

## Long-Term Care Survey Alert

### RESEARCH NEWS

Watershed Study Findings Warn of Bacterial Biofilms in Showerheads. The place where people go to get clean may actually be teeming with pathogenic bacteria.

University of Colorado-Boulder researchers have discovered that some showerheads appear, in particular, to be home to *Mycobacterium avium*, which can cause a non-tuberculosis type pulmonary infection, especially in people with impaired immunity. When turned on, the showerheads spew the organisms into the air.

Using special molecular testing, the researchers found that 30 percent of about 50 showerheads in apartment buildings, homes and public places in several states appeared to shelter the bacteria in "slimy biofilms," according to the release. The study appeared in a September online edition of the Proceedings of the National Academy of Sciences (PNAS).

One of the researchers used bleach to combat *Mycobacterium gordonae* in a showerhead. Several months later, the showerhead showed the microorganisms had increased three-fold, "indicating a general resistance of mycobacteria species to chlorine," the release notes.

In previous studies, the researchers found "soap scum" on vinyl shower curtains and in warm therapy pools is indeed well-named, as it's filled with *M. avium*.

"Metal showerheads load up with biofilm less than plastic, from our limited anecdotes," lead researcher for the study, **Norman Pace, PhD**, at the University of Colorado-Denver, tells Eli. "The real problem, however, is the showerhead per se [because] it generates aerosols with particles sufficiently fine to penetrate the deep airways, and the bugs also are in the municipal waters. To avoid aerosols take a bath or use a tube shower. The goal is to reduce generation of aerosols."

Pace noted in the release that the affected showerheads probably don't pose a threat to people with healthy immune systems. "But it's like anything else -- there is a risk associated with it."

Next step: "The health risk associated with showerhead microbiota needs investigation in persons with compromised immune or pulmonary systems," state the authors in an abstract of their study in PNAS ([www.pnas.org/content/early/2009/09/11/0908446106.abstract](http://www.pnas.org/content/early/2009/09/11/0908446106.abstract)).