



Update on Dengue Vaccines

Joshua Wong, MD

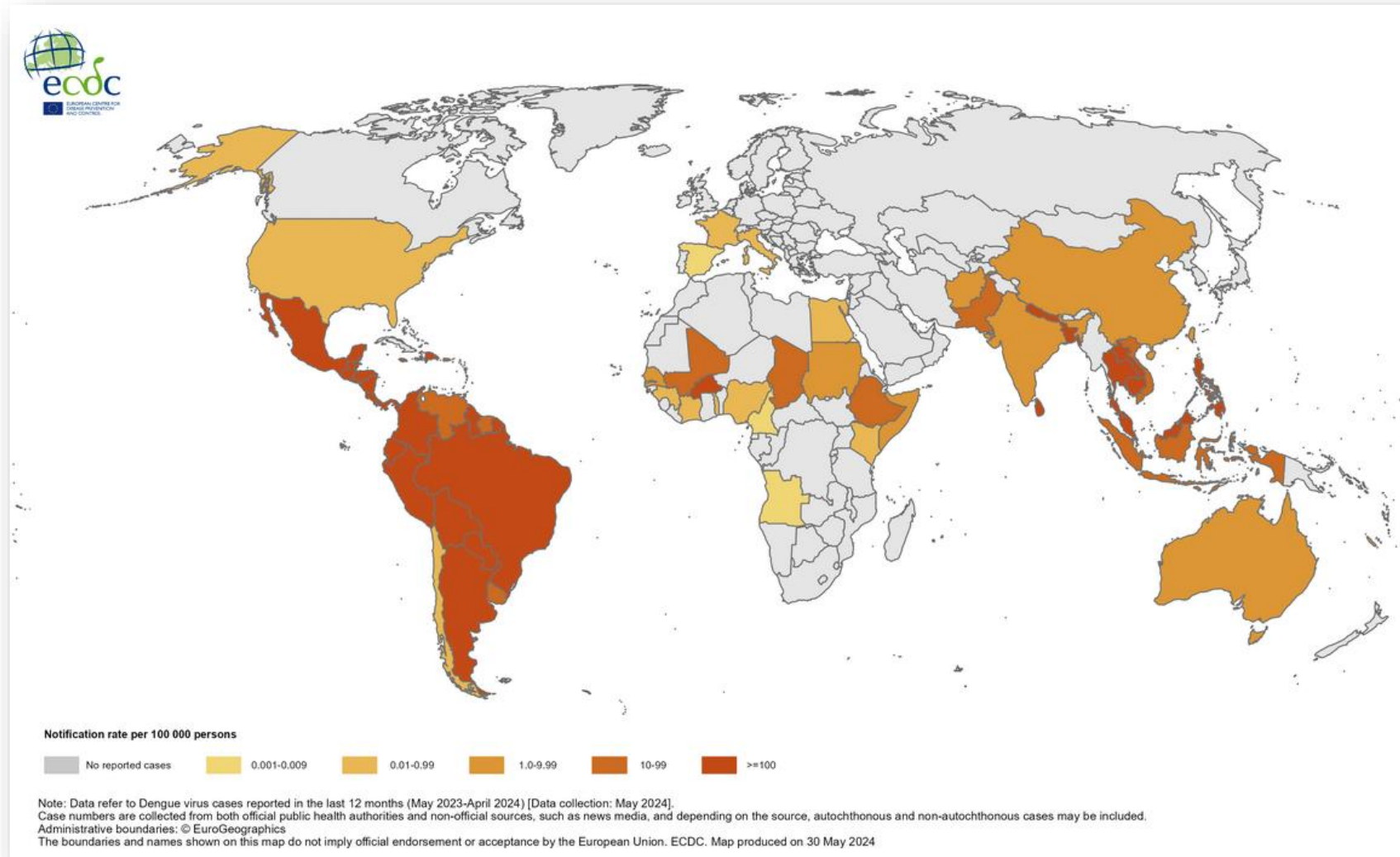
Medical Officer | NCEZID/DVBD/Dengue Branch

