Has Methicillin-Resistant Staphylococcus sureus (MRSA) Escaped Public Health Facilities and Is the General Population at Risk?

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Methicillin-resistant Staphylococcus aureus (MRSA) has been an increasing health problem, annually killing more than 5,500 people in the USA alone. MRSA is resistant to most antibiotics. As researchers develop stronger antibiotics, strains of MRSA continue to mutate becoming resistant to these antibiotics almost as fast as they are being developed. It is generally accepted that MRSA was found in health facilities, such as hospitals and nursing homes, but whether or not it is found in other public domains is still unknown. MRSA has been detected in influent municipal wastewater, but it is undetermined whether the effluent water is also contaminated with MRSA as it leaves the treatment plant and is released into the public waterways. Earlier testing confirmed that MRSA was present in the influent wastewater at North Davis Sewer District, a treatment plant which serves 200,000 people. Water was tested from 7 different stages of treatment for the presence of MRSA to determine where, if at all, MRSA is eliminated before being released downstream. Tests were run on three different occasions, using two samples from each station. Two controls were present, one containing MRSA and one of a sterile solution. It was found that MRSA is removed during the Effluent 3 phase of treatment, which is where all of the solids in the water are removed indicating that MRSA may be bonding with the solids. This research could be applied to and help other entities effectively remove MRSA from their water sources.

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