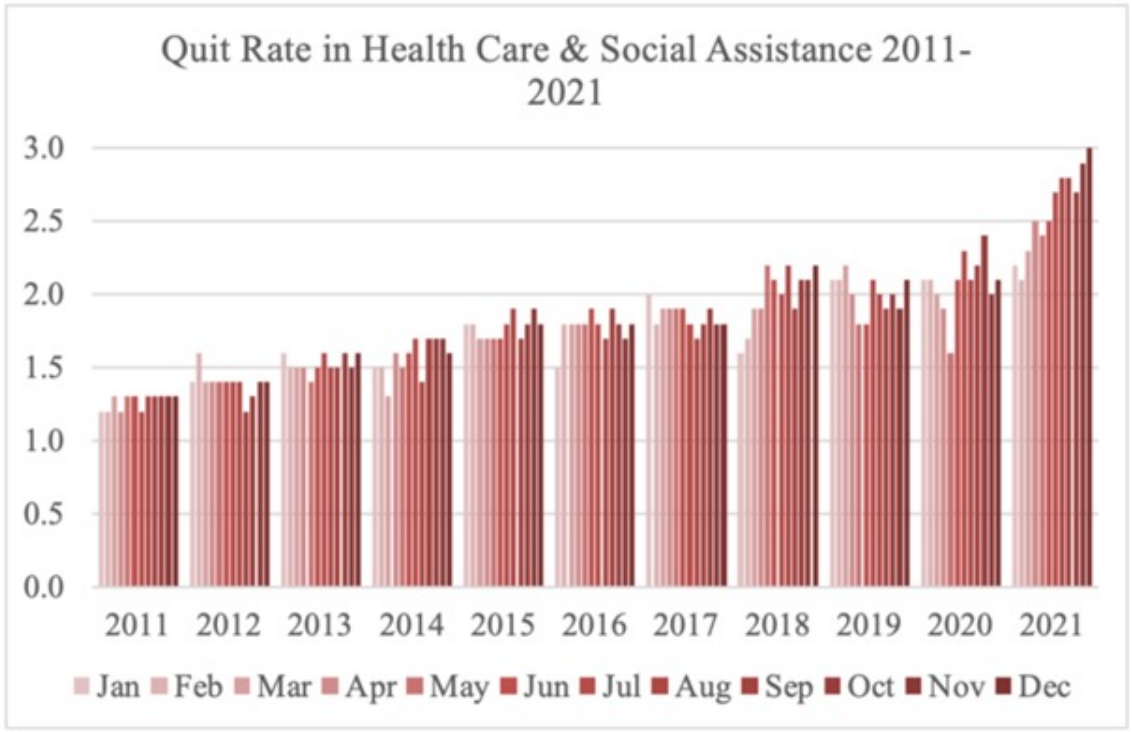
COMPLIANCE WITHOUT THE STRESS

As much as 47% of healthcare workers in the US are looking to leave their jobs over the next three years, according to some reporting agencies. This is forcing healthcare facilities to do more with less.

Automation is one way to help relieve the burden of higher hospital occupancies with fewer employees.