Meeting of the Advisory Committee on Immunization Practices

June 26, 2024

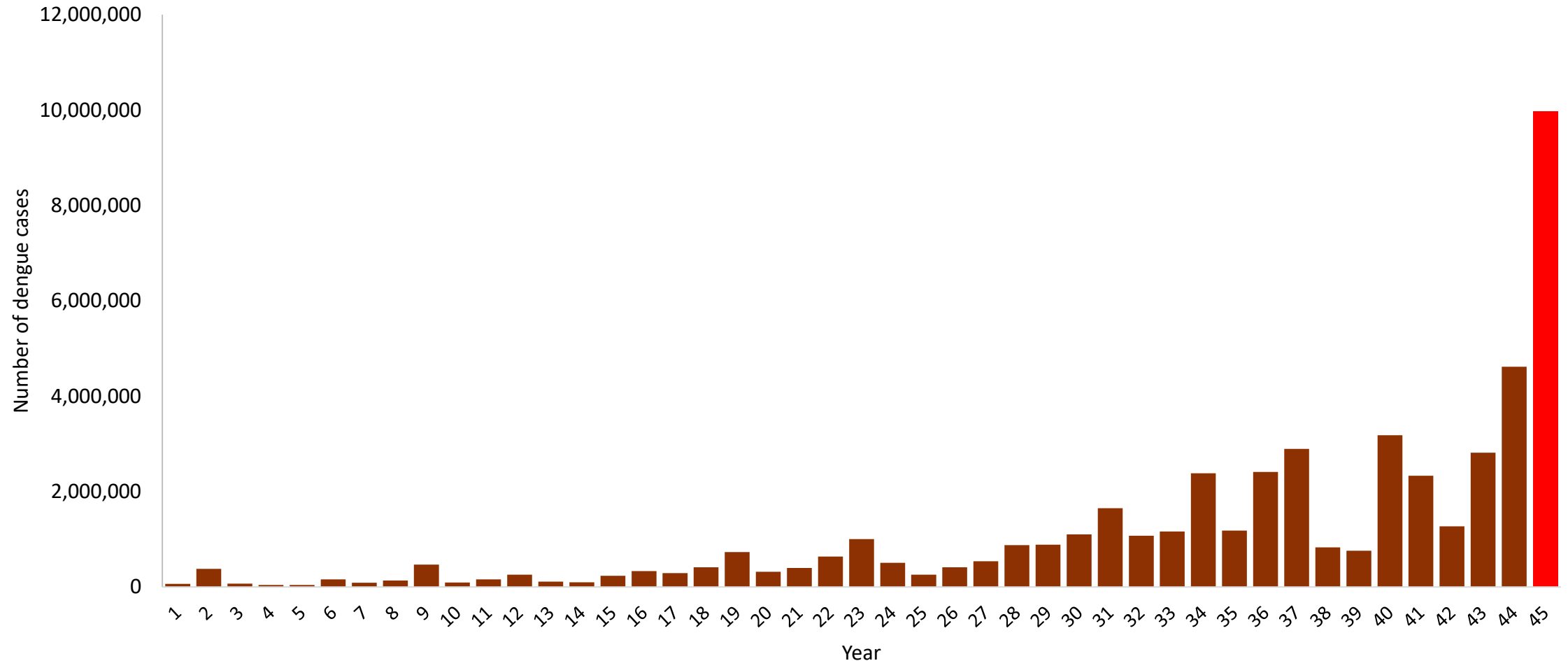
Dengue Epidemiology Globally

Countries reporting locally acquired dengue cases, March 2023–April 2024



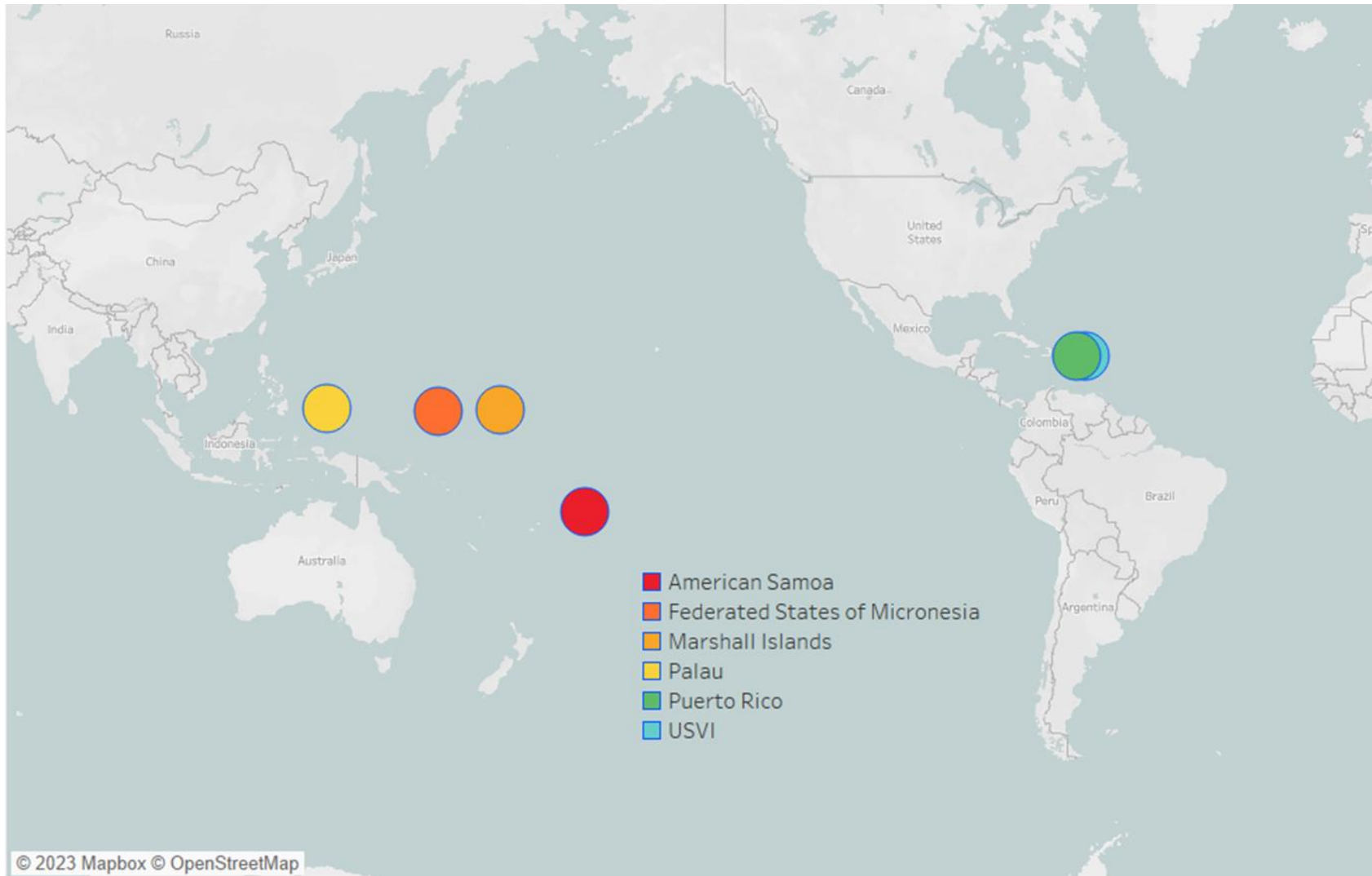
Dengue cases in the Americas, 1980–2024

Nearly **10 million** cases reported in 2024 as of June 25.

