There's a bug problem in some nursing homes, and it's not what you think.

Residents of long-term care facilities are vulnerable to drug-resistant infections known as superbugs and can easily spread the deadly germs to others.

Between 11% and 59% of nursing-home residents have been “colonized” with certain types of superbugs, putting them at more risk of developing a full-blown infection, according to researchers at Columbia University School of Nursing. A person is colonized when a germ is on the skin or in the body—for example, in the nose. Although not yet infected, the person can spread the bug.

While government regulators and the public have focused on the dangers of superbugs in hospitals, how nursing homes cope with such hard-to-treat germs has received less attention.

Yet nursing-home residents are “especially susceptible” to these infections because of their age, tenuous immune systems and many ailments, according to the Columbia analysis, published this month in the American Journal of Infection Control. Merely living in a nursing home is a risk factor, the paper says.

Studying nursing-home exposure to superbugs was the brainchild of Sainfer Aliyu, an emergency-room-nurse-turned-Columbia Ph.D. candidate. Ms. Aliyu, a 38-year-old immigrant from Jamaica, was struck by how many nursing-home residents arrived at the ER extremely ill with bloodstream infections. Curious about where and how they had developed the infections, she began researching dangerous superbugs known as gram negative multidrug-resistant organisms. These include a group of bacteria known as CRE—Carbapenem-resistant enterobacteriaceae—that can cause infections with up to a 50% mortality rate. An example of a CRE superbug is E. Coli, which is found in the stool; strains of E. Coli have become resistant to nearly all antibiotics.
“They are so deadly—and I wanted to know more,” Ms. Aliyu said. “Some researchers will argue that nursing-home residents get the infections from the hospital, but I think it is very hard to tell where the infections came from.”

Working with senior faculty, Ms. Aliyu pored over 327 articles about nursing-home infections before settling on eight that formed the basis of the team’s statistical analysis. Their conclusion: 27% of nursing-home residents were “colonized” with certain superbugs, said Arlene Smaldone, an assistant dean at Columbia who crunched the numbers and is a co-author.

“You have a fragile group of individuals. They are older, they are sick and they are living in these nursing homes,” Dr. Smaldone said, noting that bacteria can enter through a break in the skin and develop into a full-blown infection.

“If you are colonized, the likelihood you will get a drug-resistant infection will be much higher,” says Dr. Theresa Madaline, a clinical director of Infectious Disease Services at Montefiore Health System in Bronx, N.Y.

Cheryl Phillips, an official at LeadingAge, a trade association whose members include nonprofit nursing homes, said, “The vast majority of people colonized are never infected” with superbugs. While one-quarter of nursing-home residents may be carrying certain germs, “we are not seeing 25% of people infected” with drug-resistant organisms, she said.

Overuse of antibiotics—in nursing homes and society overall—is at the heart of the problem, Dr. Phillips, a geriatrician, said. She supports new policies by the Centers for Medicare and Medicaid Services that require nursing homes to have stronger antibiotics controls.

Infections have been a problem in nursing homes, says Robyn Grant, public policy director at Consumer Voice, an advocacy group for nursing-home residents, citing inadequate staffing, a concern also flagged in the Columbia paper. Among residents of long-term care facilities, there are between 1.6 million and 3.8 million cases of infection annually, resulting in 388,000 deaths, according to comments published in October by
the Centers for Medicare and Medicaid Services in the Federal Register. How many of those infections involved drug-resistant organisms isn’t clear.

Decades ago, the Centers for Disease Control and Prevention created a system to track infections in hospitals. Now called the National Healthcare Safety Network, it also monitors superbugs. More recently, the CDC added an option for nursing homes to report and monitor cases. Out of about 15,700 nursing homes in the U.S., less than 2% had volunteered to be part of the network by the end of 2015. The numbers picked up last year, but to date, only 2,500—or about 16% of nursing homes—have signed up, according to a Columbia Nursing School analysis. Dr. Phillips of LeadingAge said some nursing homes are small and lack the resources to be part of the tracking system.

The Columbia paper said controlling infections in nursing homes is challenging due to “understaffing, fewer resources, insufficient training, and inadequate surveillance.” Communal living also is a factor. Nursing-home workers “roll patients into the dining rooms” when they may be carrying superbugs, says Betsy McCaughey, head of the Committee to Reduce Infection Deaths, a nonprofit.

Researchers and consumer advocates say not enough is known about how common superbugs are in nursing homes, and cite a lack of publicly available data.

“We want to lift the curtain,” says Dr. Patricia Stone, a professor of health policy at Columbia University School of Nursing who focuses on nursing homes. “We need to know what is going on” in nursing homes. In addition, she said, nursing homes need help establishing infection-control systems.

The CDC is working to get nursing homes to embrace some reporting measures and more rigorous infection control. “I totally hear the voices of safety advocates and patients and their families saying you have got to do this faster. I don’t disagree with the concerns,” said Nimalie Stone, medical epidemiologist for long-term care at the CDC.

Thanks to measures implemented by her agency, the CDC’s Dr. Stone said, “We have raised tremendous awareness and surveillance in nursing homes that wasn’t in place 20 or 15 years ago.”

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