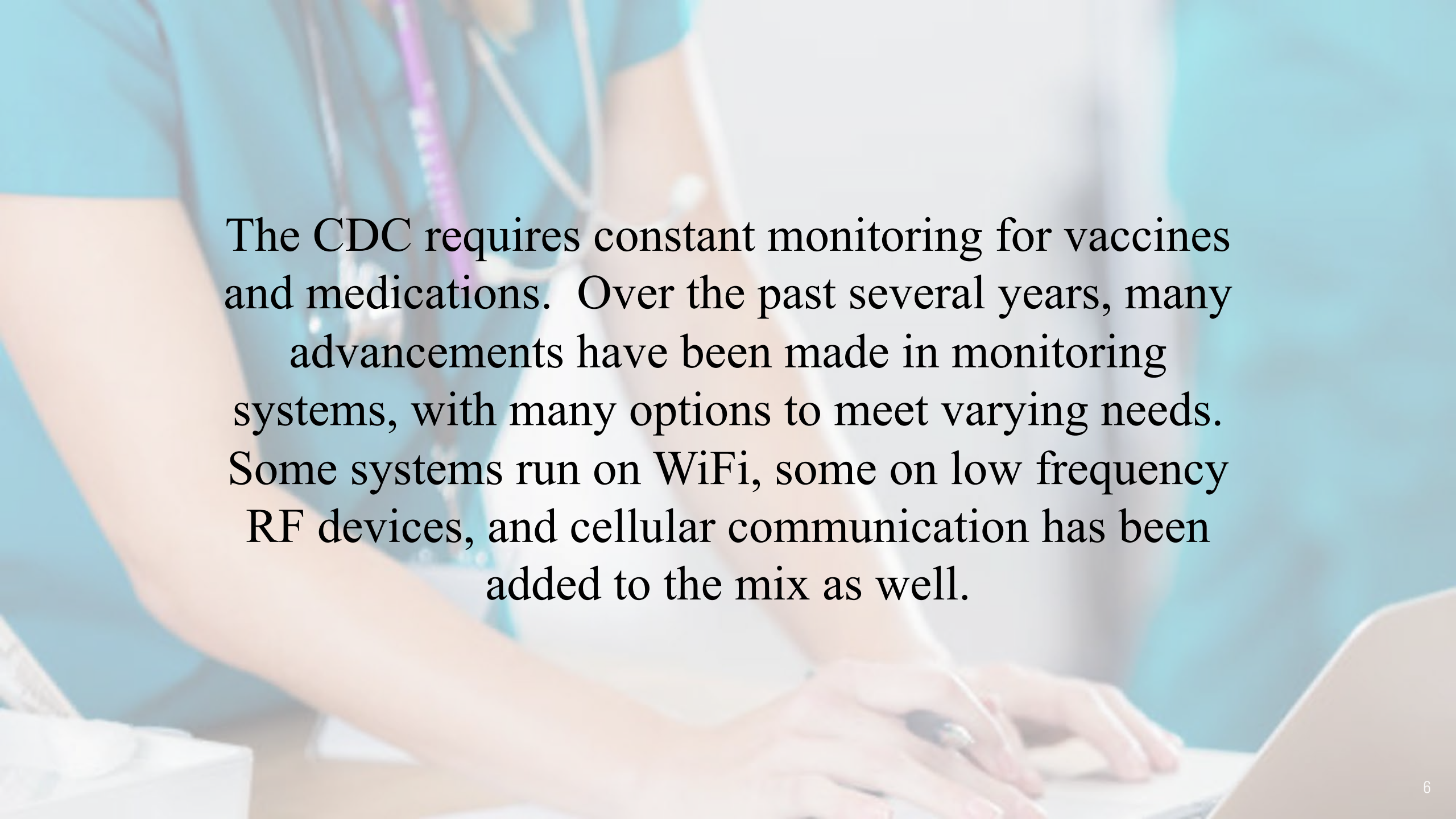
ASHE's HFM Magazine has addressed staffing issues within the engineering department. The magazine quoted Carol McCormick, Director of Facilities at CHI Health Immanuel as saying, "The biggest challenge is filling those engineer jobs that keep the hospital running. Facilities is not a department that can put things off. If something is broken or needs to have preventative maintenance, our department has to be there to keep the hospital operating safely."



