

Hengli Tang,^{1,11,*} Christy Hammack,^{1,11} Sarah C. Ogden,^{1,11} Zhexing Wen,^{2,3,11} Xuyu Qian,^{2,4,11} Yujing Li,⁹ Bing Yao,⁹ Jaehoon Shin,^{2,5} Feiran Zhang,⁹ Emily M. Lee,¹ Kimberly M. Christian,^{2,3} Ruth A. Didier,¹⁰ Peng Jin,⁹ Hongjun Song,^{2,3,5,6,7,*} and Guo-li Ming^{2,3,5,6,7,8,*}

Highlights

- Zika virus (ZIKV) infects human embryonic cortical neural progenitor cells (hNPCs)
- ZIKV-infected hNPCs produce infectious ZIKV particles
- ZIKV infection leads to increased cell death of hNPCs
- ZIKV infection dysregulates cell cycle and transcription in hNPCs



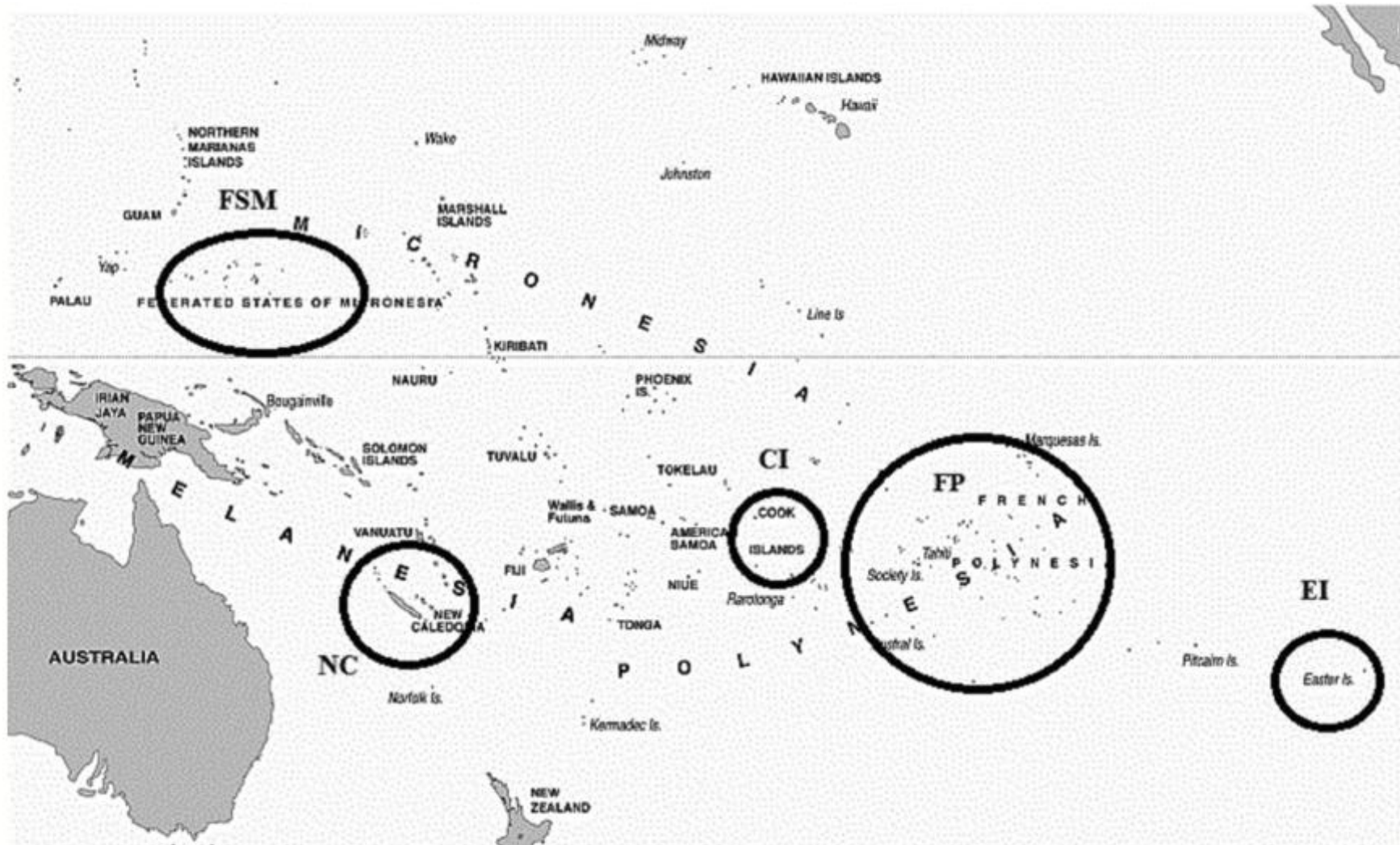


FIG. 1. Circulation of Zika virus in the Pacific: FSM (Federated States of Micronesia, 2007), FP (French Polynesia, 2013/2014), NC (New Caledonia, 2014), CI (Cook Islands, 2014), EI (Ester Island, 2014).



Epidemiological Alert

Zika virus infection
7 May 2015

The Pan American Health Organization (PAHO) / World Health Organization (WHO) recommends its Member States establish and maintain the capacity for Zika virus infection detection, clinical management and an effective public communication strategy to reduce the presence of the mosquito that transmits this disease, particularly in areas where the vector is present.

Países y territorios con casos de infección por virus Zika confirmados por laboratorio (transmisión autóctona), 2014-2015.



Distribución geográfica por primer nivel administrativo

Leyenda

Presencia de virus Zika al 18 de julio de 2015 (Semana Epidemiológica 28)

Estados con casos confirmados por laboratorio



* Caso confirmado de infección por virus Zika en Isla de Pascua, Chile 2014. Notificado por las autoridades de salud pública de Chile en febrero de 2014. La presencia del virus se reportó hasta junio de ese mismo año, y no se volvió a detectar el virus posteriormente.

Fuente de datos:
Notificación de los Centros Nacionales de Enlace para el RSI, publicaciones en línea de las Secretarías Estadales de Salud de Brasil.

