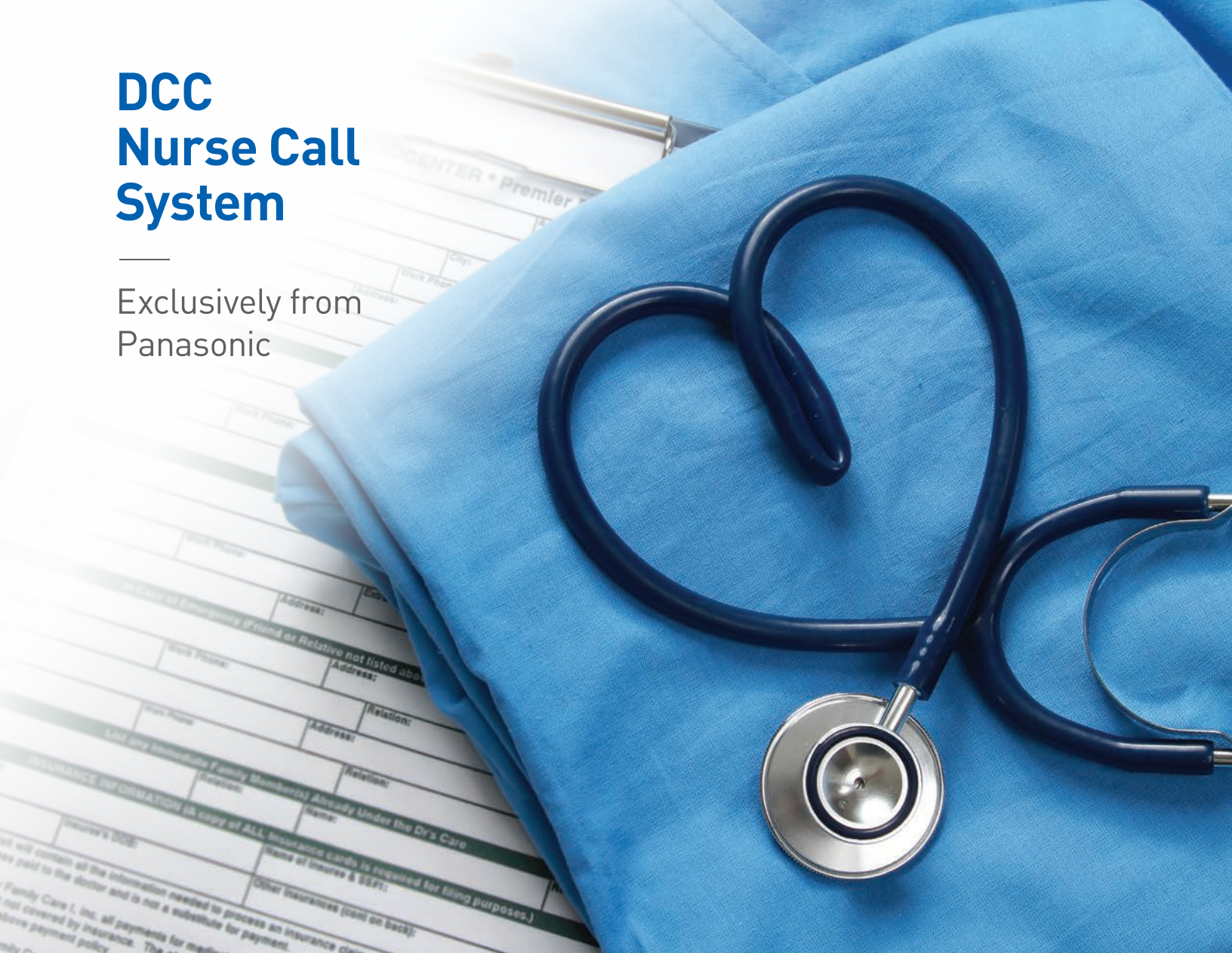


# DCC Nurse Call System

Exclusively from  
Panasonic



## How a New Generation of Nurse Call Solutions is Transforming Senior Care





Caring for seniors is not a one-size-fits-all proposition, which is why operators of senior living communities must equip their care teams to be flexible and responsive. As seniors grow older, they face an increasing number of age-related difficulties. “Younger” seniors under 75 years old are more likely to be active and independent, while older seniors tend to need more help from day to day. Those who have mobility issues may require assistance performing routine tasks like cooking, cleaning and bathing.

