

# Researchers to hunt down a prime suspect in hospital infections

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(Phys.org) -- The use of mechanical ventilation in hospital intensive care units is a suspect in a significant number of hospital-acquired infections, but its exact prevalence in Australia is unknown.

That is set to change with a new research project led by UTS Professor Doug Elliott, backed by \$220,000 in funding from HCF Health and Medical Research Foundation, that aims to both clearly define the problem and reduce the incidence of what's termed [ventilator associated pneumonia](#) or VAP.

Over 120,000 adults are admitted to Australian [intensive care](#) units each year and [mechanical ventilation](#) is a common treatment.

While the precise incidence of ventilator associated pneumonia is unknown, it is estimated within the range of 25-30 per cent for patients mechanically ventilated for longer than 48 hours.

Reducing the risk of VAP is integral to improving quality care, however there is no current surveillance monitoring of VAP within the Australian [health care system](#).

According to Professor Elliott, effective prevention of VAP is hampered due to the lack of consensus regarding a clinically useful definition of VAP in the intensive care context.

Current international definitions of VAP are comprehensive but

complex, resulting in continual professional debate and limited acceptance in Australian clinical practice.

The UTS project will generate consensus and clinically define VAP, develop and test a checklist for clinical diagnosis of VAP; and conduct a prospective audit in sample of Australian ICUs to assess the contemporary incidence of VAP.

"Developing a 'clinical surveillance' definition that is credible to practising clinicians is a key element in this research project," Professor Elliott said.

"This consensus-driven approach involving practicing intensive care professionals has strong potential to improve surveillance, detection and management of VAP in Australian hospital ICUs.

"We will use a mixed methods design across three sequential phases. Firstly, a checklist will be developed that reflects the clinical definition developed by consensus. This will then be applied in a prospective audit of a sample of mechanically ventilated patients."

Professor Elliott said the research will devise checklist items that include a series of clinical signs and symptoms that reflect an inflammatory, infective tracheitis and/or bronchitis suggestive of evolving VAP.

"The primary outcome will be the performance of the checklist items to detect clinically meaningful lung or respiratory dysfunctions and to estimate the current prevalence of VAP," he said.

Participants and collaborators involved in the research will include intensive care clinicians and patients in ICU who are mechanically ventilated and at risk of developing VAP. It will also involve engagement with the Australian and New Zealand Intensive Care Society (ANZICS)

Safety and Quality Committee as a clinical reference group and enlisting intensive care professionals as associate investigators to facilitate the ICU-based activities and research outcomes.

Provided by University of Technology, Sydney

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