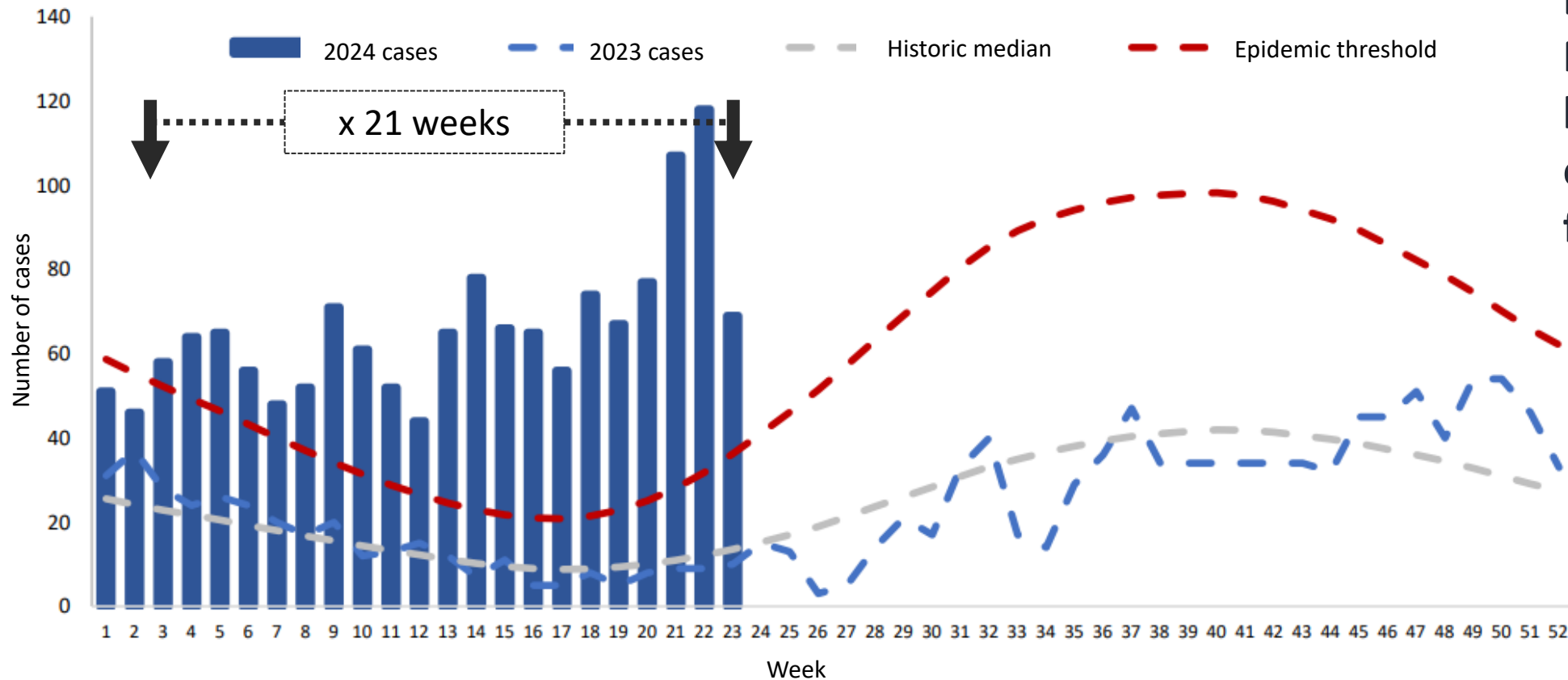


Dengue Epidemiology in the U.S.

In the United States, dengue is endemic in **6 U.S. territories and freely associated states.**



Puerto Rico declared a public health emergency due to a dengue epidemic in March 2024.



DENV infections in Puerto Rico have been above the epidemic threshold for 21 weeks.

Update on Dengvaxia in Puerto Rico



The first dengue vaccine in Puerto Rico was administered on September 7, 2022.