Producción del mapa:
OPS-OMS AD CHA I R ARO

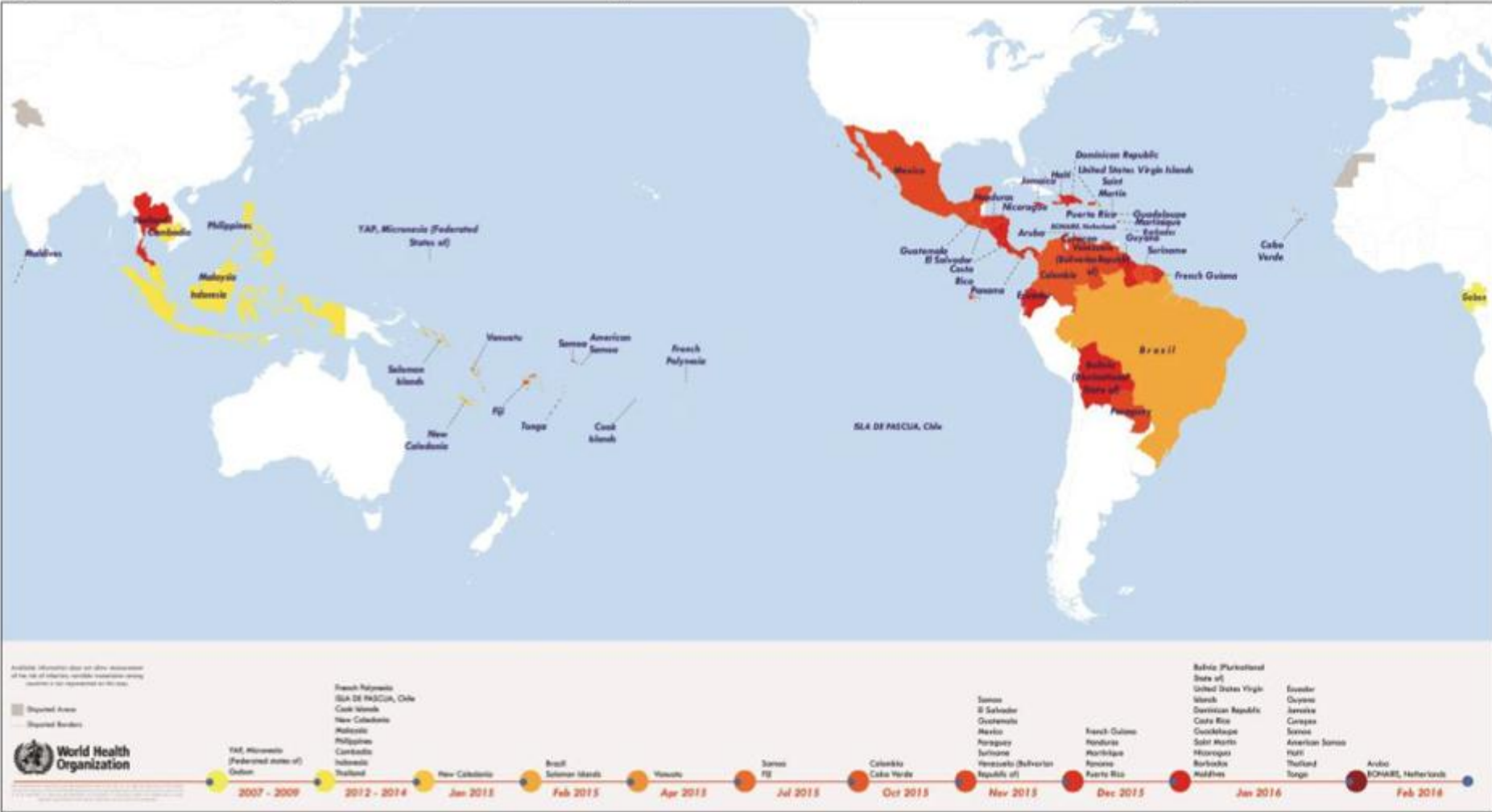


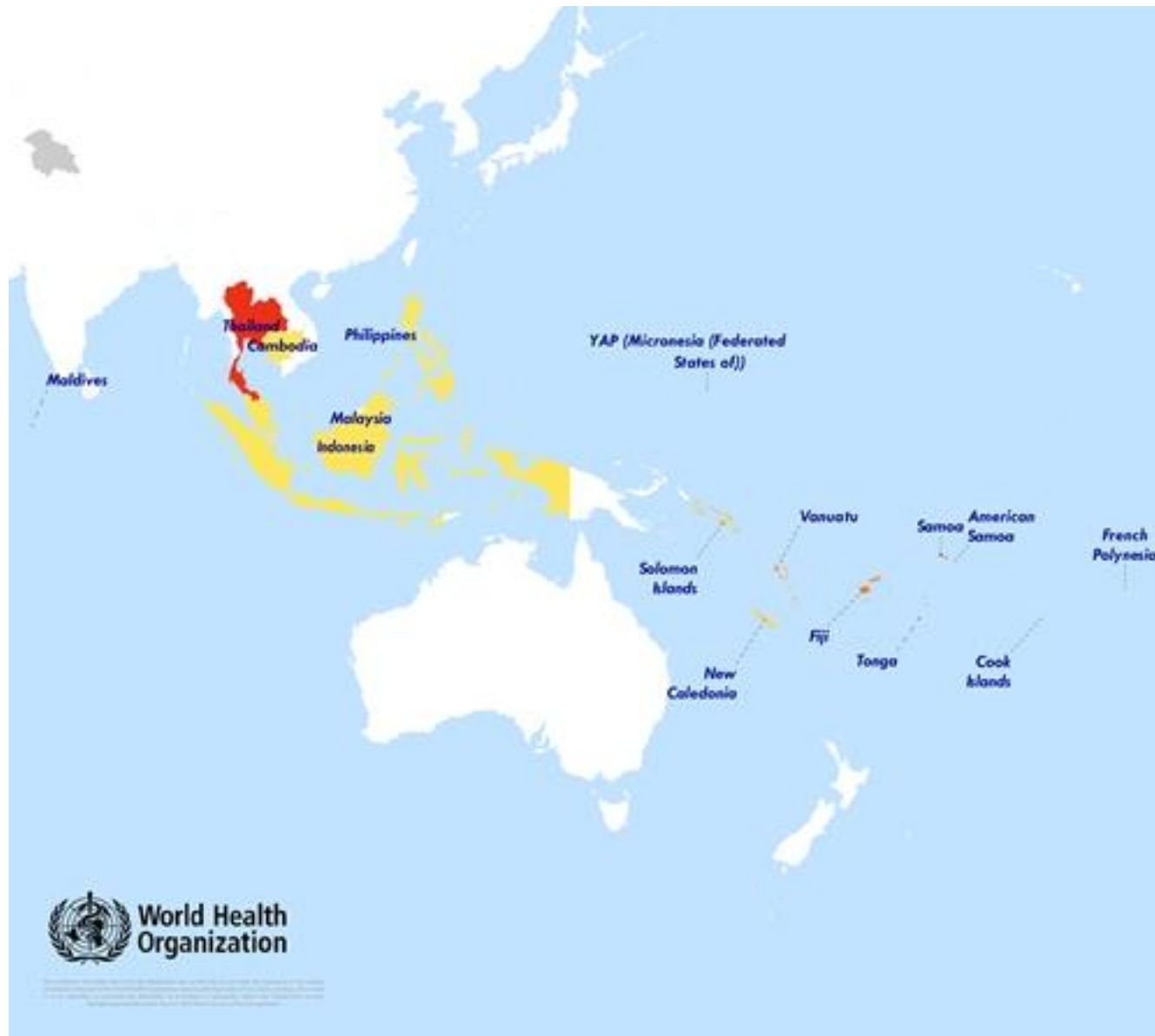
© OPS-OMS 2015.
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Esri, DeLorme, GEBCO, NOAA, NGDC, and other contributors. Sources: Esri, GEBCO, NOAA, National Geographic, DeLorme, HERE, Geonames.org, and other contributors.

