

Leeds University aero-biology chamber

The aero-biology chamber in Leeds is set up to emulate, approximately, a single-bedded isolation room. The rate of air exchange is carefully controlled so that the air in the chamber is changed three times per hour.

The test starts with the target pathogen being introduced into the chamber on a continuous basis, and the rate at which it is discharged is adjusted so that the concentration of pathogens in the air reaches steady state.

The test starts with the AD running for a period to clear the chamber of organisms; the injection of the test pathogen then starts and the number surviving is continuously measured.

In this way, the chamber is similar to a room where people are continually shedding bacteria - in ordinary life, a person will shed over 50,000 bacteria every minute.

We trialled the AD against *C. difficile* and against *Staph. aureus*. In later trials, the AD was switched on shortly before the organism was introduced, and tested against *Pseudomonas*, *Burkholderia*, *Mycobacterium* and *Acinetobacter*, to test the device against all of the organisms that usually infect patients in hospitals, or which are opportune infectors of people in the real world.