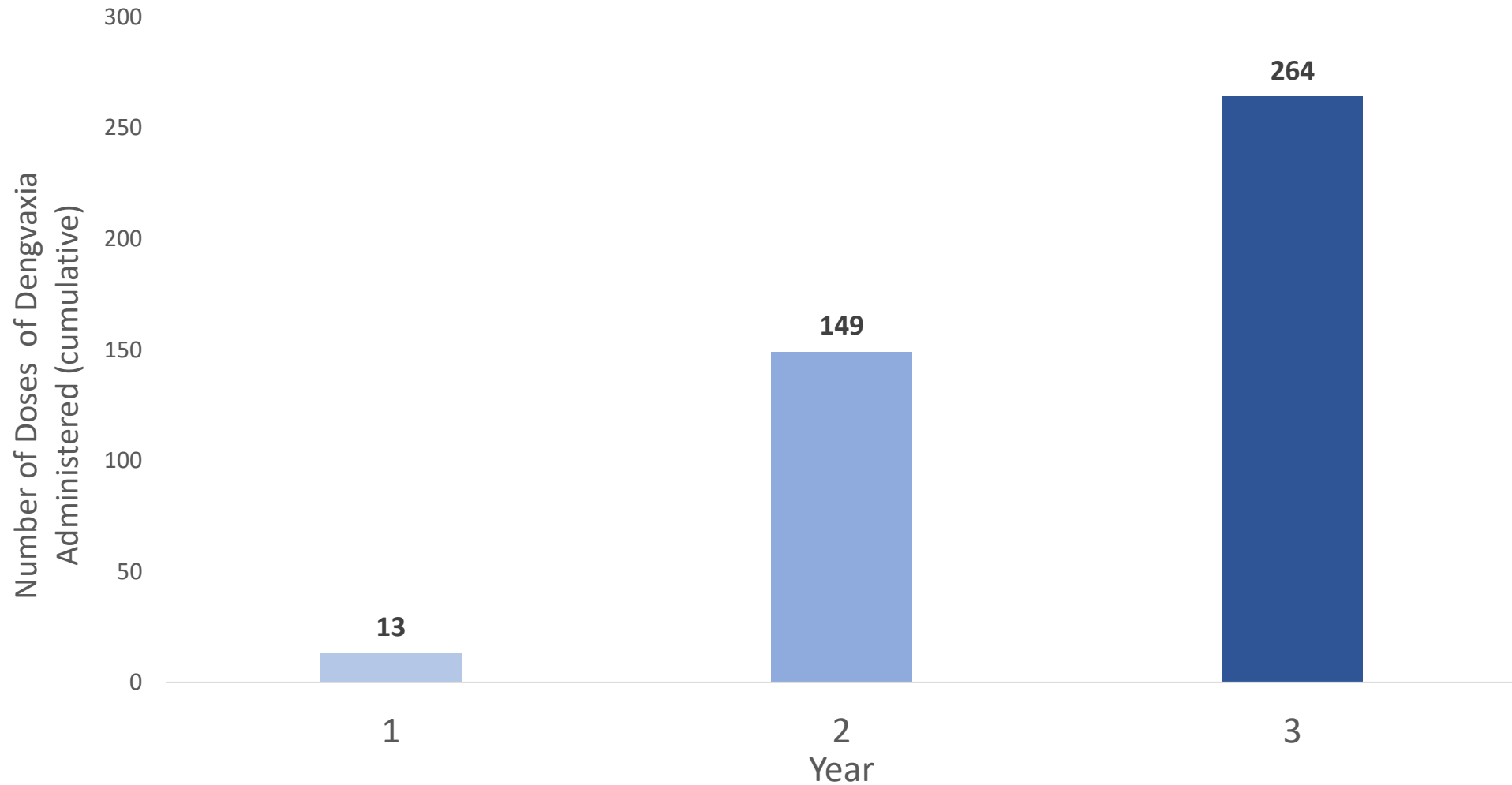
Administran la primera vacuna contra el dengue