All seniors experience a natural decline in hearing, sight, balance and muscle strength that gradually affects their ability to care for themselves. At some point, most will develop at least one chronic condition for which they will need regular medical support.<sup>1</sup> According to the latest figures from Statistics Canada, Canadian seniors most commonly suffer from arthritis, high blood pressure, high cholesterol, back problems, diabetes and cataracts.<sup>2</sup> Cognitive impairment is another health factor that frequently comes into play. Seniors with severe memory disorders such as Alzheimer’s disease and other dementias will need progressively more attention as their condition deteriorates. In some instances, 24/7 monitoring is required.

Senior living operators must deliver high-quality services tailored to suit each resident’s particular combination of needs, while supporting their preferred lifestyle, satisfying their “customer service” expectations and maintaining their dignity.

Obviously, caring for seniors can be challenging, and each senior represents a unique challenge from a caregiver’s perspective. Senior living operators must deliver high-quality services tailored to suit each resident’s particular combination of needs, while supporting their preferred lifestyle, satisfying their “customer service” expectations and maintaining their dignity. To meet these challenges in a cost-effective way, senior living operators are turning to new technology solutions that employ real-time location systems (RTLS), remote sensing devices, wireless messaging capabilities, and intuitive software applications.

# Drivers of Technology Adoption

Senior living communities are at an inflection point in the transition from old to new technology infrastructure. This transition, which might have otherwise been more gradual, was catalyzed in numerous ways by the arrival of COVID-19. In just a few short years, there have been substantial changes in work processes, health precautions, labour relations, and seniors' attitudes that no one could have predicted before.

In the aftermath of the pandemic, these are now the major factors driving senior living operators to implement new systems:

## Chronic staffing shortage

Operators are under intense pressure to increase productivity because they simply don't have enough employees. There is a limit to the number of residents that each caregiver can safely support, so prolonged understaffing inevitably drives down occupancy rates, resulting in lost revenue. A survey of Alberta's long-term care workers conducted by the Parkland Institute just prior to the pandemic revealed that less than half thought there was enough staff at their workplace to provide necessary care to residents. Only 10% said their facility was never understaffed.<sup>3</sup> During the pandemic, of course, staffing shortages reached crisis proportions. In June, 2022, the American Health Care Association (AHCA) reported that 87% of the nursing homes that it surveyed were facing moderate to high staffing shortages, 99% were asking staff to work overtime and 61% were limiting new admissions.<sup>4</sup>

## High employee turnover rate

Although many people enjoy a rewarding career in senior care, it can be an exceedingly difficult job. Long hours doing shift work, coupled with the heavy emotional toll, frequently causes burnout among nurses and caregivers, an unfortunate outcome that was turbocharged by COVID-19. According to the *Survey on Health Care Workers' Experiences During the Pandemic*,

conducted by Statistics Canada in 2021, 63.2% of healthcare workers who intended to leave their job or change jobs (not including those who intended to retire) cited "job stress or burnout", making it the most commonly reported reason.<sup>5</sup> In the U.S., annual turnover for senior living workers, already close to 50% before the pandemic,<sup>6</sup> surged to 85%, according to the National Investment Center for Seniors Housing & Care (NIC).<sup>7</sup>





## Unappealing work environment

In 2022, AHCA found that 98% of nursing homes were having trouble hiring new employees, even though most were offering bonuses and higher wages.<sup>8</sup> To attract and retain workers, senior living operators need to up the ante beyond salary hikes to include better working conditions and a more satisfying job experience.