Source: BLS 2016-2021

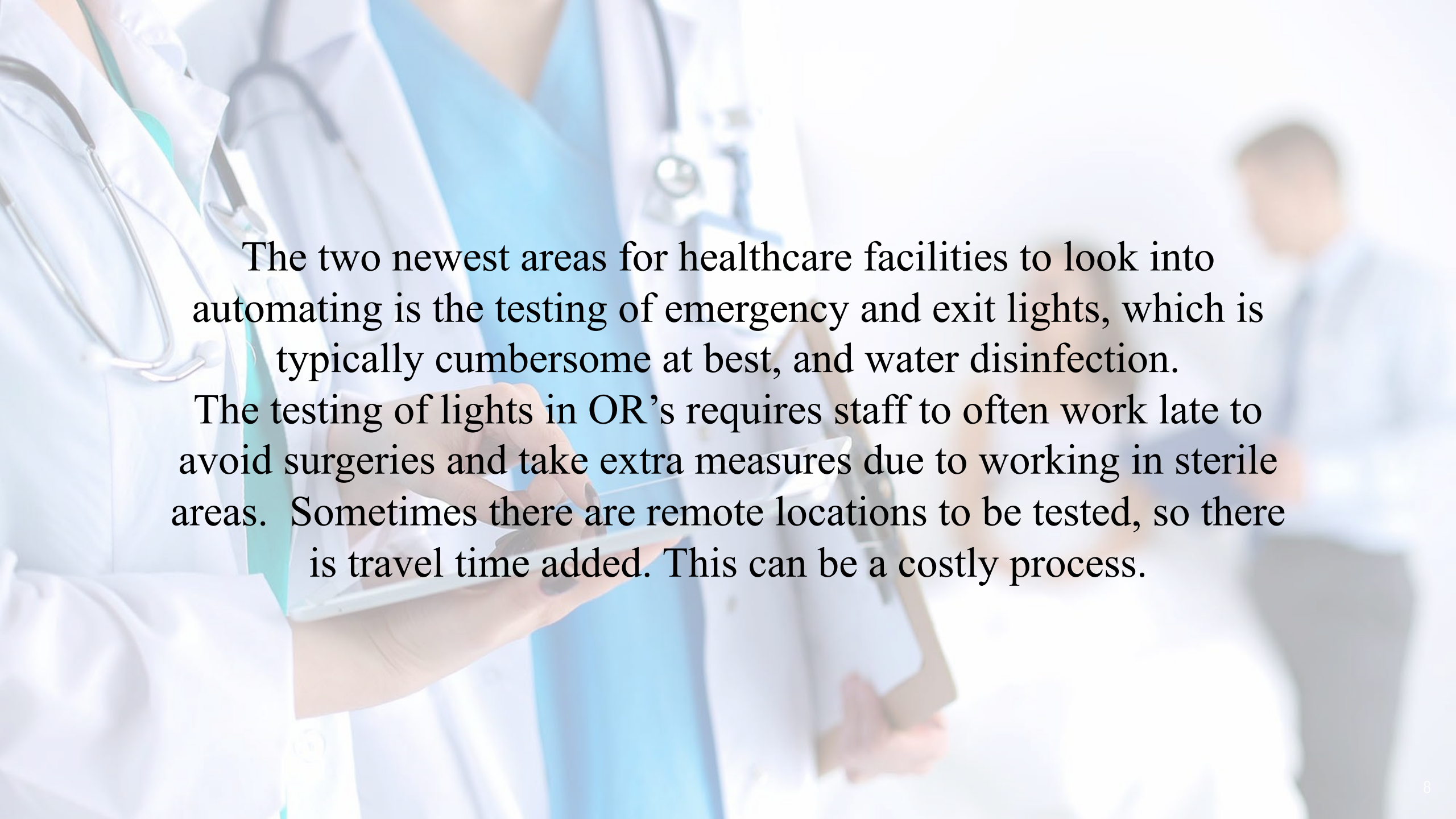
Looking at the rate of people quitting jobs in the healthcare and social assistance sector over time, we see just how historic this moment is. In 2021, the healthcare and social assistance sector saw its highest quit rate in the last decade. In the graph below, we see the quit rate steadily increasing over the last decade until 2021 when it spikes to a record high at 3.0. In other words, a quit rate of 3.0 means that for every 100 workers in this sector, three quit their jobs in December 2021.

With newer automation systems, such as self-testing emergency and exit lights, and sensors for monitoring everything from temperature, humidity and pressure, to water leaks, door closures and even monitoring for fire extinguishers, a facility can free up staff to focus on the tasks that require human hands.



The CDC requires constant monitoring for vaccines and medications. Over the past several years, many advancements have been made in monitoring systems, with many options to meet varying needs. Some systems run on WiFi, some on low frequency RF devices, and cellular communication has been added to the mix as well.

Using automated monitoring saves staff time and protects the hospital's assets, but sometimes it's difficult to get the funding to start up some systems. Now there are systems that offer one annual price for monitoring an asset, whatever that may include. Other systems offer free hardware and instead have a monitoring fee that can be worked into an operating budget, rather than a capital expense. With so many more options today, it's easy for a facility to get an automated system.