En el centro HealthPro Med en Santurce

Izarys Gutiérrez, EL VOCERO | 07/09/2022 Actualizado hace 10 horas

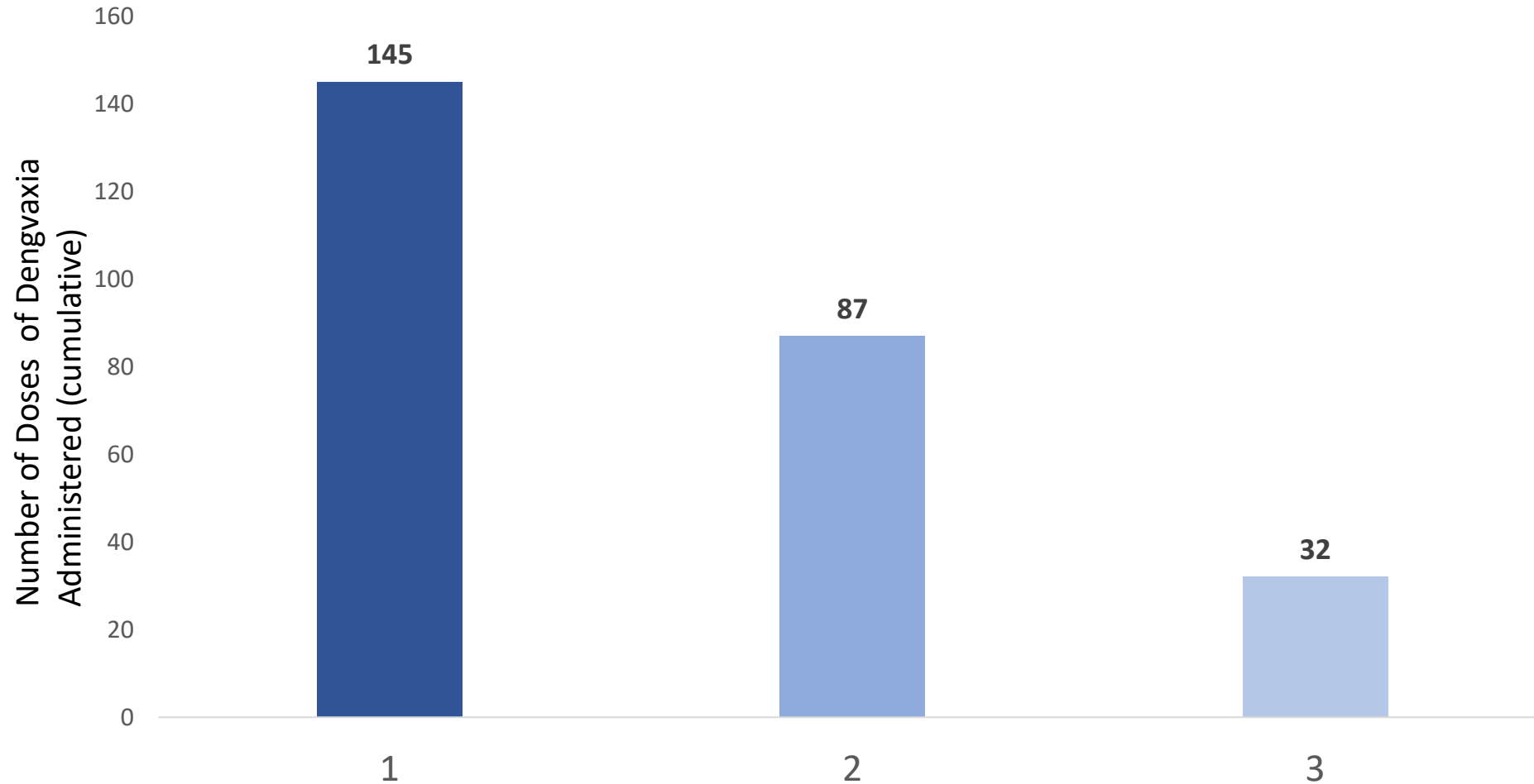
Images from: https://www.elvocero.com/actualidad/salud/administran-la-primer-vacuna-contra-el-dengue/article_9c49436a-2e4f-11ed-beba-0bf2bccaeb1f.html Accessed 6/12/2024.

Since Dengvaxia vaccination began in Puerto Rico, **264 doses** have been administered.*

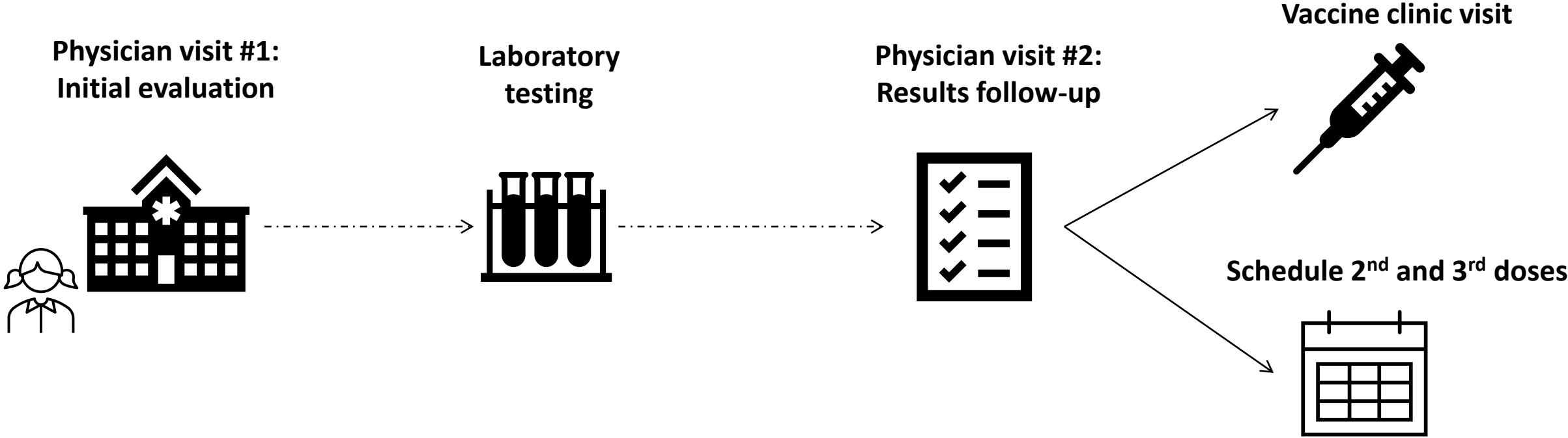


Data used with permission from the Puerto Rico Department of Health, Vaccine Program. Current as of June 24, 2024.

Since Dengvaxia vaccination began in Puerto Rico, **145 individuals** have started the series.



Multiple visits to healthcare providers to determine eligibility and start vaccination has complicated implementation.



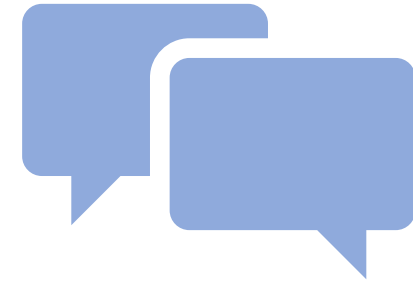
Major barriers to uptake have included:



**Prevaccination
Testing**



**Complex billing
processes**



**Limited vaccine
messaging**

CDC has updated its website with information on discontinuation of Dengvaxia.