## Seniors' desire to live independently

Whether aging in place at home or in a senior living community, seniors want to live life on their own terms as much as possible, for as long as possible. More than ever, they (and their families) are shopping around for senior living operators who are equipped to enable their lifestyle, not impose limitations.

In anticipation of future lockdowns, due to COVID or some other virus, operators are adopting solutions that further enhance remote communication and resident monitoring capabilities.



## Public health lockdown protocols

COVID-19 lockdowns, designed to keep vulnerable residents safe by minimizing virus transmission through direct person-to-person contact, made an indelible mark on care delivery in senior living communities. In anticipation of future lockdowns, due to COVID or some other virus, operators are adopting solutions that further enhance remote communication and resident monitoring capabilities.

## Heightened anxiety caused by the pandemic

Seniors and their families are researching senior living communities more deeply since the arrival of COVID-19 to ensure that operators have effective systems in place to protect their residents, not only from infectious disease but also from neglect and feelings of isolation.

## Evolving industry standards and best practices

As the state of the art changes, operators must gradually update their facilities to remain competitive with other senior living communities. Delivering the best possible care means offering a complete menu of modern services and conveniences.

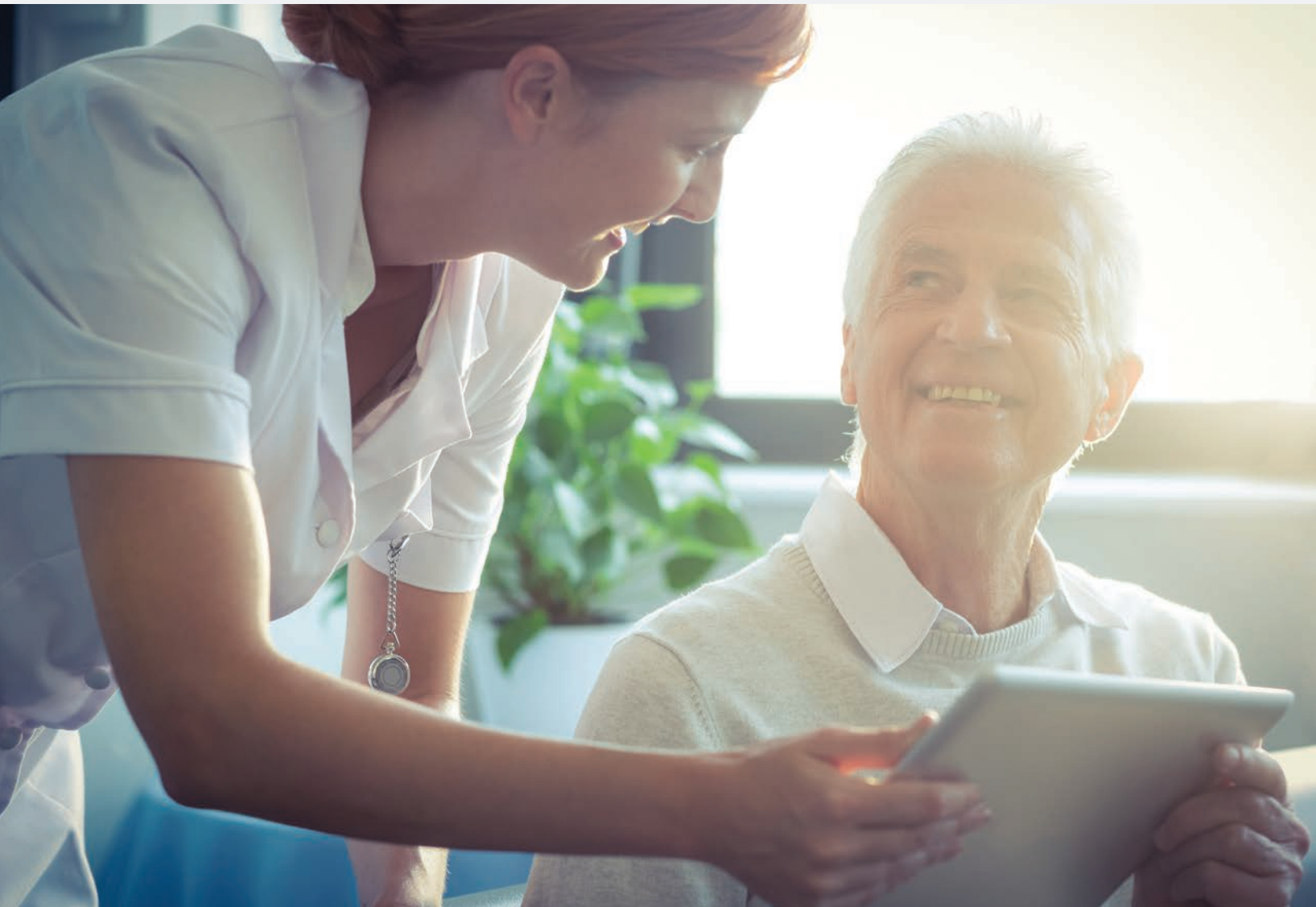
## Generational change in workers and clientele