The two newest areas for healthcare facilities to look into automating is the testing of emergency and exit lights, which is typically cumbersome at best, and water disinfection.

The testing of lights in OR's requires staff to often work late to avoid surgeries and take extra measures due to working in sterile areas. Sometimes there are remote locations to be tested, so there is travel time added. This can be a costly process.

Companies such as Hexmodal offer self-testing emergency and exit lights which test both the power and the bulb strength and meet the compliance standard of the NFPA101 life safety requirement. The Joint Commission and DNV are aware of and accept automated testing of emergency and exit lights, so this is one more way for hospitals to save time and money.

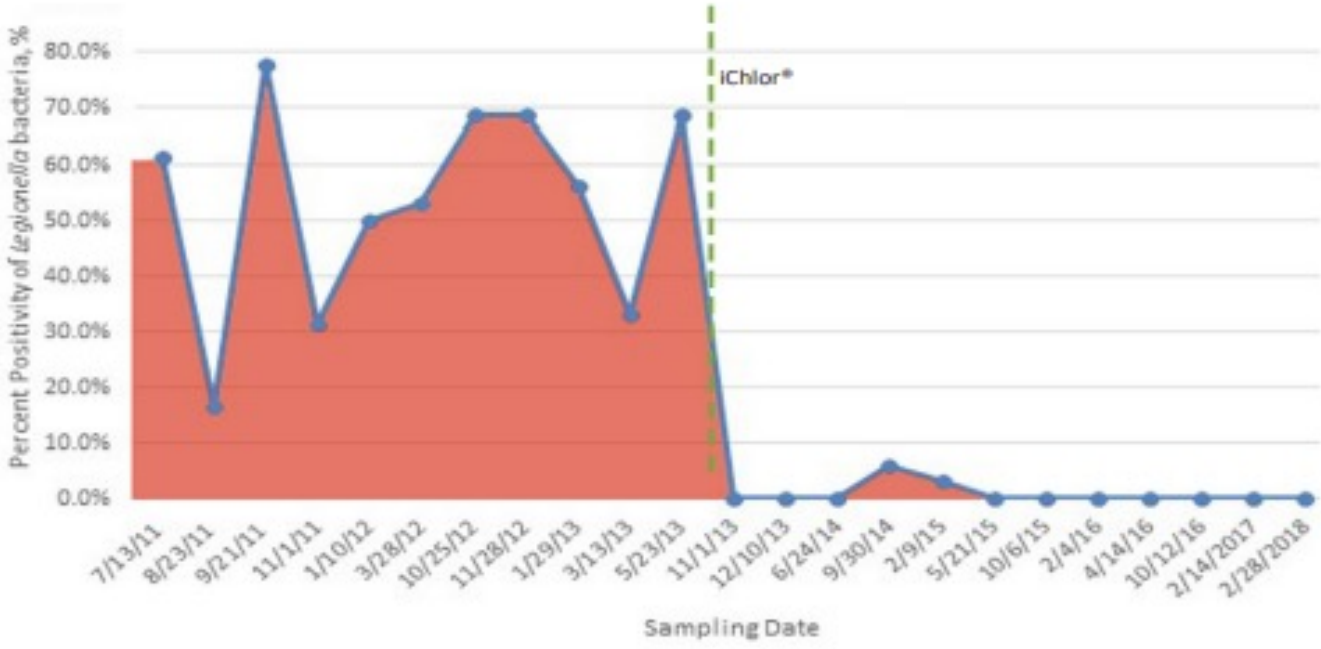
Companies such as Barclay Environmental offer a water disinfection system that "has emerged as one of the most effective disinfectants against *Legionella*, both in laboratory and field studies," according to the 2020 edition of Decontamination in Hospitals and Healthcare by J.L Baron and J.E Stout. Systems such as the Barclay's iChlor uses technology to maintain the monochloramine concentration through the facility's pipes and plumbing so that constant water testing is never necessary.

