

Study exposes infection risks in home health

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Unsterile living conditions and untrained caregivers can contribute to infections in home health settings, with patients at greater risk when they have tubes to provide nutrition or help with urination. Credit: Columbia University School of Nursing

Millions of Americans depend on home health care services to recover from surgeries and hospital stays, as well as to manage daily life with chronic conditions. But all too often, evidence-based practices for preventing infections aren't followed when care is provided at home, leaving patients vulnerable to serious and potentially fatal complications.

A study by researchers at Columbia University School of Nursing, published in the *American Journal of Infection Control*, found that unsterile living conditions and untrained caregivers contribute to infections in home health settings, with patients at greater risk when they have tubes to provide nutrition or help with urination.

"Patients shouldn't have to choose between safety and receiving care in the comfort of their own homes," says lead study author Jingjing Shang, PhD, assistant professor at Columbia Nursing. Each year, an estimated 12 million Americans receive care from more than 33,000 [home health](#) providers in the U.S., where the annual tab for home health services exceeds \$72 billion. "The stakes are already high, and they're getting higher all the time, as our population keeps aging and more and more patients receive care outside of an institutional setting."

The research team conducted a systematic review of studies evaluating infection prevalence and risk factors among adult patients who received [home health care](#). Infection rates found in the analysis varied widely, ranging from about five percent to more than 80 percent.

The highest [infection rates](#) were among patients who received nutrients through an intravenous catheter, a process known as total parenteral nutrition, the review found. Patients may lose the ability to swallow or eat on their own due to a stroke, dementia, or advanced illness. Some patients may receive nutrition through a catheter inserted into a central vein if it isn't possible to insert a feeding tube into the nose or mouth or directly into the small intestine. These [central venous catheters](#) often stay in place for long periods of time, and infections can easily develop when caregivers and family members who assist with care don't keep the catheter or injection site clean.

Catheter-associated [urinary tract infections](#) (CAUTIs) are also a recurring problem for many home health patients. These infections can

develop when urinary catheters are left in for long periods of time, and repeated use of antibiotics to treat these infections can leave patients susceptible to antibiotic-resistant strains of bacteria. Caregivers in the home can help prevent CAUTI by washing hands with soap and water or using an alcohol-based sanitizer before touching the catheter or emptying the urine bag. Infections can also be averted by keeping the catheter secure, keeping the urine bag lower than the bladder, emptying the urine bag into a clean container, and keeping the tube unobstructed.

In addition, catheter-related blood stream infections (CLABSI) are common in home health. Catheters deliver life-saving medicines and nutrients to some of the most vulnerable patients receiving home health care. But without proper insertion, utilization, and maintenance, catheters can also transmit deadly infections to the bloodstream.

"The infection risk for patients receiving care at home is high because they often aren't being looked after by individuals with the same [infection](#) control experience that would occur in a hospital setting," says Shang. "Nurses who care for patients in their homes need to teach [patients](#) and their families how to prevent infections, and nurses need to make sure that they tailor this education to a level that's easy for people without formal medical training to understand."

More information: The paper, published in May 2014, is titled: "The prevalence of infections and patient risk factors in home health care: A systematic review."

Provided by Columbia University Medical Center

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