Baby boomers, who started turning 65 in 2011, are entering senior living communities in ever greater numbers, raising the overall level of digital usage among residents. With every year that passes, seniors as a group are becoming more comfortable with—or even dependent on—smartphones, computers, digital appliances and other internet-connected devices,<sup>9</sup> putting pressure on operators to introduce new systems that will meet prospective customers' heightened technology expectations. Similarly, young workers entering the senior living sector as nurses and caregivers are proficient digital users and thus have a low tolerance for employers that fail to improve the workplace with obvious technology solutions.

## Aging population and shrinking workforce

Seniors make up a greater share of Canada's population than ever before—19% according to the 2021 census—and there are now proportionally fewer workers to care for them.<sup>10</sup> Statistics Canada projects that the ratio of working age people to seniors is only going to decrease in the coming decades, continuing a long-term demographic shift.<sup>11</sup>

The last few years have been difficult for the senior living sector, partly because they have marked a period of intense change. In the market that has emerged, operators are under pressure on several fronts to implement new technology solutions, sooner rather than later. Operators therefore need to explore their options, learn what systems are available, and understand the role each one can play in a modern care scenario. But first, to put the value of these new technology solutions into proper perspective, it is worthwhile reviewing the traditional nurse call systems that operators will be either augmenting or replacing.



# Limits of a Traditional Nurse Call System in Senior Care

A traditional nurse call system operates on a *room-centric* care paradigm, where every call received by the care team is identified with a specific location, and not with a resident. Call equipment such as buttons or pull cords are located in fixed positions within each senior's room(s) and in common areas throughout the building. Some facilities may have call indicator lights in the hallway outside each door to catch the attention of passing staff members.

## Traditional room-centric nurse call systems have several limitations:

- Unless residents are calling through a wired intercom system, the care team has no way of knowing who has made a call or what kind of aid is needed until they get eyes on the resident, either in person or through the video feed of a common area.
- A call button or pull cord may be out of reach when residents are in greatest need of assistance, such as when they are lying on the floor after a fall.
- It is easy for a resident in distress to go undetected for a long time, especially when the care team is short-staffed or simply very busy. For example, no one will know if a resident falls until someone finds them.
- If a resident becomes incapacitated outside of their room, and they are unable to call for help, the only way to find them is to systematically search every floor in person and/or using security cameras in common areas.
- Members of the care team may miss a call if they are away from the nurses' station; or they could get distracted and forget to respond to a call. If they get called away while helping a resident with a non-urgent matter, they may forget to return and finish the task.
- The equipment does not help with wander management of seniors with dementia. Separate measures are required.
- This is "dumb" technology that does not retain a memory of calls or capture metrics of any other kind. Each resident's entire record of care must be manually created by the staff, who are frequently overworked and in a rush. After an incident occurs, this can leave senior living operators particularly open to liability claims because spotty documentation can make it seem as if staff negligence contributed to the severity of the outcome.