Dengue Vaccine

[Español \(Spanish\)](#) [Print](#)

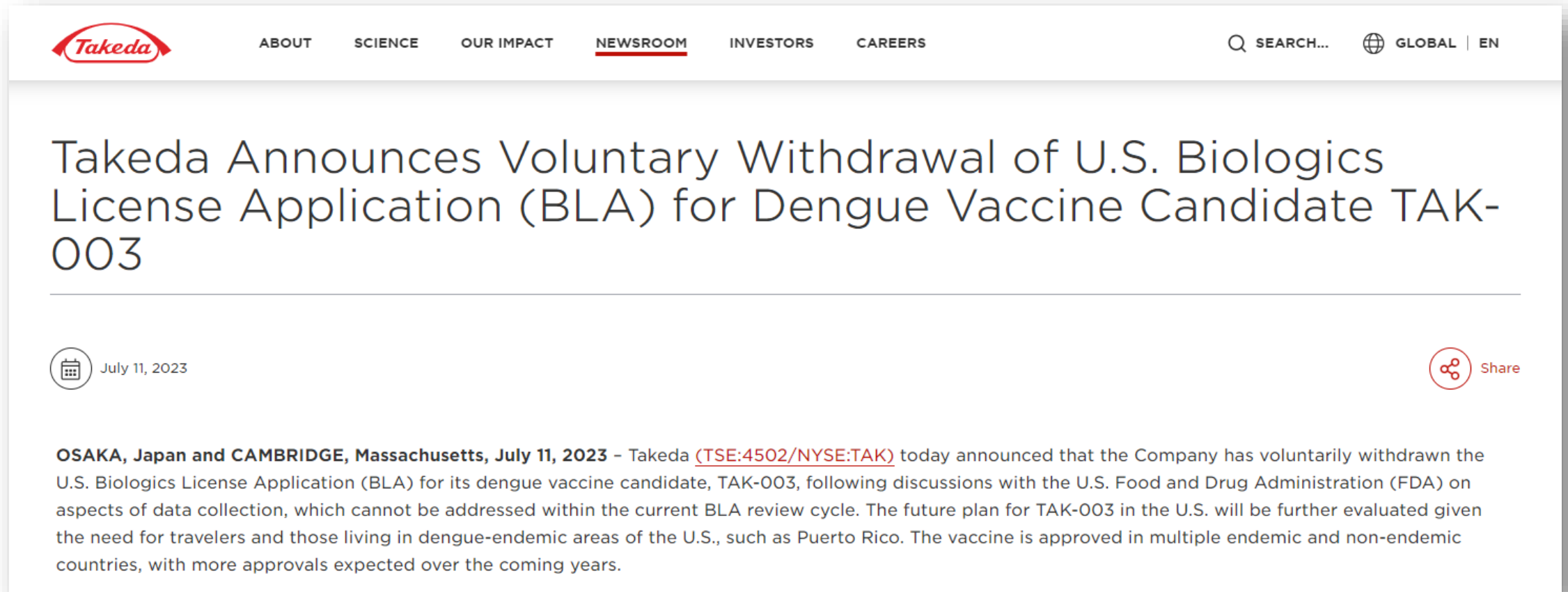
A dengue vaccine is approved for use in children aged 9–16 years with laboratory-confirmed previous dengue virus infection and living in areas where dengue is endemic (occurs frequently or continuously). Endemic areas include some U.S. territories and freely associated states. The vaccine is not approved for use in U.S. travelers who are visiting but not living in an area where dengue is common.

The dengue vaccine is available in Puerto Rico and is part of the routine childhood [immunization schedule](#). Most health insurance plans cover routine vaccinations. The Vaccines for Children (VFC) program also provides vaccines for children 18 years and younger who are uninsured, underinsured, Medicaid-eligible, American Indian, or Alaska Native.

Sanofi-Pasteur will stop manufacturing its dengue vaccine for children. The manufacturer is discontinuing the vaccine citing a lack of demand in the global market to continue production of this vaccine. CDC, in collaboration with the Puerto Rico Department of Health, will continue alerting health professionals about the discontinuation of Dengvaxia and the use of this vaccine as recommended by the Advisory Committee on Immunization Practices (ACIP). Dengvaxia is safe and effective when administered as recommended. There are two other dengue vaccines either approved or in late stages of development. However, they are not currently available in the United States. People can continue to protect themselves and their families from dengue by [preventing mosquito bites](#) and [controlling mosquitoes](#) in and around their homes.

Update on Other Dengue Vaccines in the U.S.

Takeda voluntarily withdrew TAK-003 (Qdenga) from FDA review in July 2023.



The screenshot shows the Takeda website's newsroom page. At the top left is the Takeda logo. The navigation menu includes 'ABOUT', 'SCIENCE', 'OUR IMPACT', 'NEWSROOM' (which is underlined), 'INVESTORS', and 'CAREERS'. On the right side of the navigation, there is a search bar with a magnifying glass icon and the text 'SEARCH...', a globe icon with 'GLOBAL', and 'EN'. The main headline reads 'Takeda Announces Voluntary Withdrawal of U.S. Biologics License Application (BLA) for Dengue Vaccine Candidate TAK-003'. Below the headline, on the left, is a calendar icon followed by the date 'July 11, 2023'. On the right, there is a share icon (three connected circles) followed by the word 'Share'. The article text begins with 'OSAKA, Japan and CAMBRIDGE, Massachusetts, July 11, 2023 - Takeda (TSE:4502/NYSE:TAK) today announced that the Company has voluntarily withdrawn the U.S. Biologics License Application (BLA) for its dengue vaccine candidate, TAK-003, following discussions with the U.S. Food and Drug Administration (FDA) on aspects of data collection, which cannot be addressed within the current BLA review cycle. The future plan for TAK-003 in the U.S. will be further evaluated given the need for travelers and those living in dengue-endemic areas of the U.S., such as Puerto Rico. The vaccine is approved in multiple endemic and non-endemic countries, with more approvals expected over the coming years.'