Most hospitalizations and deaths are caused by pathogens such as Legionella, Pseudomonas, and Mycobacteria that grow inside the plumbing and other elements of water system.

7.15 million waterborne illnesses in the US each year
601,000 result in ER visits
118,000 result in hospitalizations
6,630 result in death
$3.3 billion in costs

Case Study

LEGIONELLA BACTERIA REDUCTION AFTER SUPPLEMENTAL DISINFECTANT SWITCH FROM COPPER-SILVER TO MONOCHLORAMINE



Systems such as Barclay's patented solution works with your incoming water to provide the right concentration of monochloramine each time.

Problems with a standard chlorine system:

If it's too low of a concentration, it's not effective.

If it's too high of a concentration, it can be tasted and smelled, and be harmful. It causes corrosion of pipes, seals and equipment.

It's hard to tell if the appropriate concentration is getting all the way through the system without constant testing at each faucet.

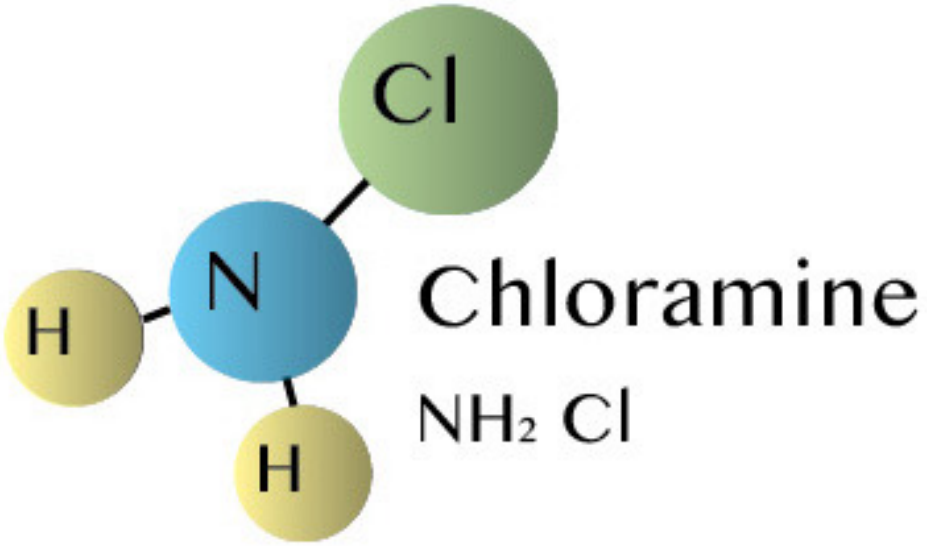
Why monochloramine works:

Once it's in the system, it stays in the system; it's non-oxidizing, so it doesn't "gas-off" like free elements.

It only lessons in concentration when it is killing bacteria and microorganisms.

It doesn't corrode pipes and equipment.

It removes the biofilm on the inside of pipes and equipment where Legionella and other microorganisms live, making it impossible for them to survive. And thus, it's preventative, not just reactive.



BARCLAY
ENVIRONMENTAL GROUP
a division of Barclay Water Management, Inc.
Trust. Accountability. Peace of Mind.