Este mapa está diseñado para la representación y visualización general de los datos y de la geografía, y para ser utilizado como una herramienta de navegación o exploración. No para su modificación, reproducción, publicación o distribución fuera de la OPS-OMS y sus Estados Miembros, sin autorización. Los límites y los nombres que figuran en este mapa no implican la expresión de ninguna opinión por parte de la OPS-OMS sobre la condición jurídica de países, territorios, ciudades o zonas, ni de sus autoridades, ni respecto a la delimitación de sus fronteras o límites.

Figure 2: Countries/territories with local (autochthonous) Zika virus circulation, 2007-2016.





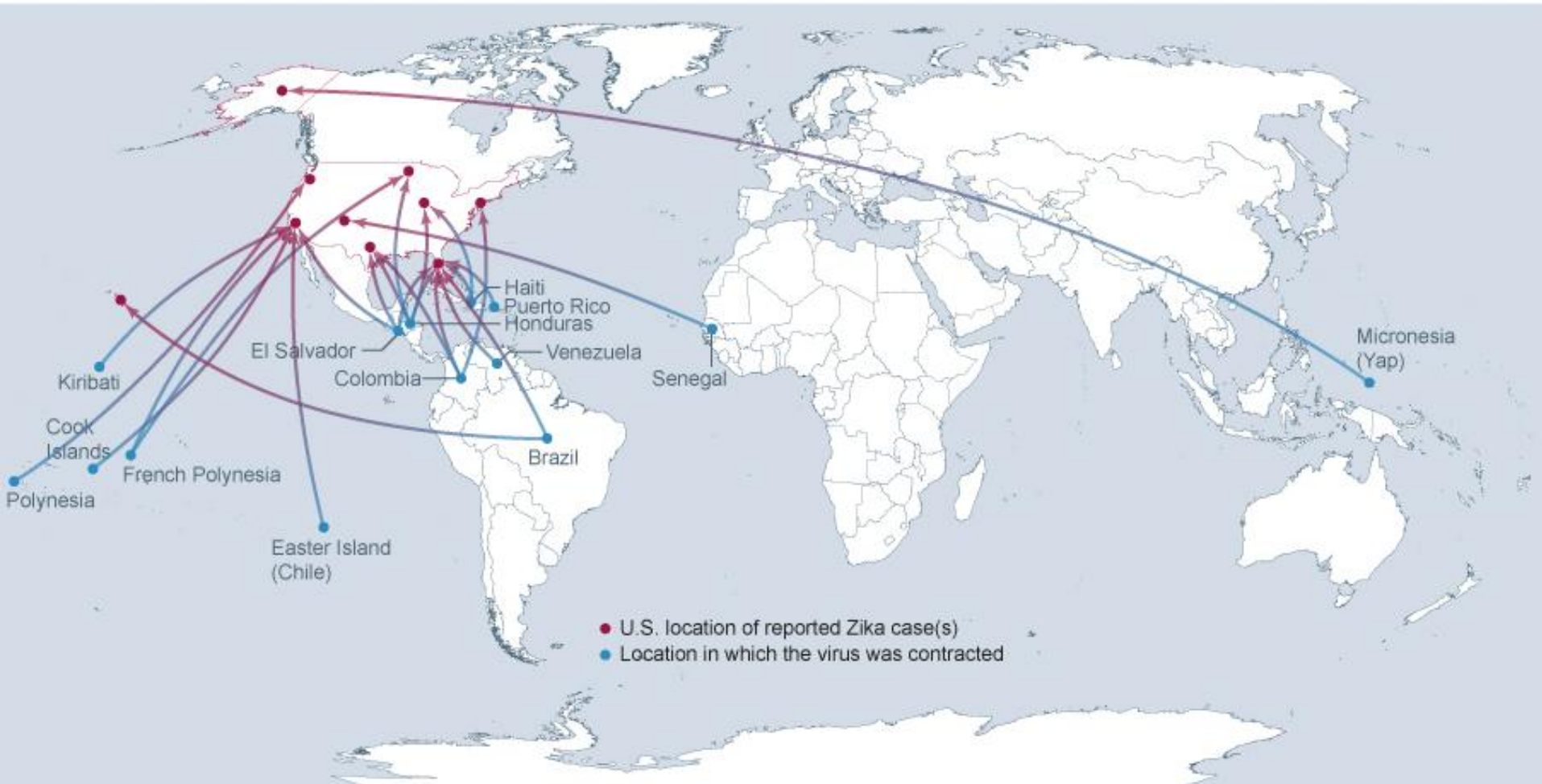
19 February 2016



■ Transmisión activa reportada

Sika en las Américas 29 febrero 2016
CDC

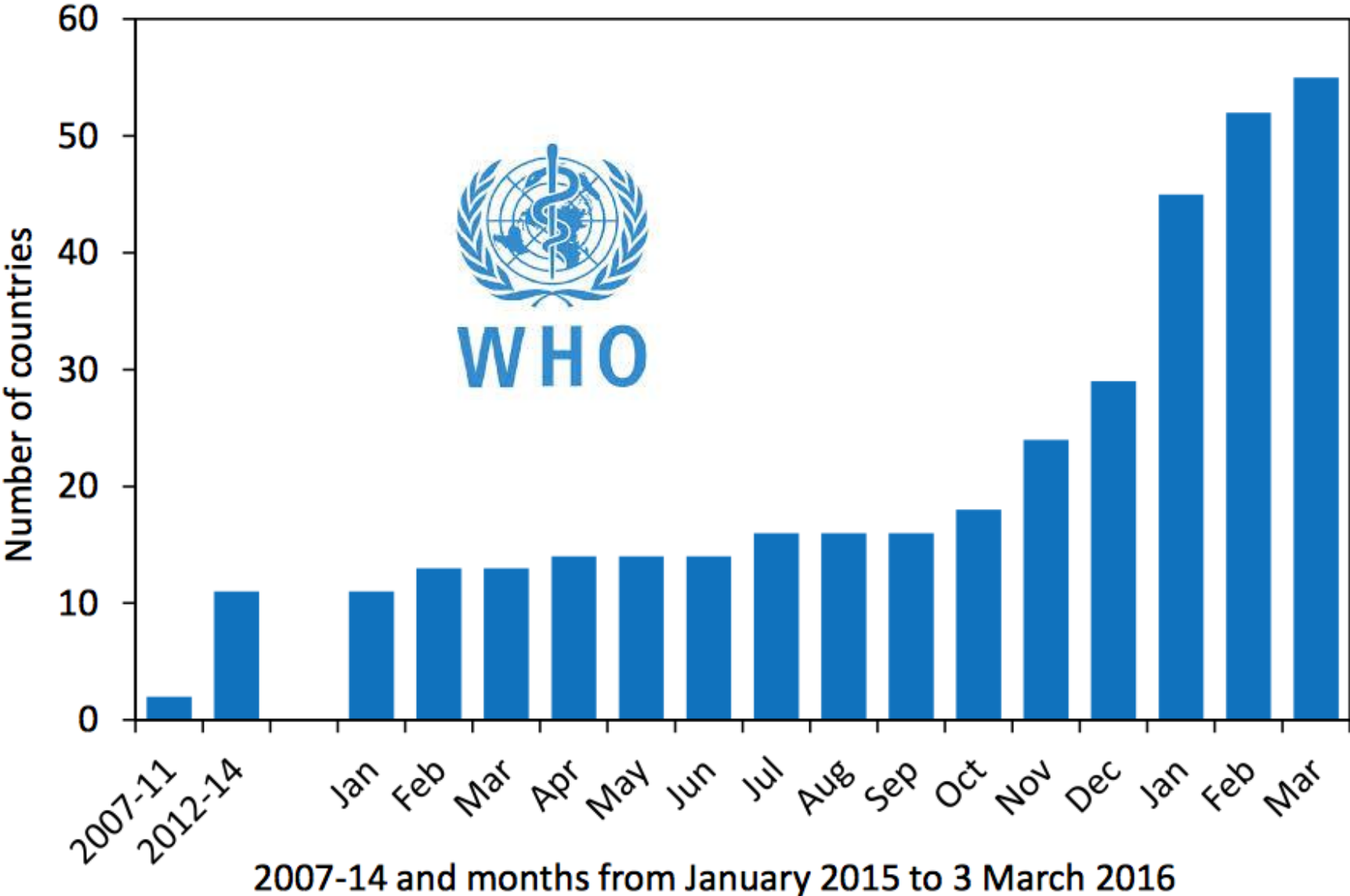
How Did Zika Get Here?







Margaret Chan, directora general de la OMS declara la emergencia de salud pública de interés internacional el 1 febrero 2016


Figure 1: Cumulative number of countries, territories and areas reporting Zika virus transmission, 2007-2014, and monthly from 1 January 2015 to 3 March 2016.



How the Zika virus spread

 Active transmission

 Known previous transmission

 Antibodies also detected

2014-16

Zika appears in northern Brazil and spreads through the Americas

6

5

2013
Epidemic on French Polynesia

2

1960
First human cases in Nigeria

1

1947
First documented in monkeys in Uganda

3

1970s
Cases in Pakistan, India, Malaysia, and Indonesia

4

2007

Epidemic on island of Yap, Micronesia

SOURCE: WHO and Lancaster University , Feb.1


Vox

Tabla N° 45

Casos notificados de enfermedad por virus Zika por entidad territorial de procedencia, Colombia, a semana epidemiológica 08, 2015-2016