The TV003/TV005 dengue vaccine is in late-stage phase 3 trials.

- Developed by the US National Institutes of Health (NIH).
- Licensed to Merck in the U.S. and the Instituto Butantan in Brazil.
- Phase 3 trials in Brazil are ongoing.
 - High efficacy and safety results during the first two year follow-up period have been published.*
 - DENV-3 or DENV-4 not observed during this period, limiting evaluation of VE against these serotypes.
 - Five year follow-up data expected later this year.

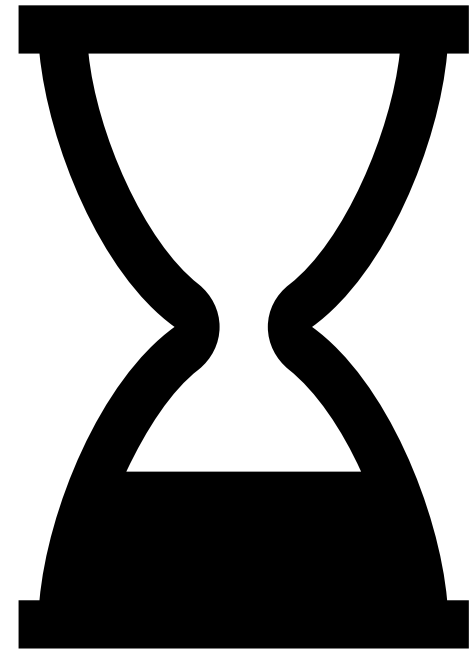


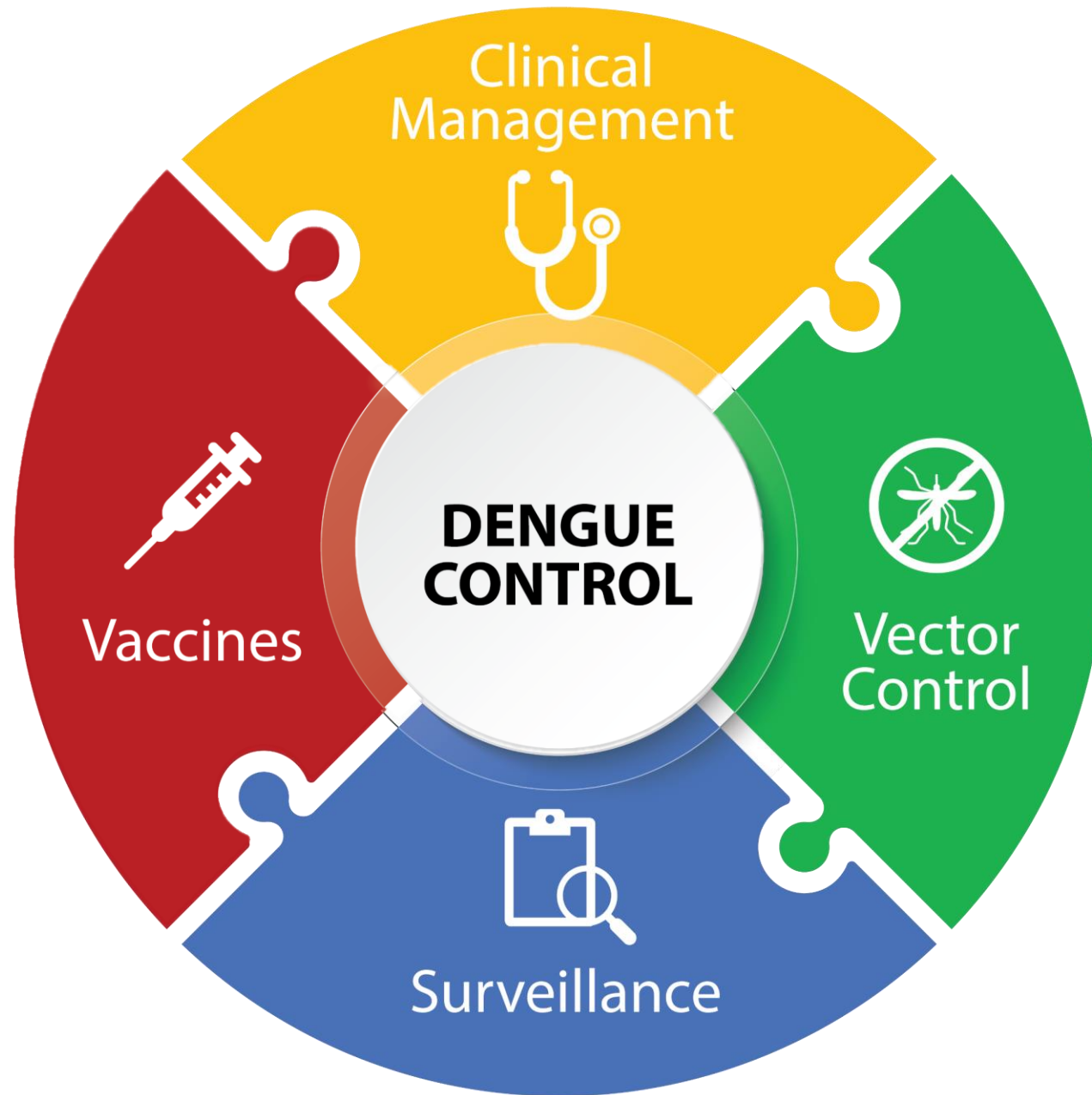
*Kallás, E. G., et al. (2024). "Live, Attenuated, Tetravalent Butantan-Dengue Vaccine in Children and Adults." N Engl J Med 390(5): 397-408.