CASE STUDY

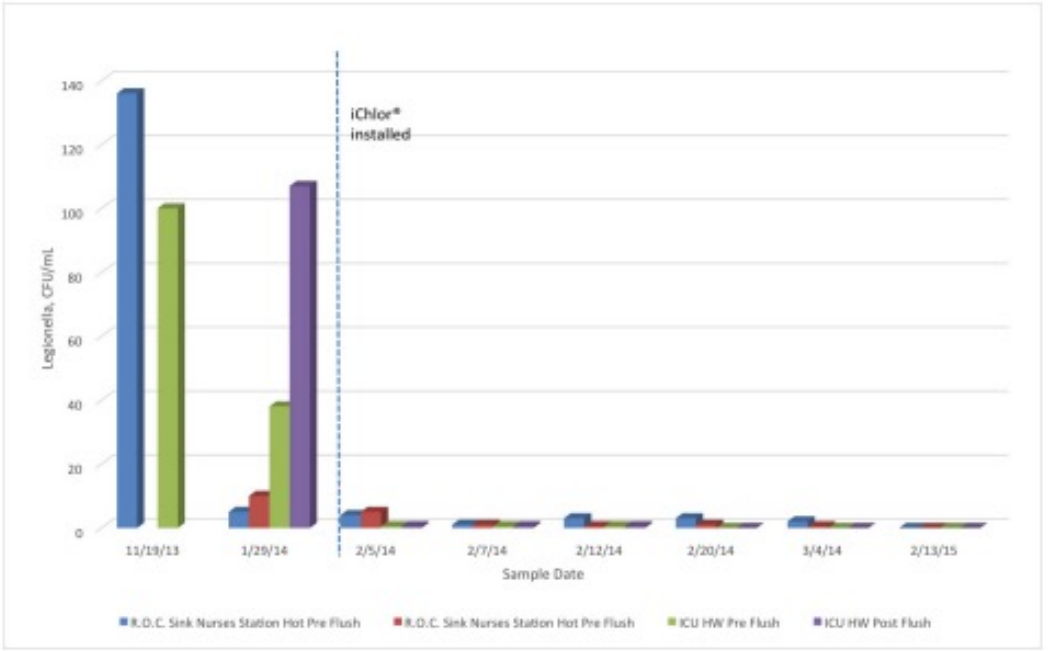
Legionella

Automatic feed of chemical is based on water use and residuals are continually monitored for efficiency and safety purposes. Service and maintenance is provided by professionally trained and qualified Barclay Water Management, Inc. field engineers.

The Results: Within minutes, measurable monochloramine levels were measured throughout the hospital at distal outlets.

As seen in the graph, the reduction of *Legionella* bacteria was rapid and tests showed that bacteria levels were lowered from high levels to <1 CFU/mL within days.

The conclusion is that iChlor® has the ability to drastically lower *Legionella* bacteria levels within days. The use of iChlor® as a secondary treatment provides the patients, staff, and visitors with a healthier environment; and also provides the hospital with peace of mind that it can safely serve patients.



Legionella samples were sent to a CDC ELITE certified testing laboratory and performed using the culture method, which is the only *Legionella* bacteria testing method recognized by the CDC.