| Entidad territorial de procedencia | Casos conf. Laboratorio | % conf. Laboratorio | Casos conf. Clínica | % conf. Clínica | Casos sospechosos | % sospechosos | Total |
|------------------------------------|-------------------------|---------------------|---------------------|-----------------|-------------------|---------------|--------------|
| Norte Santander | 641 | 30,67 | 7000 | 17,53 | 474 | 8,23 | 8115 |
| Huila | 214 | 10,24 | 4347 | 10,89 | 487 | 8,46 | 5048 |
| Tolima | 124 | 5,93 | 3485 | 8,73 | 443 | 7,69 | 4052 |
| Valle | 35 | 1,67 | 3031 | 7,59 | 787 | 13,67 | 3853 |
| Barranquilla | 66 | 3,16 | 3694 | 9,25 | 0 | 0,00 | 3760 |
| Cundinamarca | 97 | 4,64 | 3222 | 8,07 | 292 | 5,07 | 3611 |
| Córdoba | 72 | 3,44 | 2092 | 5,24 | 604 | 10,49 | 2768 |
| Santa Marta | 59 | 2,82 | 1692 | 4,24 | 0 | 0,00 | 1751 |
| Atlántico | 28 | 1,34 | 1488 | 3,73 | 187 | 3,25 | 1703 |
| Sucre | 45 | 2,15 | 1030 | 2,58 | 353 | 6,13 | 1428 |
| Antioquia | 98 | 4,69 | 913 | 2,29 | 329 | 5,71 | 1340 |
| Santander | 31 | 1,48 | 843 | 2,11 | 409 | 7,10 | 1283 |
| Cesar | 41 | 1,96 | 928 | 2,32 | 178 | 3,09 | 1147 |
| San Andrés | 55 | 2,63 | 972 | 2,43 | 6 | 0,10 | 1033 |
| Magdalena | 59 | 2,82 | 576 | 1,44 | 325 | 5,65 | 960 |
| Cartagena | 63 | 3,01 | 824 | 2,06 | 0 | 0,00 | 887 |
| Meta | 19 | 0,91 | 652 | 1,63 | 140 | 2,43 | 811 |
| Bolívar | 96 | 4,59 | 499 | 1,25 | 133 | 2,31 | 728 |
| Guajira | 17 | 0,81 | 375 | 0,94 | 197 | 3,42 | 589 |
| Casanare | 18 | 0,86 | 484 | 1,21 | 60 | 1,04 | 562 |
| Caquetá | 24 | 1,15 | 483 | 1,21 | 46 | 0,80 | 553 |
| Risaralda | 39 | 1,87 | 371 | 0,93 | 1 | 0,02 | 411 |
| Arauca | 14 | 0,67 | 269 | 0,67 | 1 | 0,02 | 284 |
| Putumayo | 35 | 1,67 | 180 | 0,45 | 18 | 0,31 | 233 |
| Caldas | 23 | 1,10 | 101 | 0,25 | 30 | 0,52 | 154 |
| Boyacá | 37 | 1,77 | 79 | 0,20 | 24 | 0,42 | 140 |
| Amazonas | 4 | 0,19 | 90 | 0,23 | 17 | 0,30 | 111 |
| Buenaventura | 1 | 0,05 | 100 | 0,25 | 0 | 0,00 | 101 |
| Quindío | 3 | 0,14 | 54 | 0,14 | 28 | 0,49 | 85 |
| Cauca | 6 | 0,29 | 37 | 0,09 | 25 | 0,43 | 68 |
| Desconocido | 5 | 0,24 | 0 | 0,00 | 57 | 0,99 | 62 |
| Exterior | 4 | 0,19 | 0 | 0,00 | 51 | 0,89 | 55 |
| Nariño | 11 | 0,53 | 4 | 0,01 | 10 | 0,17 | 25 |
| Choco | 2 | 0,10 | 0 | 0,00 | 20 | 0,35 | 22 |
| Guaviare | 1 | 0,05 | 5 | 0,01 | 9 | 0,16 | 15 |
| Vichada | 3 | 0,14 | 4 | 0,01 | 6 | 0,10 | 13 |
| Vaupés | 0 | 0,00 | 0 | 0,00 | 6 | 0,10 | 6 |
| Guainía | 0 | 0,00 | 0 | 0,00 | 4 | 0,07 | 4 |
| Total general | 2090 | 100 | 39924 | 100 | 5757 | 100 | 47771 |

Fuente: Sivigila. Laboratorio de Arbovirus, Instituto Nacional de Salud, Colombia, 2015-2016



INSTITUTO
NACIONAL DE
SALUD



BES

BOLETÍN EPIDEMIOLÓGICO SEMANAL

Gráfico N° 1
Casos notificados de enfermedad por virus Zika, Colombia, semana
epidemiológica 08, 2015-2016

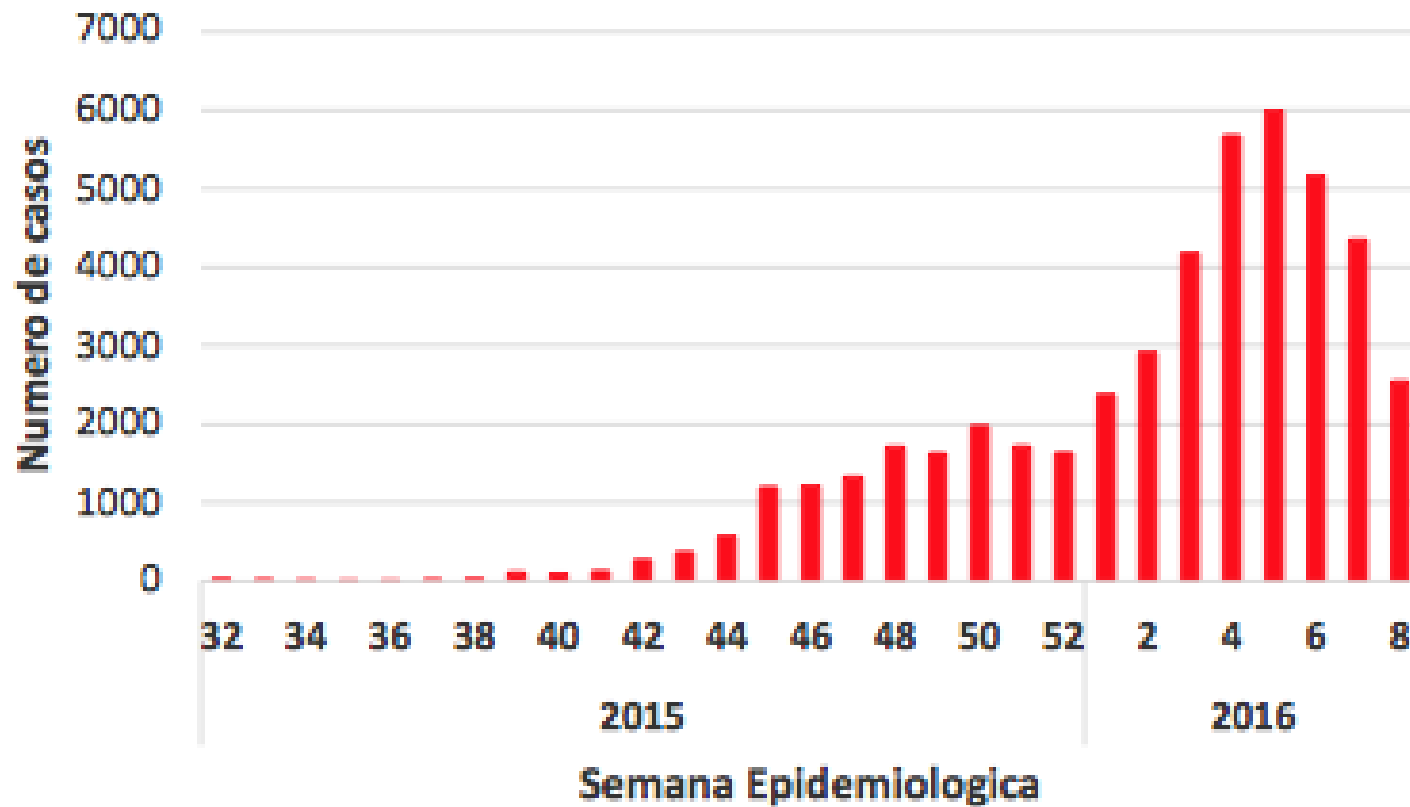


Table 1. Countries, territories and areas with autochthonous transmission of Zika virus, 2007–2016.*

