

A story by numbers

Meningococcal Disease



Every 8 minutes
1 person dies of meningococcal meningitis worldwide¹



Meningococcal disease can kill within **24 hours** and is easily misdiagnosed^{2,3}

Up to 1 out of 10 cases may end in death²



Up to 1 out of 5 survivors may suffer subsequent disability^{2,3}



kidney failure⁴



brain damage³



loss of limb³



hearing loss^{2,3}

Infants in whom protective antibodies have not yet developed are at highest risk of contracting meningococcal disease^{3,5}



Adolescents and young adults can also be at risk of contracting meningococcal disease due to social factors, such as living in college dormitories⁶

The most vulnerable populations: infants and adolescents^{5,6}



Six serogroups of *Neisseria meningitidis* cause the majority of cases of meningococcal disease around the world.^{7,8}



Africa⁸



Australia⁸



Europe⁸



North America⁸



South America⁸



Five serogroups are vaccine-preventable and are included on many countries' vaccination schedules or are currently being integrated into vaccination schedules^{9,10,11}



¹ Naghavi, Mohsen, et al. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. *The Lancet* 2015, 385: 117-171.

² World Health Organization (WHO). Meningococcal meningitis. Factsheet #141. November 2015 update. Available at: <http://www.who.int/mediacentre/factsheets/fs141/en/>. Accessed November 2015.

³ Rosenstein NE, et al. Meningococcal disease. *N Engl J Med* 2001; 344:1378-88.

⁴ NMA, (2015). Statistics and Disease Facts - NMA. [online] Available at: <http://www.nmaus.org/disease-prevention-information/statistics-and-disease-facts/>. Accessed November 2015.

⁵ Jafri, Rabab Z., et al. Global epidemiology of invasive meningococcal disease. *Population Health Metrics*, 2013; 11: 17. Available at:

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3848799/>. Accessed November 2015.

⁶ Centers for Disease Control and Prevention (CDC). Prevention and Control of Meningococcal Disease; Recommendations of the Advisory Committee on Immunization Practices (ACIP). *Morbidity and Mortality Weekly Report (MMWR)*. 2013; 62(2):1-13. Available at: <http://www.cdc.gov/mmwr/pdf/mm6202.pdf>. Accessed November 2015.

⁷ World Health Organization (WHO). Meningococcal vaccines position paper. *Weekly Epidemiological Record* No. 47, 2011, 86, 521-540. Available at: <http://www.who.int/wer/2011/wer8647.pdf>. Accessed November 2015.

⁸ Dbaibo, G., Khinkarly, R. and Hedari, C. (2014). Meningococcal serogroups A, C, W-135, and Y tetanus toxoid conjugate vaccine: a new conjugate vaccine against invasive meningococcal disease. *IDR*, p.85.

⁹ European Centre for Disease Prevention and Control (ECDC). Annual Epidemiological Report—Vaccine-preventable diseases—invasive bacterial diseases 2014. Published 11 Feb 2015. Available at: <http://www.ecdc.europa.eu/en/publications/Publications/AER-VPDIBD-2014.pdf>. Accessed November 2015.

¹⁰ European Centre for Disease Prevention and Control (ECDC). Vaccine Schedule: Recommended immunisations for meningococcal disease. Available at: <http://vaccineschedule.ecdc.europa.eu/Pages/Schedule.aspx>. Accessed November 2015.

¹¹ Terranella, A., et al. *Infect Drug Resist.* 2011; 4: 161-169. doi:10.2147/IDR.S21545 <https://www.dovepress.com/meningococcal-conjugate-vaccines-optimizing-global-impact-peer-reviewed-article-IDR> Accessed February 2016.