The longer the interval between checks, the longer a resident will go without aid . . .



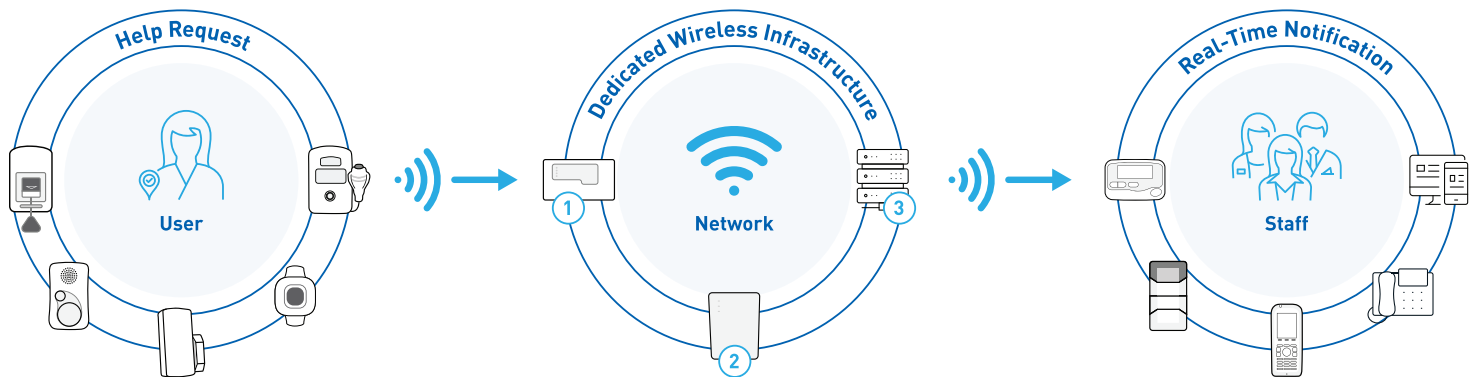


In facilities that only use traditional nurse call equipment, workflow can be quite chaotic, negatively impacting the care team's productivity. Staff members may routinely have care tasks interrupted by other calls, forcing them to leave work unfinished. Some may be required to respond to every call, resulting in alarm fatigue and wasted effort, as calls are routinely answered by multiple people.

To ensure residents' safety and well being, staff must regularly check in on them between calls. Performing frequent in-person room checks is labour-intensive but it's the only way to safeguard the residents of senior living communities that employ a traditional nurse call system. The longer the interval between checks, the longer a resident will go without aid if an incident occurs and they cannot call for help (or if staff somehow misses their call). Clearly, there is a lot of room for improvement here.



## How Nurse Call Technology has Evolved



New technology solutions have been specifically designed to address the shortcomings of traditional nurse call systems and expand the limits of what they can do. Many of the latest developments are derived from various wireless technologies, including energy-efficient miniature transmitters, messaging systems, and Bluetooth Low Energy (BLE) networks. Others leverage cloud computing and innovative software engineering to drive smart systems that can do much more than just ring an alarm bell at the nurses' station.

Together, these technologies have yielded a new generation of *person-centric* nurse call solutions:



### Wearable nurse call pendants

No matter where they are in the building, residents can use these watch-sized wireless devices to summon aid to their exact location with a single push of the alarm button.



## Real-time location systems (RTLS)

Using RTLS-enabled devices such as wearable pendants and property tags, the care team always knows where people and assets are located. This shortens call response times, reduces time wasted looking for equipment and eliminates a source of workplace stress. RTLS technology is also a game-changer for *wander management* because staff can be instantly alerted when residents with dementia leave a predefined zone.