| Classification^a | WHO Regional Office | Country/Territory/Area |
|--|----------------------------|--|
| Reported or indication of autochthonous Zika virus transmission AND Guillain-Barré syndrome ^a AND microcephaly ^b (1) | AMRO/PAHO (1) | Brazil |
| Reported or indication of autochthonous Zika virus transmission, Guillain-Barré syndrome ^a and no reports of microcephaly cases (7) | AMRO/PAHO (7) | Colombia, El Salvador, Venezuela (Bolivarian Republic of), Martinique, Puerto Rico, Panama, Suriname |
| Reported or indication of autochthonous Zika virus transmission and no reports of Guillain-Barré syndrome or microcephaly cases (39) | AFRO (2) | Cabo Verde, Gabon |
| | AMRO/PAHO (23) | Aruba, Barbados, Bonaire, Bolivia (Plurinational State of), Costa Rica, Curaçao, Dominican Republic, Ecuador, French Guiana, Guadeloupe, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Paraguay, Saint Martin, Saint Vincent and the Grenadines, Sint Maarten, Trinidad & Tobago, United States Virgin Islands |
| | SEARO (3) | Indonesia, Maldives, Thailand |
| | WPRO (11) | American Samoa, Cambodia, Fiji, Malaysia, Marshall Islands, Philippines, Samoa, Solomon Islands, Tonga, Vanuatu, Lao People's Democratic Republic |
| Countries/territories/areas with outbreaks terminated (5) | WPRO (4) | Cook Islands, French Polynesia [†] , New Caledonia, YAP - Micronesia (Federated States of) |
| | AMRO/PAHO (1) | ISLA DE PASCUA - Chile |
| Locally acquired without vector-borne transmission (3) | AMRO/PAHO (1) | United States of America |
| | EURO (2) | France, Italy |



OPS



OMS

Informe 4 marzo 2016

Table 3. Countries, territories or areas reporting GBS potentially related to Zika virus infection.

| Reported increase in incidence of GBS cases, with no GBS cases biologically documented of Zika virus infection | Reported increase in incidence of GBS cases, with at least one GBS case confirmed with previous Zika virus infection | No increase in GBS incidence reported but at least one GBS case confirmed with previous Zika virus infection |
|--|--|--|
| El Salvador | French Polynesia | Martinique |
| Colombia | Suriname | Puerto Rico |
| | Brazil | Panama |
| | Venezuela (Bolivarian Republic of) | |

Informe 4 marzo 2016



OPS



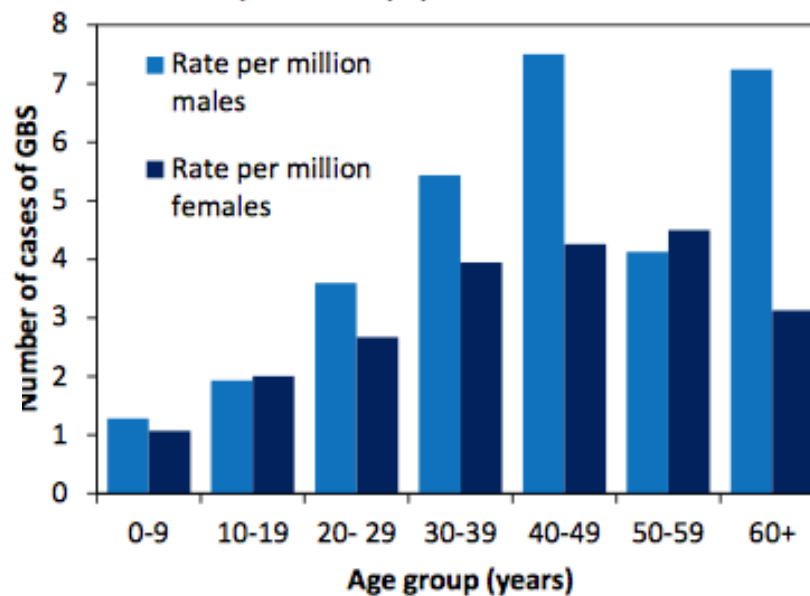
OMS

Venezuela 255 casos de SGB entre 3 dic 15 30 enero 2016

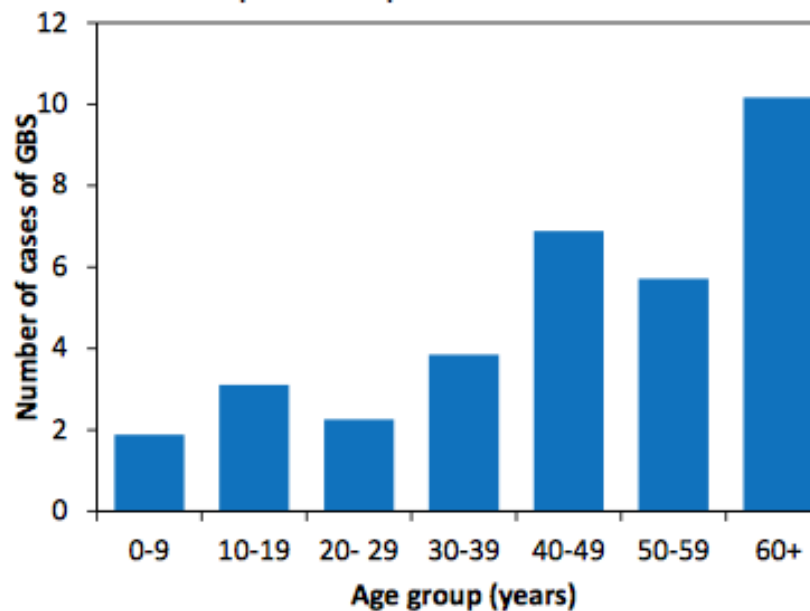
El Salvador 46 casos 2 muertes

Figure 6: Cases of GBS in Colombia as of 14 February 2016.

