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White paper

Keeping Your Active Residents Safe, Wirelessly

Introduction

An effective emergency call system allows residents to receive assistance promptly when requested, offering them safety, protection and peace of mind. Family members can also feel more confident knowing that their loved one is being cared for properly. In fact, falls and other health emergencies have made emergency call systems a necessity in today's senior living communities.

Emergency call systems are essential for the safety of residents.

Figure 1 Emergency call systems provide peace of mind for residents and family members.

Emergency call systems are not used just for health emergencies. Industry data shows that on average, each resident requests assistance one to two times per day. These include health emergencies, but most calls are requests for help with the activities of daily living — from bathing and toileting, to feeding and transport. Because caregivers cannot personally monitor every resident at all times, a call system is a necessary component for quality of life. An emergency call system also provides a mechanism for efficiently managing assistance requests, from staff notification through resolution.

For these reasons, more than 90% of senior living communities use emergency call systems. Not only do they allow community management to provide better reporting, tracking and accountability, they can be marketed to current

and prospective residents as an assurance of the safety, security and peace of mind provided by the community.

Although wired emergency call systems are still widely used, the quality of life for residents has been greatly improved by the greater mobility and more active lifestyle allowed by wireless emergency call systems.

Requirements of an Effective Wireless Emergency Call System

Emergency call systems which meet UL 2560 requirements offer a greater assurance of reliable performance for the communities that choose them.

For decades, skilled nursing facilities and nursing homes have required the use of a listed nurse call system that complies with ANSI/UL 1069, "Standard for Hospital Signaling and Nurse Call Equipment." First published in 1974, this standard was designed specifically for the unique requirements of acute care settings and has served that segment of the market well.

With the number of assisted and independent living (non-acute care) resident units approaching that of nursing homes and skilled nursing facilities, the time was right to strengthen the industry's focus on this growing need. ANSI/UL 2560, "Standard for Safety for Emergency Call Systems in Assisted Living and Independent Living Facilities" was created in 2011 at the request of the National Electrical Manufacturers' Association (NEMA) to address the unique requirements of this growing segment of the senior living market.

UL 2560 recognizes the improvements of wireless technology and its role in providing assisted and independent living residents with greater mobility. It provides state and local authorities with a thorough framework for ensuring the efficacy of such systems, and adoption of the UL 2560 standard by government entities is expected to increase in the near future.

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Importance of the Mobile Pendant to the Wireless Emergency Call System

The mobile pendant transmitter is the primary interface with the wireless emergency call system for both residents and caregivers. A wireless emergency call system will only function effectively if both residents and staff accept the pendant.

The mobile pendant is the primary interface with the emergency call system; resident and staff acceptance is critical.

Residents need to wear the mobile pendant around the clock, seven days a week to ensure their safety. Unfortunately, evidence suggests that compliance can be as low as 50% with the wrong pendant, particularly those that are big, bulky or hard to use.

Likewise, caregivers must be able to easily clear emergency notifications, change batteries and maintain the device.

Resident Expectations for the Mobile Pendant

Resident expectations are clear. The mobile pendant must be small, light and comfortable to wear. It must come with a variety of wearing options to accommodate resident preferences.

Figure 2 The mobile pendant must be comfortable and wearable.

It must be safe for use in shower and bath. A high percentage of emergency requests originate in the bathroom. The

pendant must also provide a clear indication that the emergency request has been successfully sent, reassuring residents that they will receive the assistance they require.

Caregiver Expectations for the Mobile Pendant

Caregiver expectations are just as clear. The highest priority is reliability. Emergency notifications must always be delivered to enable a timely response. Likewise, false alarms must be minimized, so that caregivers' time is not wasted.

An effective mobile pendant must meet the expectations of residents, caregivers and community management.

The pendant must also be durable. It must be able to withstand wear and tear in normal use. Moreover, it must be easy to maintain. Battery replacement and simple cleaning must not be onerous for the caregiver.

In the same way, the pendant must also be as easy to use for the caregiver as it is for the resident. The alarm clearance operation must be easy and quick, and the pendant must always be operational. It must have a robust battery life under normal usage conditions, and provide clear and early warning when batteries must be changed.

Community Management's Expectations for the Wireless E-Call System and the Mobile Pendant

The community management's expectations for the emergency call system are similar to the caregivers' and residents'. The system uptime must be 100%, and the emergency messages must be delivered quickly, accurately and reliably to the designated caregivers to ensure a speedy response. Network coverage must be complete, such that emergency notifications can be initiated from anywhere in the entire facility or campus. The system should be as maintenance-free as possible, and components should be non-intrusive, complementing the building's decor.

