

# Down the sink: the local experience of a *Burkholderia cenocepacia* outbreak at the Canberra Hospital

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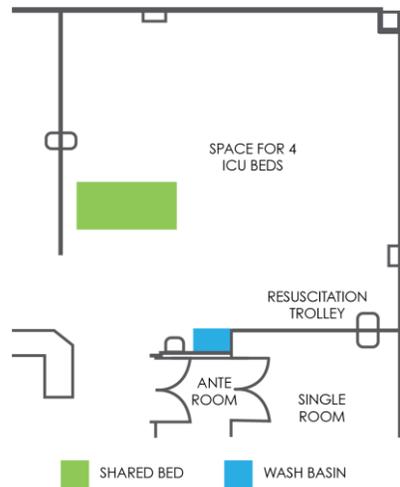


## Introduction

- In April 2017, 2 patients in the Canberra Hospital intensive care unit (ICU) had *B. cenocepacia* isolated from blood cultures collected within 4 hours of each other, prompting an investigation into a common source.
- Concurrently, *B. cenocepacia* was isolated from the blood of 7 patients in 2 Queensland hospitals.
- The laboratory and infection control response to this outbreak is described. See poster for full detail (including methods).

## Results

Figure 1. ICU room layout



**Common exposure 1:** Shared ICU bed. Environmental testing:

- Swab of adjacent wash basin (Figure 1) grew *B. cepacia* complex (identification by MALDI-TOF MS).
- recA* gene sequencing subsequently identified this isolate as *B. contaminans* (Table 1).

**Common exposure 2:** Ultrasound guided central line insertion.

Sterile ultrasound gel testing:

- B. cepacia* complex grown from 'sterile' Meditech ultrasound gel (Figure 2).
- Concentration of organisms in the gel was 100 CFU/μl (Figure 3).
- recA* gene sequencing confirmed *B. cenocepacia* (Table 1).

Source of the *B. cenocepacia* outbreak.

Table 1. Summary of laboratory testing of clinical and environmental specimens

	Patient 1	Patient 2	Wash Basin	Sterile Gel Supplied with Meditech Sterile Ultrasound Probe Cover		Aquasonic Sterile Ultrasound Gel
				Lot No. 201701	Lot No. 20160701	Lot No. 0716005
<b>Culture</b>	Growth	Growth	Growth	Growth	No growth	No growth
<b>MALDI-TOF MS</b>	<i>B. cepacia</i> complex	<i>B. cepacia</i> complex	<i>B. cepacia</i> complex	<i>B. cepacia</i> complex	-	-
<b><i>recA</i> Gene Sequencing</b>	<i>B. cenocepacia</i> (G-III-B)	<i>B. cenocepacia</i> (G-III-B)	<i>B. contaminans</i>	<i>B. cenocepacia</i> (G-III-B)	-	-
<b>MLST</b>	1116	1116	-	1116	-	-



Figure 2. Meditech Co Ltd sterile ultrasound gel and probe cover (Lot No. 201701)

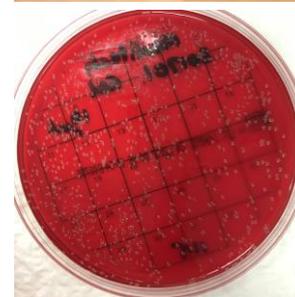


Figure 3. 10 μl of gel on horse blood agar

**Infection control response:**

- Broader outbreak containment response than if the local ICU environment had been confirmed as the source.
- Coordinated response involving the supply product manager, quality and safety unit, and hospital executive.
- Rapid withdrawal of the contaminated product from the hospital. No further clinical isolates at Canberra Hospital.

## Conclusions

- Heavily contaminated 'sterile' ultrasound gel was identified as the source of the *B. cenocepacia* outbreak.
- Epidemiological review of cases is essential to identify potential common sources.
- Molecular techniques are necessary to identify members of the *B. cepacia* complex to the species level in order to direct the appropriate infection control response.
- Collaborative action allowed early containment of the outbreak.