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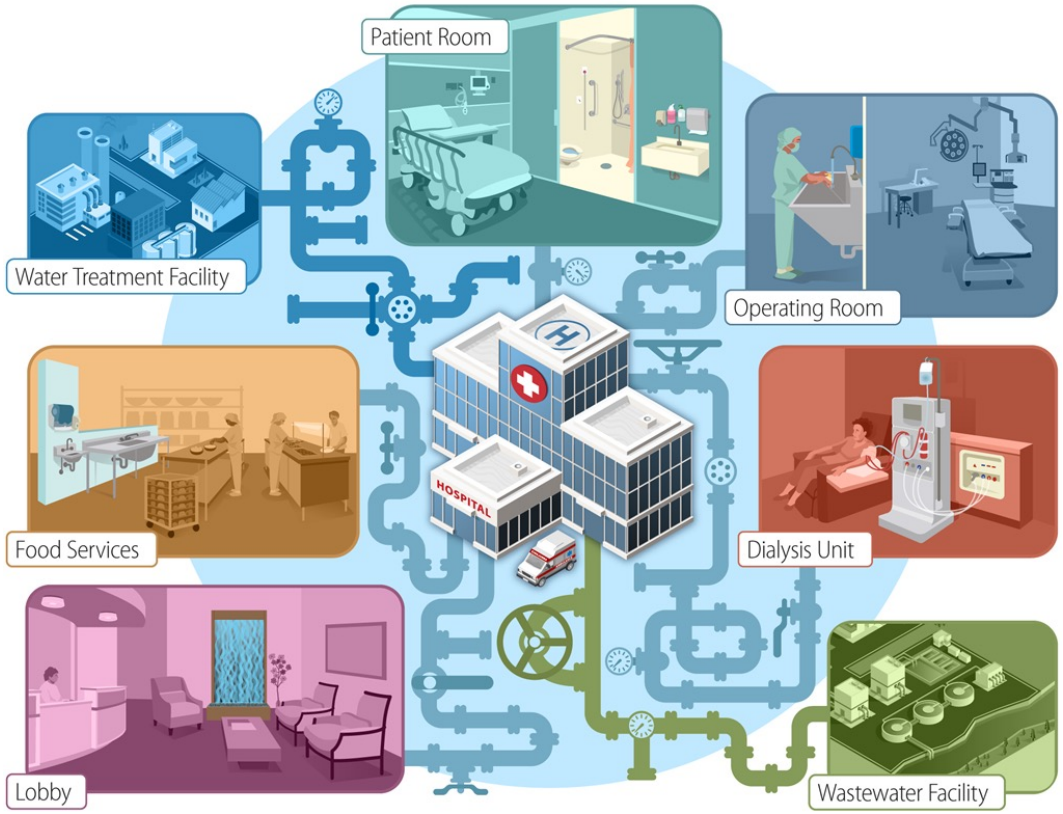
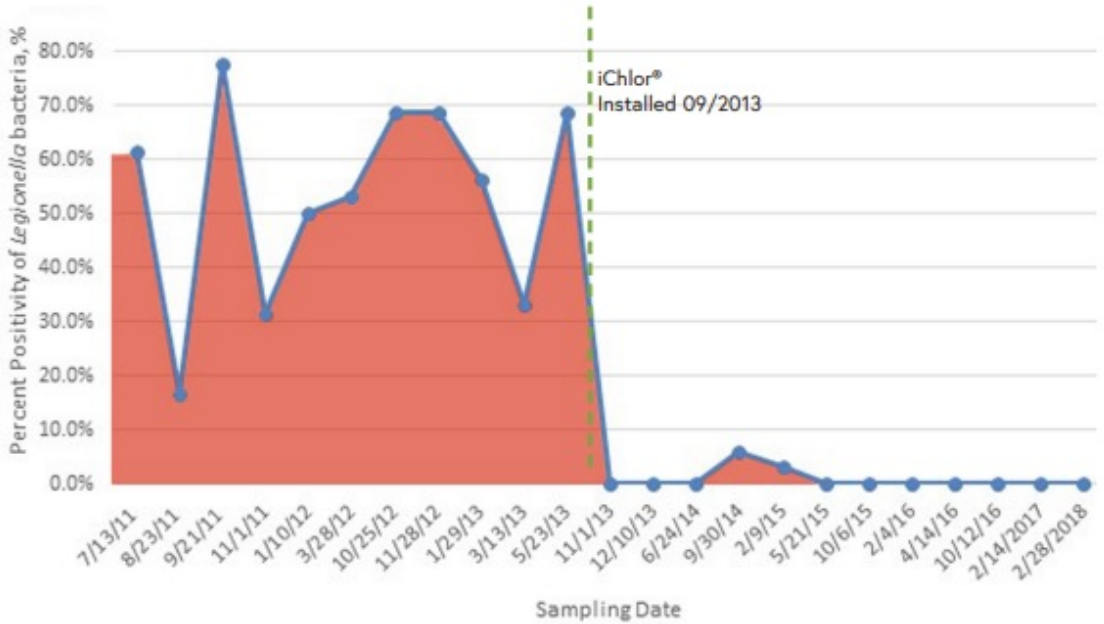
CASE STUDY



The Results: As seen in Figure 1, this study shows that, after the removal of the copper/silver ion technology and the installation and use of iChlor®, percent positivity was greatly reduced. The conclusion from this study is that iChlor® has the ability to significantly lower *Legionella* bacteria levels. Use of iChlor® as a secondary treatment provides the patients, staff, and visitors with a healthier environment; and also provides the Hospital with peace of mind that it can safely serve patients.



The data presented above is derived from 16 distal outlet sample points throughout the Hospital per sampling date. Water samples were taken using appropriate sampling protocol and sent to a certified NYS DOH ELAP and CDC Environmental *Legionella* Isolation Techniques Evaluation (ELITE) *Legionella* testing laboratory. The testing technique utilized was the culture method which uses buffered charcoal yeast extract media, and is the only CDC approved method for identifying *Legionella* bacteria.

