

### c Meningococcal disease: an unusual clustering of endemic disease at a tertiary institution

A 20-year-old student was admitted to a North-West Province hospital following a one-day history of flu-like symptoms, nausea and headache. On admission, she was in shock, and had a purpuric rash. A diagnosis of meningococcal septicaemia was made. Unfortunately, she deteriorated rapidly and died 6 hours after admission. She was a resident on the campus of the institution.

Post-exposure chemoprophylaxis was given to attending medical staff, her immediate family, all 250 students living in the same residence and to selected individuals from another residence with whom she had had close contact. The NICD identified *Neisseria meningitidis* serogroup C from polymerase chain reaction (PCR) testing performed on a blood specimen, after no bacterial growth was detected from the blood after prolonged incubation.

The above disease episode occurred 8 months after a 19-year-old first-year student died from meningococcal disease, also caused by serogroup C, in a different residence, at the same campus and institution.

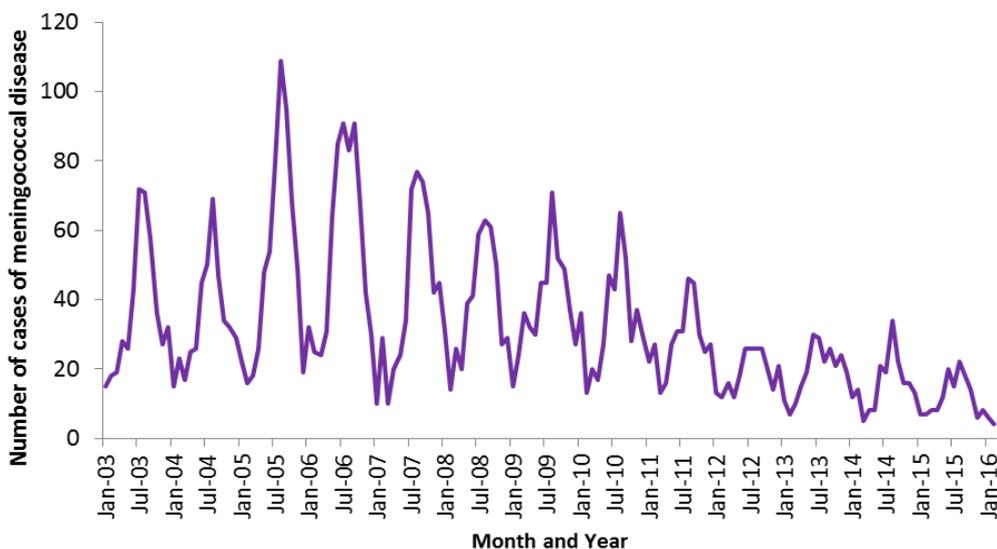
According to the South African National Guidelines on Meningococcal Disease ([www.doh.gov.za](http://www.doh.gov.za)) these cases would not constitute an institutional outbreak, which requires at least 3 cases to occur within a 3-month period, or 2 cases within a 4-week period. However, an investigation should be done into this unusual clustering of endemic disease. Should a cluster/outbreak occur in an institution, chemoprophylaxis to close contacts is warranted

and vaccination may also be considered to extend additional protection to an identifiable population considered at risk. Should the outbreak involve a broader community within the institution, vaccination should be offered to this wider group, as mass chemoprophylaxis has not been shown to be effective in this setting.

Meningococcal disease is endemic in South Africa with seasonal peaks in the winter to spring months (Figure 3). Disease incidence tends to wax and wane following a 10- to 15-year cycle. Currently South Africa is at a low ebb in the cycle with an incidence of 0.3 cases per 100 000 population in 2015 following the last peak in 2006 of 1.4 cases per 100 000.

Clinicians should have a high index of suspicion for meningococcal disease in patients presenting with fever and non-specific symptoms. Disease progresses rapidly and intravenous antibiotics (penicillin or ceftriaxone) should be given without delay. Confirmed and/or suspected cases of meningococcal disease should be notified telephonically to the provincial Communicable Disease Control Coordinator (National CDCC 012 395 8096) to ensure appropriate case counting and contact tracing for prophylaxis.

**Source:** Centre for Respiratory Diseases and Meningitis, NICD-NHLS ([annev@nicd.ac.za](mailto:annev@nicd.ac.za))



**Figure 3.**

Number of cases of laboratory-confirmed meningococcal disease in South Africa as reported to NICD by month and year, 2003-2016 (n=5113)