GBS cases per million population



GBS cases per 1000 reported Zika cases



OPS



OMS

Distribution of cumulative confirmed cases of microcephaly, Brazil as of 27 Feb 2016

MAP DATE: 04 March 2016





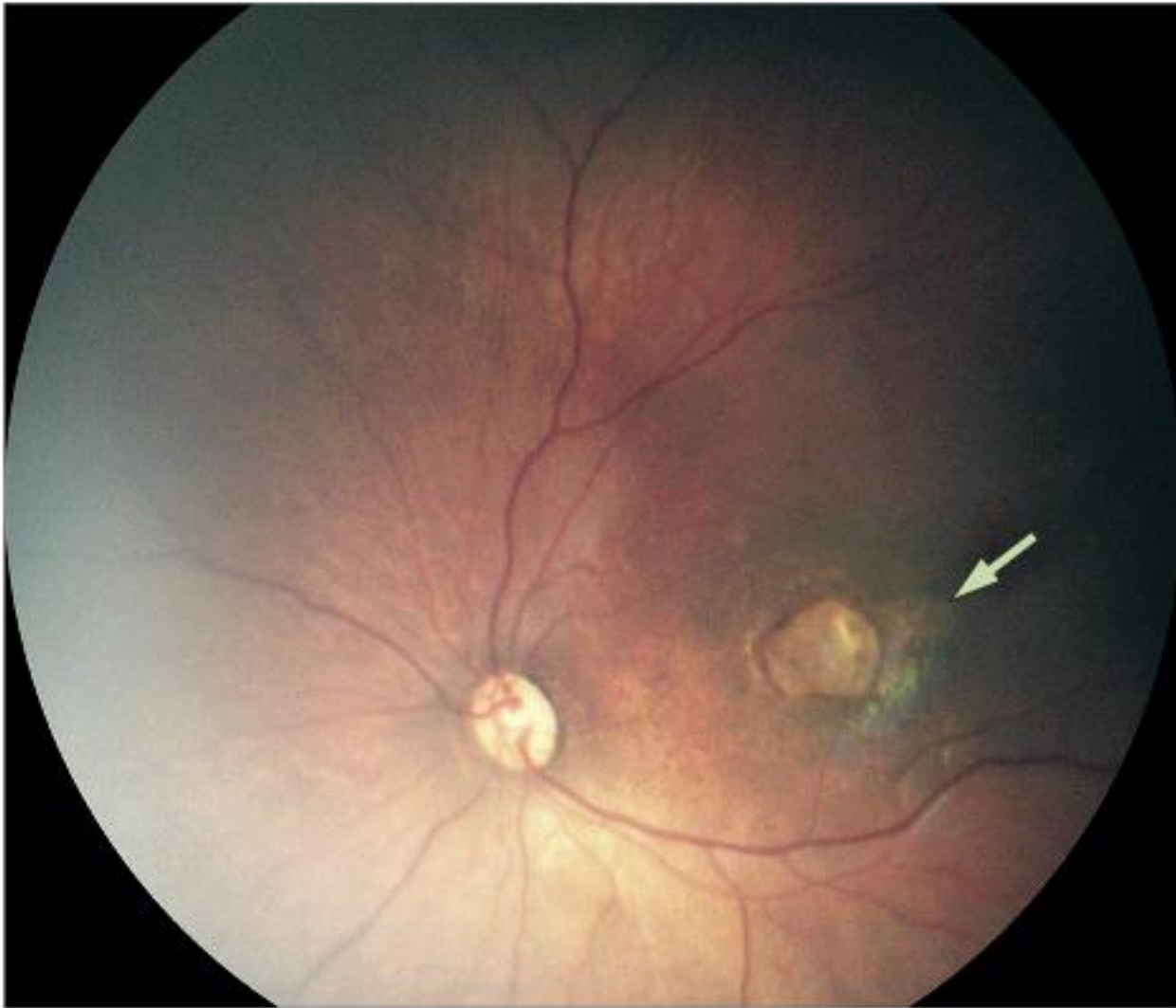


Figure: Severe macular neuroretinal atrophy in an infant with microcephaly

THE LANCET

Volume 371 - Number 9214 - Page 1-66 - July 3-9, 2016

www.thelancet.com

Casos de enfermedades neuroinflamatorias

- Síndrome de Guillain-Barré:
 - 28 casos confirmados (criterios de Brighton)
 - 4 niños (<18 años)