BARCLAY ENVIRONMENTAL GROUP
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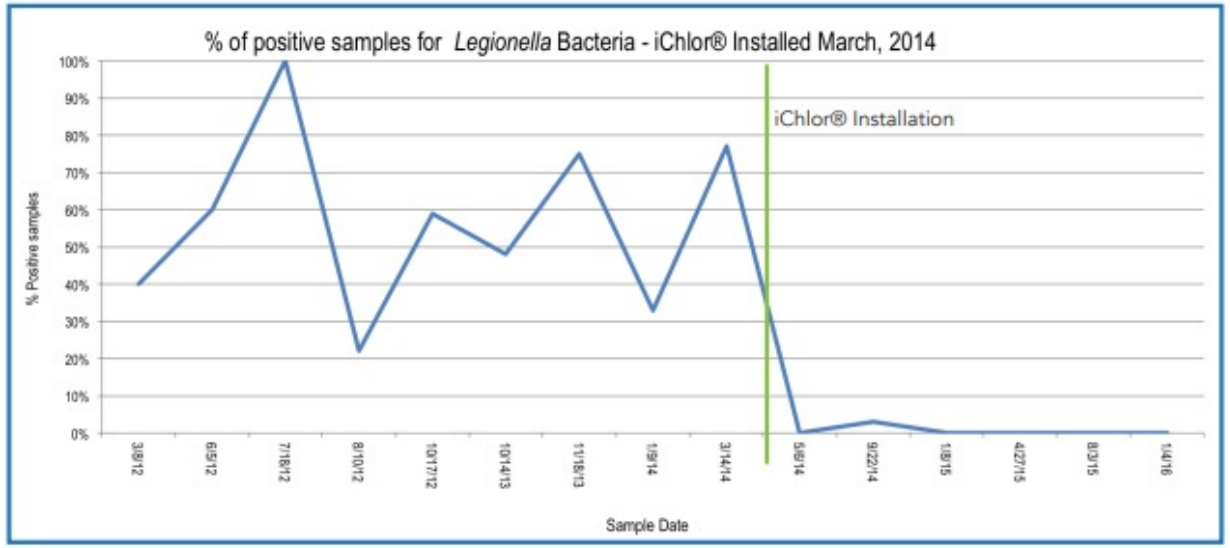
CASE STUDY

Results:

As seen in Figure 1, percent positivity of *Legionella* bacteria was greatly reduced after the removal of the chlorine dioxide generator and the installation and use of iChlor®, in March, 2014. This study concludes that iChlor® has the ability to considerably diminish *Legionella* bacteria levels throughout the domestic water system of a facility. The use of iChlor® as secondary treatment provides the patients, staff, and visitors with a healthier environment; and also provides the Hospital with peace of mind regarding *Legionella* bacteria levels in the domestic water system.

Figure 1



The data presented above is derived from 25 distal outlet sample points throughout the Hospital per sampling date. Water samples were taken using appropriate sampling protocol and sent to a certified CDC Environmental *Legionella* Isolation Techniques Evaluation (ELITE) *Legionella* testing laboratory. The testing technique utilized was the culture method which uses buffered charcoal yeast extract media, and is the only CDC approved method for identifying *Legionella* bacteria.

STAFF DURESS/RTLS

Rising costs in healthcare are impacting facilities all across the US. Two areas of impact are workplace violence in healthcare and loss of physical assets.

STAFF DURESS

2022 Statistics from National Nurses United shows an increase in healthcare workplace violence of 119% since March 2021.

An article published by the Association of American Medical Colleges said that healthcare workers are 5X more likely to experience workplace violence.

Staff duress has been available for some time through Nurse call systems. With the growing issues, it is now available through a "plug and play" solution that can follow staff wherever they go.

RTLS

Hospital equipment can be lost, accidentally thrown away, stolen, or even hidden by staff. Theft alone accounts for as much as $52 million in losses for hospitals. Losses in general can reach into the billions.

Both active and passive tracking systems are available, but new systems continue to make it more affordable.

AUTOMATED MONITORING

SAFESPACE
Occupancy & Face Mask Detection

FULLY AUTOMATED EMERGENCY AND EXIT LIGHTS

gtr Business Systems

For questions, please contact us with your information!

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