Community management's expectations for the mobile pendant mirror those of their residents and caregivers. Management is also looking for effectiveness, as measured by resident compliance in wearing the pendant and staff productivity. A mobile pendant that residents want to wear, and that is easy for staff to use, will accomplish those

objectives. See Figure 3 for an overview of resident and staff benefits associated with an effective emergency call system mobile pendant.
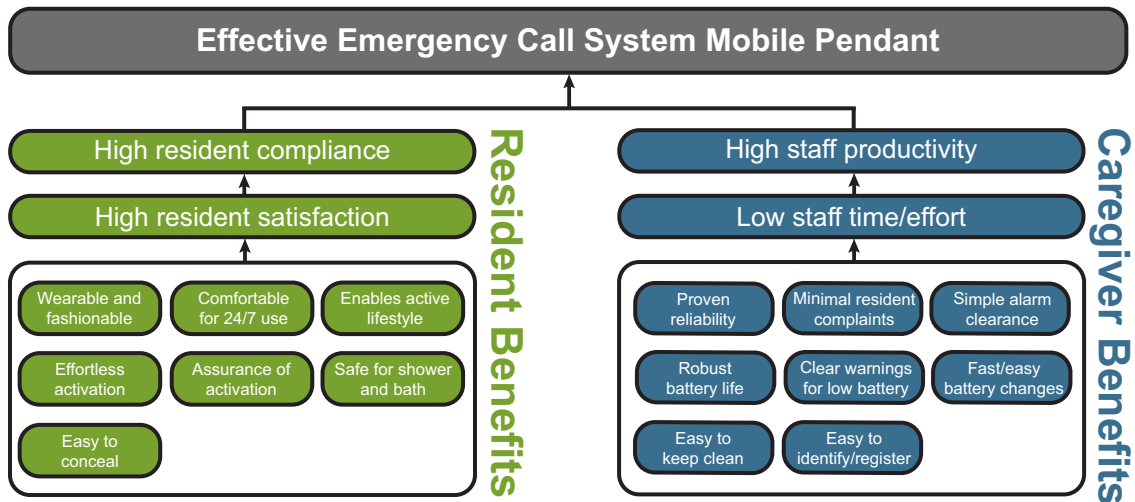
Effective Emergency Call System Mobile Pendant

Resident Benefits

High resident compliance

High resident satisfaction

Wearable and fashionable | Comfortable for 24/7 use | Enables active lifestyle

Effortless activation | Assurance of activation | Safe for shower and bath

Easy to conceal

Caregiver Benefits

High staff productivity

Low staff time/effort

Proven reliability | Minimal resident complaints | Simple alarm clearance

Robust battery life | Clear warnings for low battery | Fast/easy battery changes

Easy to keep clean | Easy to identify/register

Figure 3 Benefit hierarchy for an effective emergency call system mobile pendant.

The Inovonics Wireless Emergency Call System Solution and the new Senior Living Pendant

Peace of Mind Provided by the EchoStream Wireless Network

Inovonics emergency call system products are among the first to achieve UL 2560 component certification. Emergency notifications are sent on the self-monitored and fully-supervised Inovonics EchoStream commercial mesh network, which meets the UL 2560 99.99% alarm message delivery reliability standard.

The dedicated EchoStream commercial mesh network is designed for life-safety applications, ensuring mobile pendant alarms are received.

Designed to move small amounts of data over a moderate range in commercial environments, the commercial mesh network uses a 900 MHz frequency-hopping, spread spectrum technology that sends redundant messages across multiple channels to avoid the interference obstacles that are inherent to any commercial property. Due to its low latency and high reliability, the commercial mesh network is an ideal solution for life safety applications. The network is secure and dedicated, removed from the common faults and down times

that can create problems for other wireless technologies that use shared networks, and can be scaled to cover large multi-building campuses at a cost-effective price point. Even common areas, including walking paths and gardens, can be included in e-call coverage.

The Inovonics commercial mesh network provides the backbone for the innovative and effective emergency call systems offered by our senior living business partners. Those systems capture the alarm information sent by our network and allow for intelligent notification of designated caregivers to enable a quick response.

The EN1221S-60 Family of Senior Living Pendants

Figure 4 The Inovonics EN1221S-60 family of senior living pendants.

Resident Focused

Residents have high expectations for their pendants. The Inovonics EN1221S-60 family of senior living pendants delivers the fashion and functionality they desire.

60% smaller and 60% lighter than our previous pendant, the new pendant is attractive, discreet and easy to conceal under clothing, with a smooth shape and polished finish that makes it comfortable for continuous use. The one-piece housing and sealed battery compartment allow residents to safely shower or bathe while wearing their pendant, and the bright multifunction lights for alarms and low-battery conditions, combined with vibration confirmation of alarm transmission, create an intuitive and reassuring resident experience.

Caregiver Approved

Caregivers need a pendant that's dependable and easy to service. The Inovonics EN1221S-60 family of senior living pendants offers the reliability and functionality they expect.

The EN1221S-60 family of senior living pendants functions over the proven EchoStream® wireless network and is certified for installation in UL 2560 emergency call systems. The unique power management system is optimized for senior living usage patterns to provide one year of battery life at five activations a day.

Maintenance and operation are easy. The choice of either a magnetic alarm clearance card or button press pattern eliminates the need for a mechanically activated reset button, simplifying operation. Likewise, battery changes are quick and easy, with a twist-lock door for access to the battery compartment. The available alarm clearance card can be used to unlock the battery door.

Conclusion

The proven reliability of the EchoStream network and the innovative and effective notification solutions offered by our senior living business partners' application software are now combined with the new Inovonics family of senior living pendants, designed by residents and their caregivers to satisfy the unique needs of senior living communities.