

# Case Study: Infection Prevention and Control Software Reduced Infections and Increased Efficiencies



SAPPHIRE HEALTH SERVICES  
A Senior Housing and Healthcare Provider

HealthConnex™  
Infection Control and Outbreak Management Software

[leadingage.org/cast](http://leadingage.org/cast)

## Categories:

- ◆ Reduced Number of Infections & Healthcare Costs
- ◆ Increased Reporting Capabilities & Staff Efficiencies

### About the Organization

#### Organization Name:

Sapphire Health Services

#### Main Contributor:

Bryan Morris RN,  
VP Clinical Services

#### Organization Type:

Assisted Living Facilities,  
Long-Term Care Rehab,  
Skilled Nursing Facilities,  
Memory Care Facility

#### Organization Description:

Sapphire Health Services is located in Portland, Oregon and operates over 20 small-medium sized senior living facilities across Oregon and Washington state. Our goal is to focus on quality and a positive culture that will foster care and sustainable relationships with our communities and clients. Our Mission is to promote the highest quality of life for our residents, staff and communities. We treat all with the greatest respect and consideration.

## Project Description

The ongoing pandemic and the challenges related to infection prevention and control (IPAC) led Sapphire Health Services to search for improvements for its IPAC programs. The organization's aim was to more quickly identify and control outbreaks, capture resident and staff illnesses and infections with ease, and reduce administrative reporting burdens on front-line staff. The solution was to implement HealthConnex, an all-in-one infection prevention and control software designed specifically for use in skilled nursing and senior living facilities alike.

## Infection Control Modality

Hand Hygiene and PPE Compliance, Infection Prevention and Control Software Solutions

## System Embodiment

Smartphone/Tablet, Desktop (web application)

A cloud-based web application, accessible on any device—desktop, laptop, kiosk, tablet, or phone—was implemented. This application also consists of two dedicated mobile apps used on tablets by team members to rapidly collect and visualize important diagnostic information (infection signs and symptoms) and collect audits for hand hygiene and PPE compliance.

## Business Model

Standard of Care

## Implementation Approach

The implementation process included consideration of the following items:

- ◆ Gathering requirements: HealthConnex displays infection information for residents on our floor plans, so we supplied copies of the floor plans for each community. We imported staff names to create profiles for tracking infections/illnesses and immunization records. Lastly, we provided a list of staff users so they could get access to the software. (HealthConnex also supports single sign-on, but our organization does not have this.)

- ◆ **Integrations:** We worked with the HealthConnex team to integrate some resident data with our electronic health record system. This process was seamless and easy to execute.
- ◆ **Customizations:** We implemented a variety of custom criteria prior to implementation into the software around organizational setup, audits, infection documentation, and immunization tracking.

The entire process was easy to handle for our organization. There was little required from the end users during the process. We successfully implemented the software across our 20 communities within a three-month period and users were up and running with just a few short hours of training and exploration time.

Sapphire Health Services had explored a variety of options to support their IPAC program before choosing to implement HealthConnex. The main reasons for choosing HealthConnex were:

- ◆ **Scalability:** The software offers a completely customizable user experience for single site facilities, small to medium sized organizations, and even large-scale enterprise organizations. The ability to define user roles (user permissions) and our organizational structure was a great feature for us. It allows us to have a team-based approach for infection prevention and control. Adding new facilities to our existing system is easy and seamless as well.
- ◆ **Flexibility:** The software's ability to work for homes with and without electronic health record systems allowed us to incorporate this solution within all our senior living settings.
- ◆ **Innovation:** The team at HealthConnex is always continuously innovating. They have added considerable functionality to the core software throughout the year: custom line list reports and new medication and infection control metrics dashboards. Even as a small-to-midsize organization, they value our feedback and act quickly to resolve issues/challenges and improve the application.
- ◆ **Cost-effective:** HealthConnex is a cost-effective solution for us. It allowed us to implement the software in a variety of care settings, not just our skilled nursing facilities. This has reduced overall costs through a decrease in infections and outbreaks. There is no monetary tradeoff for our organization; it is a net savings for us.

