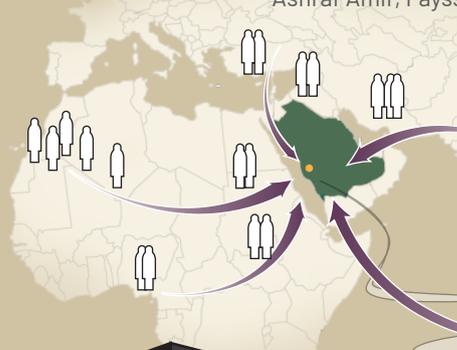


MENINGOCOCCAL DISEASE AND IMMUNIZATION ACTIVITIES IN HAJJ AND UMRAH PILGRIMAGE*

Selim Badur, Mansour Khalaf, Serdar Öztürk, Rajaa Al-Raddadi, Ashraf Amir, Fayssal Farahat, Atef Shibl.



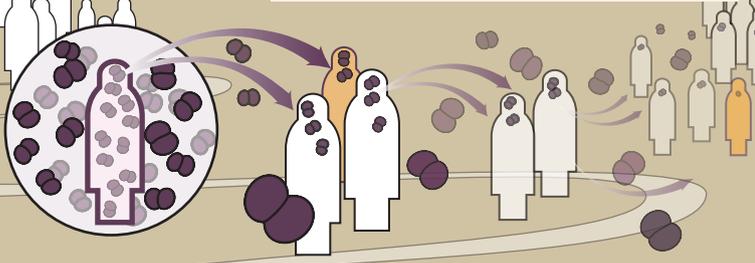
Hajj and Umrah pilgrimage events congregate **1.8 to 7.2 million** people every year from more than **184 countries**.

Such massive gatherings increase the likelihood of transmission of invasive **meningococcal disease**, caused by meningococcal bacteria.



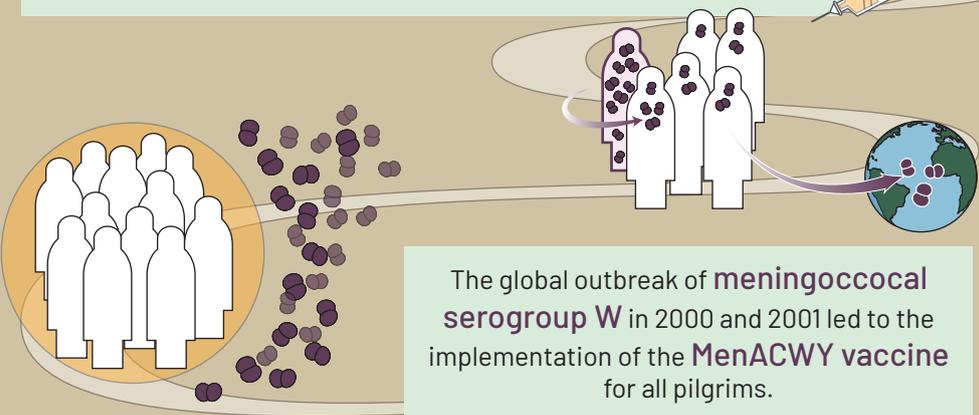
Meningococci A, B, C, W, X and Y are responsible for the majority of the cases.

Infected pilgrims can infect other pilgrims as well as the **local population** leading to carriage and outbreak of the disease.



Meningococcal carriage by some pilgrims among these mass gatherings increases the risk of transmission, disease and outbreaks.

In 1987, meningococcal serogroup **A outbreak** triggered the introduction of **mandatory vaccination** against groups A and C (Men AC vaccine) for pilgrims from meningitis belt countries.



The global outbreak of **meningococcal serogroup W** in 2000 and 2001 led to the implementation of the **MenACWY vaccine** for all pilgrims.

MenACWY conjugated vaccine can provide stronger and broader protection for pilgrims.

*The graphical PLS represents the opinions of the authors. For a full list of declarations, including funding and author disclosure statements, please see the full text online.