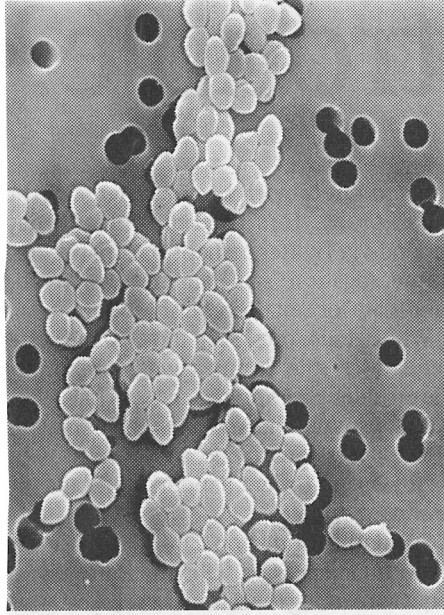

Scanning electron micrograph of vancomycin-resistant Enterococci JANICE HANEY CARR / CENTERS FOR DISEASE CONTROL

Scientists urge using disinfectants with higher level of alcohol against 'new wave' of lethal bacteria

'Superbugs' grow resistant to sanitizers

LONDON
REUTERS

Multidrug-resistant "superbugs" that can cause dangerous infections in hospitals are becoming increasingly resistant to alcohol-based hand sanitizers and disinfectants designed to hold them at bay, scientists said.

In a study of what the researchers described as a "new wave of superbugs," they also found specific genetic changes over 20 years in vancomycin-resistant Enterococcus (VRE), and were able to track and show its growing resistance.

Their findings were published Wednesday in the journal Science Translational Medicine.

VRE bugs can cause urinary tract, wound and bloodstream infections that are notoriously difficult to treat, mainly because they are resistant to several classes of antibiotics.

In efforts to tackle the rise of hospital superbugs such as VRE and methicillin-resistant Staphylococcus aureus (MRSA), institutions worldwide have adopted stringent hygiene steps — often involving hand rubs and washes that contain alcohol.

Tim Stinear, a microbiologist at Australia's Doherty Institute who co-led the study, said that in Australia alone, use of the alcohol-based hand hygiene has increased tenfold over the past 20 years. "So we are using a lot and the environment is changing," he said.

Yet while rates of MRSA and other infections have stabilized due to heightened hygiene, Stinear said, VRE infection rates have not. This prompted his team to investigate the VRE bug for potential resistance to disinfectant alcohols.

They screened 139 isolated bacterial samples collected between 1997 and 2015 from two hospitals in Melbourne and studied how well each one survived when exposed to diluted isopropyl alcohol.

They found that samples collected after 2009 were on average more resistant to the alcohol than bacteria from before 2004.

The scientists then spread the bacteria onto the floors of mouse cages and found that the alcohol-resistant samples were more likely to get into, and grow in the guts of the mice after the cages were cleaned with isopropyl alcohol wipes.

Paul Johnson, a professor of infectious diseases at Austin Health in Australia who also co-led the study, said the findings should not prompt any dramatic change in the use of alcohol-based disinfectants.

"Alcohol-based hand rubs are international pillars of hospital infection control and remain highly effective in reducing transmission of other hospital superbugs, particularly MRSA," he said.

Stinear said health authorities should try products with higher concentrations of alcohol and renew efforts to ensure that hospitals are deep-cleaned and that patients found to be carrying VRE infections are isolated.