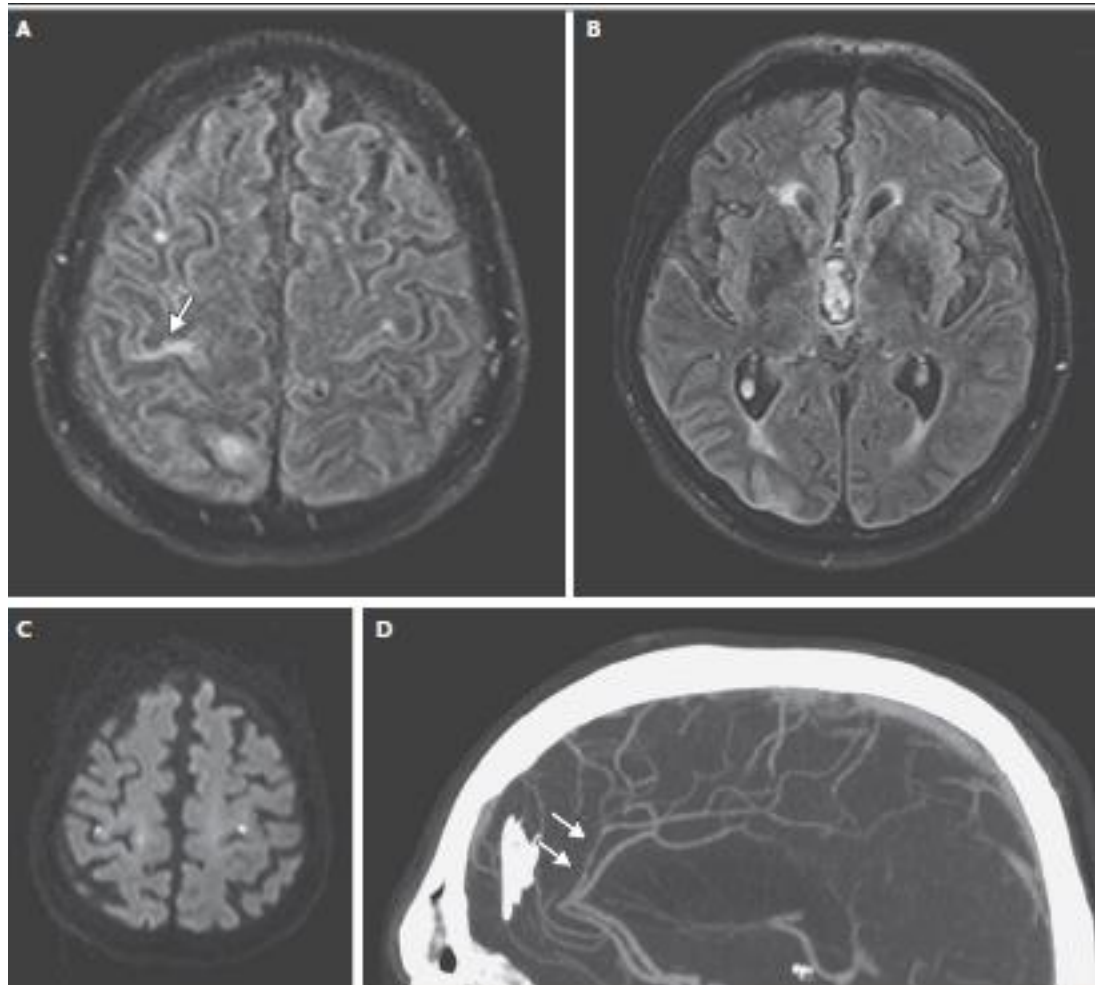
- Mielitis aguda: 3 casos
 - 1 RM anormal
 - 1 RM normal y LCR normal





The NEW ENGLAND JOURNAL of MEDICINE

Zika Virus Associated with Meningoencephalitis



Características de los 28 casos

- 7 de diciembre de 2015 al 22 de febrero de 2016
- Antecedente de zika: 15/22 (68.1%)
- 14 hombres: 14 mujeres (1:1)
- Promedio: 41,6 años
- Rango: 10 – 85 años
- 4 niños (<18 años)



Clínica

- Déficit motor en los 4 miembros: 20/22 (90.9%)
- Diplejía facial con parestesias: 1/22 (4.5%)
- Síndrome sensitivo: 1/22 (4.5%)
- Ventilación mecánica: 4/22 (18.2%)
- Letalidad: 0/22 (0%)



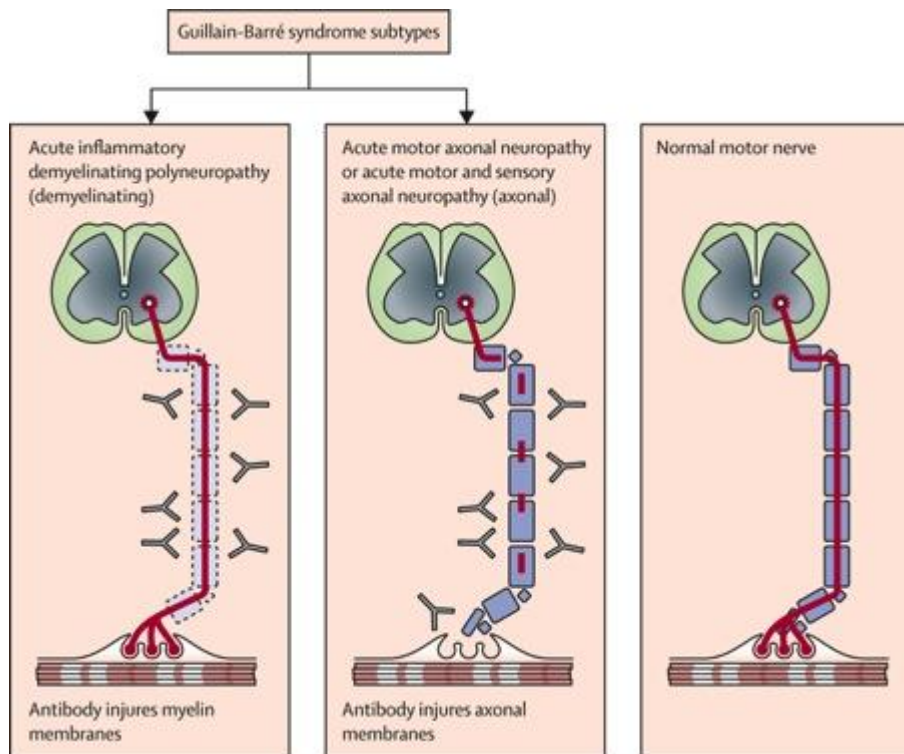
Líquido cefalorraquídeo

- Proteínas elevadas: 16/19 (84.2%)
 - Promedio: 147.5 mg/dL
 - Rango: 48.4 – 307.4 mg/dL
- Proteínas normales: 3/19 (15.8%)
- Células normales (0-5/ mm³): 19/19 (100%)



EMG

- 8 estudios:
- patrón desmielinizante (AIDP) en 6 (75%)
- patrón axonal (ASMAN) en 2 (25%)



The Answer To A Zika Mystery Could Lie In Test Tubes In Colombia

Updated February 29, 2016 · 11:53 AM ET

Published February 28, 2016 · 7:39 AM ET



NURITH AIZENMAN



The 25-year-old woman has Guillain-Barre syndrome and is hospitalized in Cucuta, Colombia. Dr. Jairo Lizarazo will collect samples from the patient to send to a lab in Cali, hoping to prove a link to the Zika virus.

Nurith Aizenman/NPR

SHARE



More than 30 patients have been diagnosed with Guillain-Barré syndrome in recent months in Norte del Santander state, Colombia. The state usually sees only a few cases a year.

Richardo Mazala/AP Photos

Why does Zika leave some patients paralyzed?

By [Gretchen Vogel](#), [Kathleen McLaughlin](#) | Mar. 3, 2016, 3:30 PM

Zika can cause Guillain-Barre syndrome, study shows



Liz Szabo, USA TODAY

8:29 p.m. EST February 29, 2016







Fumigando en Salvador, Bahía (Brasil)