- ◆ **Efficiency:** The software provides a platform for capturing all the data necessary to effectively evaluate our communities' IPAC programs. The interface with the EHR reduced time spent by staff each month handwriting and calculating infection measures. The data collected also allows for quick pivots in addressing areas of care that need to be strengthened.
- ◆ **Visibility:** Having the software allows our community staff to evaluate what is occurring in their individual communities. However, with the roll-up reports we can identify trends across all our business lines, allowing us to respond in targeted ways to provide better care.

## Outcomes

Reduce Number of Infections, Reducing Healthcare Costs (reduced outbreak occurrence, duration, and severity), Increased Reporting Capabilities, Staff Efficiencies

Like a lot of other organizations, we had challenges in infection prevention and control during the pandemic. There were a lot of outbreaks happening and it was also difficult to communicate across teams with the staffing crisis. After implementing HealthConnex, we have seen improvement in our infection rates, reduced our outbreaks, improved IPAC-related communication between teams, and reduced the amount of time it takes to do reporting. The entire process has become more efficient.

At first it seems like you are collecting more information and that burden falls on front-line staff, but in reality, we saw the implementation of a simpler and quicker data collection method. This has led to a transition from a complex, time-intensive, paper-based approach to an efficient electronic process that is easier to use and manage.

- ◆ **Reduced severity, duration, and occurrence of outbreaks:** Even with COVID-19 and other respiratory illnesses causing havoc in senior living communities, we have reduced our outbreak occurrence by 50% since implementing HealthConnex. The application seamlessly communicates information to our teams, improving our ability to make informed decisions faster. Our corporate staff can work with the community more easily, reporting is quicker for users, and we can visualize trends.

- ◆ **Reduce healthcare costs:** By catching infections and outbreaks earlier, we have seen a 35% reduction in infection-control-related operating costs.
- ◆ **Increased reporting capabilities:** The software offers a variety of customizable reporting options. There are line list reports which allow staff to communicate more efficiently, both internally and externally. The analytics tools provide graphical interpretation of data, and the floor plans visualize infection data in real time to team members. It also incorporates automated infection rates. Our infection preventionists save, on average, five hours per month.
- ◆ **Staffing efficiencies:** With the tools available in HealthConnex, our staff are quickly able to document new symptoms/diagnosis criteria and communicate information to the appropriate team members faster. Plus, the built-in reporting tools save clinicians and administrators at each home a combined 10 hours per month, translating to roughly 200 hours per month for our organization.

## Lessons Learned/Advice to Share with Others

---

One of the challenges during and after implementation in our homes was training employees. With the staffing crisis ongoing, new staff needed to learn a lot of applications rapidly to support our commitment to quality. HealthConnex has been very supportive of this effort, offering on-demand training and virtual training options to support our staff. The application is very seamless and easy to use. Everything is right in front of the user. Identifying suspect infection cases takes as little as 15 seconds.

Staff buy-in was tricky as well. At first, it seems like you are asking staff to collect more data in another application. But in reality, we saw the implementation of a simpler data collection method for our teams. It moved from being a paper-based system, which was lacking communication tools between teams/team members, to an electronic application that provided real-time data and visualized our infections and illness on our own floor plans. We got actionable data much faster than ever before, and the staff have enjoyed using the application.

We found that having a dedicated super user (IPAC lead and/or director of nursing) in every home and utilizing our nurse consultants to support the application really was helpful in adoption across our organization. By making it a key part of our quality program we were able to get adoption early in the process. The payoff for staff was seeing a reduction in outbreaks—duration, severity, and occurrence. This meant fewer staff illnesses contracted at work, happier residents, and less feeling of an overwhelming workload in day-to-day operations.