



## Amplion Case Study

### Transforming an Industry with Superior In-Patient Care

Since its founding, [Amplion Clinical Communications](#) has been a leading innovator of healthcare technology. Amplion technology solutions trace their ancestry from the first multi-user computer systems of the 80s to unified communications platforms deployed in the early 2000s. Today, Amplion solutions seek to drive improvement of the patient experience.

With a growing population of seniors, added focus on budgets, and increased scrutiny of the care provided, facilities are under more pressure than ever to do more with less. For years, as emphasis was placed on managing patient information, operational efficiencies did not get the attention they needed. The systems and processes became antiquated.

“Even with all the new technologies in these facilities, nurse call systems (NCS) have effectively functioned the same for decades,” said David Condra, CEO and Founder of Amplion. “There had to be a better way.”

### Amplion Alert Revolutionizes Patient-Care Communication

Amplion Alert offers the industry’s first care assurance platform. By abandoning the outdated model associated with existing NCS, Amplion created an entirely new platform—one capable of enhancing patient safety with features like fall and ulcer prevention.

“Our goal was to build a platform completely different from and better than anything else available,” said Jonathan Musselwhite, product manager at Amplion. “We would be working with smaller, smarter components than anything currently in use, and that’s why we started from scratch.”

Their process relied on prototyping. That's when Sunstone Circuits® entered the picture. Musselwhite's team needed a PCB manufacturer that could provide expert advice and not require enormous production runs while the new platform was still in beta.

"Sunstone fit the bill," said Musselwhite.

## Small Production Runs, Big Improvements

Sunstone helped the production team at Amplion iterate quickly and cost-effectively. The Amplion system would deploy twelve individual components with eleven unique PCBs between them. "Sunstone enabled us to quickly manufacture so many devices and test them, even system-wide," said Musselwhite. "Speed was critical to our success."

"Sunstone not only helped us evolve our NCS at an accelerated rate but worked closely with us to make sure nothing was overlooked in terms of functionality."

- Jonathan Musselwhite,  
product manager,  
Amplion

"The NCS must perform, even in adverse conditions like extreme heat or cold. They also have to remain operational if water is introduced into the environment—like when a sprinkler system engages in response to a fire," said Musselwhite.

To ensure that an NCS functions as needed in any situation, the industry relies on standards set by the global safety science organization [Underwriters Laboratories](#). The standards are used to assess products and test components, materials, systems, and performance in a wide range of industries.

"Underwriters Laboratories sets the bar pretty high, but the standards are still essentially based on the technology that's been around for years," said Musselwhite. "The challenge for us was meeting these standards in the process of delivering an entirely new type of patient communication platform."

### Exceeding Standards set by UL 1069

Smartphone Nurse call systems must adhere to the standards laid out in [UL 1069](#)—a document that draws additional specifications from another twenty sets of standards. They cover system construction, its components and performance.

"On performance, UL 1069 has twenty-four sections and twenty-nine subsections dedicated to performance alone," said Musselwhite.

The Amplion platform was held to an even higher standard, because it possessed features, characteristics, components, and systems new or different from industry standards. "Since we were transforming the entire concept of the NCS, we had to meet the requirement of UL 1069 plus whatever additional evaluation criteria were deemed necessary," said Musselwhite.

## Built to Continue Improving, Cost-Effectively

Amplion built its NCS with the future in mind. “We needed the ability to easily update firmware and add features remotely,” said Musselwhite.

Sunstone provided the support and expertise necessary to streamline manufacturing—saving time and money in the process. “Sunstone made us realize we needed to panelize in order to reduce waste and speed up the process,” said Musselwhite. “Within hours, the company had set us up for panelized manufacturing.”

“Sunstone makes my job easier, because the team stays involved,” said Musselwhite. “If they have expertise that can improve functionality or reduce production costs, they come to us right away.”

## Smarter Care, Safer Patients



All of this takes place with patient well-being in mind. “Amplion products help facilities deliver closed-loop care,” said Musselwhite. “When a patient needs something, he or she gets it, and we document it.”

By putting patient information at the fingertips of facility staff, Amplion helps them provide better, smarter care. The patients leave the facility satisfied with their experiences and the quality of care they received.

“We are committed to building the smart hospital room of the future, one that creates the best patient experience possible,” said Musselwhite. “Sunstone offers us the expertise to do just that.”