

An outbreak of influenza B among workers on an oil rig

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An outbreak of influenza B occurred in December 1996 on an oil rig in Darwin Harbour. The outbreak affected 56% of the workers on the rig. An outbreak in December is outside the usual Australian influenza season of June to September, but is consistent with other tropical regions, where outbreaks can occur throughout the year. Influenza vaccination could prevent similar outbreaks in confined workplaces. *Comm Dis Intell* 1997;21:106.

On 9 December 1996, a contract worker on an oil rig in Darwin Harbour was admitted to Royal Darwin Hospital with a diagnosis of pneumonia. He told his treating doctors that many other workers had been unwell with influenza-like illness and several had been evacuated from the rig. The Darwin Centre for Disease Control (CDC) was notified and contacted the doctor on the oil rig. He estimated that over half of the 77 resident workers had presented to the sick bay with symptoms of influenza in the preceding week and invited CDC to investigate.

A medical officer and two nurses visited the rig on 12 December 1996 to examine any workers who had been unwell in the previous week. The workers completed a questionnaire which collected demographic information, influenza vaccination history, clinical symptoms and date of onset of illness. This was followed by a clinical examination, collection of diagnostic specimens and, where necessary, treatment of their illness.

There were 95 workers on the rig. Seventy-seven (81%) were resident and 18 were day workers. All were male. According to the medical records, 53 men (56%) had presented with influenza-like illness over the preceding two weeks.

Twenty-five workers presented for examination. All reported symptoms consistent with influenza. Serum samples were collected from all workers. In addition, throat swabs and washings for viral culture were collected from seven workers who were still in the acute phase of their illness.

Influenza B was isolated from five of the seven (71%) specimens collected for culture. Seven of the 25 serum samples (28%) had a high titre of antibodies to influenza B (titre 1:32 or greater, Queensland Medical Laboratories, Brisbane). The serum from the men with positive viral cultures was probably collected too early in the course of their illness to show a rise in the antibody titre. In total 12 of the 25 men tested (48%) had diagnostic tests positive for influenza B virus. Tests for other respiratory viral pathogens including influenza A, parainfluenza, respiratory syncytial virus and adenovirus were all negative.

This outbreak of influenza B occurred in December, outside the usual Australian influenza season of June to September. The workers on the rig came from most States of Australia and many parts of the world, including North America and Europe where the winter influenza season had already commenced. It is likely

that there are workers arriving on oil rigs directly from areas experiencing high levels of influenza activity throughout the year. It is recognised that in tropical regions, outbreaks of influenza can occur throughout the year¹. Workers arrive at and depart from the rig every two weeks. They live in confined conditions and are at high risk of contracting infectious respiratory illnesses which may be introduced to the rig. The economic and health benefits of vaccinating healthy workers against influenza has been demonstrated, and are likely to be even more pronounced in this particular situation². This outbreak occurred while the rig was in Darwin Harbour for maintenance. Should a similar outbreak occur during off-shore operations it is likely that production would have to be stopped or curtailed, and medical treatment, including possible evacuation, would be more costly and difficult.

References

1. Benenson AS, editor. *Control of communicable diseases manual*, 16th edition. Washington: American Public Health Association, 1995.
2. Nichol KL, Lind A, Margolis L *et al*. The effectiveness of vaccination against influenza in healthy working adults. *N Engl J Med* 1995;333:889-893.