Image from: <https://revistapesquisa.fapesp.br/en/butantans-dengue-vaccine-is-80-effective/> accessed 6/11/2024.

No dengue vaccines will be available in the U.S. after the discontinuation of Dengvaxia.

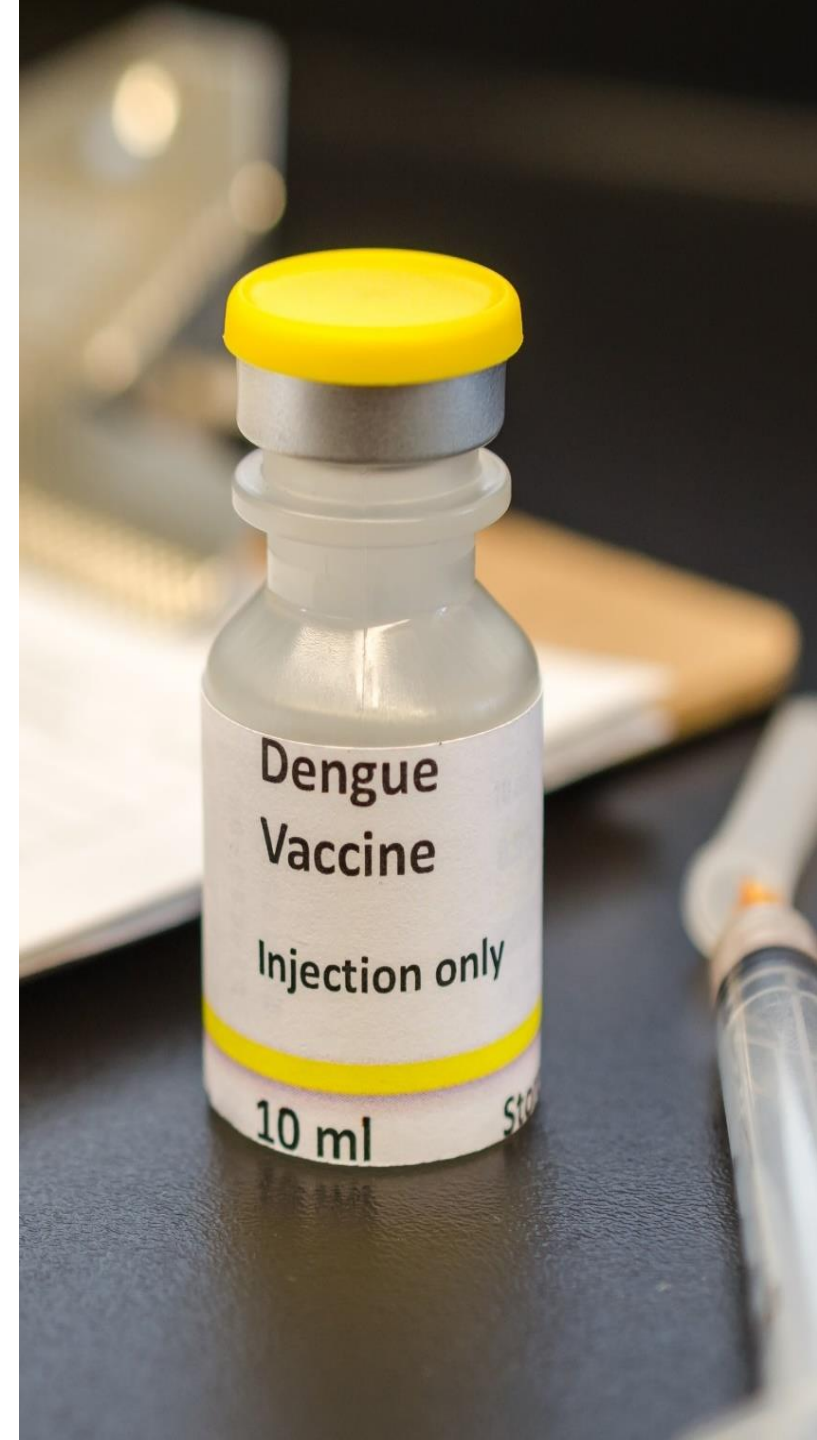
- No dengue vaccines are currently under review by FDA.
- The ACIP Dengue Vaccines Workgroup group will be paused until new dengue vaccines are submitted to FDA for approval.





Conclusion

- Dengue cases globally are increasing.
- Puerto Rico has declared a public health emergency due to the dengue epidemic.
- There will be no other vaccines available in the U.S. after Dengvaxia manufacturing is discontinued.
- The Dengue Vaccines Workgroup will be paused until new vaccines are submitted for FDA review.
- Vaccines are just one part of a multilayered approach to reducing morbidity by dengue.



Questions?

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