## Fall detection

A wireless pendant with fall detection sensors can automatically send out an alert if a resident falls. The care team is then able to provide immediate assistance, substantially improving health outcomes and minimizing liability/insurance costs for operators. A senior living community that employs a fall detection system can give vulnerable seniors and their families some peace of mind as they go about their daily activities.



## Wireless sensors

Remote sensing devices can perform basic monitoring functions that normally consume valuable staff time. For example, sensors are available for measuring seniors' heart rate and temperature, detecting when they open doors or windows, and keeping tabs on environmental conditions in their rooms.

During a public health crisis, this technology can help caregivers monitor their residents in a way that limits the spread of dangerous pathogens.

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## Two-way wireless voice communication

With a hands-free wireless communication hub installed in each resident's room, staff members have the ability to check in remotely using a smartphone or cordless handset. After receiving an alert, a staff member can speak directly with the resident to assess the urgency of their call and reassure them that help is on the way.





## Automatic alert messaging

When residents call for assistance, alerts can be delivered to staff members' smartphones, cordless handsets or computers in formats such as SMS, push notifications, automated voice calling, desktop alerts and email. Some systems include a fail-safe *alert escalation* feature that can be configured to resend alerts to other staff members if they aren't accepted by the original recipient(s) within a preset time period.



## Productivity-enhancing care management software

Using a smartphone app or computer-based software application, members of the care team can manage alerts, locate residents or equipment, and configure alert preferences, while managers monitor staff activities, plan shifts, and much more. Ideally, this type of software should automatically retain a detailed call log for each resident.



## Analytics and reporting software

Nurses and managers can use analytics software to identify trends in a resident's alarm behaviour and then suggest appropriate changes to their care plan. Reporting features are particularly valuable to administrators, who are often called upon to produce a resident's record of care after an incident has occurred.

Despite the increased technical complexity and additional hardware requirements, these nurse call solutions can be deployed reasonably quickly, with minimal disruption to staff and residents. The best solutions are easy to integrate with existing systems and largely intuitive for users, requiring little or no training, especially for seniors who may have difficulty learning to operate new devices.



# Doing More with Less

The latest generation of nurse call technology has already vastly improved communication, increased operational efficiency, reduced response times, raised the quality of service, and strengthened accountability at senior living communities across North America. Using these systems, care professionals have a greater ability to prioritize tasks and coordinate their efforts, so residents are more likely to receive appropriate care, exactly when they need it most.

A key takeaway for operators is that upgrading an outdated nurse call system will enable their employees to accomplish much more in a day and go home feeling more satisfied with their work. In light of ongoing staffing challenges, the ever-increasing demand for senior living services, and seniors' own mounting expectations for supportive technology, operators cannot afford to neglect this critical care infrastructure.



## ENDNOTES

1. <https://www.canada.ca/en/public-health/services/publications/diseases-conditions/aging-chronic-diseases-profile-canadian-seniors-report.html>
2. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310078801>
3. [https://www.parklandinstitute.ca/time\\_to\\_care](https://www.parklandinstitute.ca/time_to_care)
4. <https://www.ahcanca.org/News-and-Communications/Fact-Sheets/FactSheets/SNF-Survey-June2022.pdf>
5. <https://www150.statcan.gc.ca/n1/daily-quotidien/220603/dq220603a-eng.htm>
6. <https://www.cnn.com/2019/04/09/us-home-healthcare-system-is-in-crisis-as-worker-shortages-worsen.html>
7. <https://blog.nic.org/senior-living-looking-for-workers-tired-of-turnover>
8. <https://www.ahcanca.org/News-and-Communications/Fact-Sheets/FactSheets/SNF-Survey-June2022.pdf>
9. <https://www150.statcan.gc.ca/n1/pub/11f0019m/11f0019m2019015-eng.htm>  
<https://www.statcan.gc.ca/o1/en/plus/968-zoom-ing-canadians-internet-use-and-during-pandemic>
10. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810002701>
11. <https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1710005701>