

The Philips Lifeline medical alert service

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► **Home healthcare is growing in importance as treatments move from the hospital to the home.**

Home healthcare is growing in importance as a natural consequence of the trend towards moving many medical treatments from the hospital to the home and, of course, the general aging of the population. By 2050, the number of over 60's worldwide is predicted to reach two billion. Many of these seniors will want to continue living independently at home, and wish to take greater control over their own health. However, most of them will need some form of care, which will have to be there as and when required.

Caregiving for a family member or friend is not an easy task. The fast pace of modern life makes it harder to balance everyday commitments to work and family. Caregivers naturally want to be there as much as possible, yet studies have shown that hour after hour of continuous caregiving can lead to exhaustion and depression - actually jeopardizing the security of the person at risk.

Today, family members are no longer likely to live in the same neighborhood, so "sharing the caring" can be more difficult. Plus, the cost of paying live-in help to watch an elderly parent, senior relative, or other loved one can be prohibitive, even if it is only for a short time.

In many cases, the ideal solution is home healthcare in the form of visiting nursing combined with a medical alert service.

The Visiting Nursing Association of Western New York

Founded in 1885, the Visiting Nursing Association of Western New York (VNA of WNY) was the first Visiting Nursing Association in the United States. Today, the VNA of WNY is the largest certified home health agency in Western New York State, with a team of nurses, therapists and social workers serving over 13,400 patients annually, with over 312,000 home visits from Williamsville to Wellsville, from Buffalo to Batavia, and from Jamestown to Youngstown.

Whether the subscriber needs products and services for a newborn baby or an elderly

patient, the VNA of WNY meets all home care needs. The full range of services includes pediatric and adult skilled nursing and therapies, chronic disease management, home infusion therapy, mental health care, obstetrical services, respiratory equipment and care, and personal response systems.

Quality is measured stringently and improved on continuously. The results place the VNA of WNY at the highest level of the home health industry, with outstanding patient and physician satisfaction results, and clinical outcomes comparing favorably with national benchmarks [1].

Kaleida Health

The VNA is affiliated with Kaleida Health, the largest health care provider in Western New York. More than one million patient visits are recorded annually at Kaleida Health's Buffalo General Hospital, DeGraff Memorial Hospital, Millard Fillmore Gates Circle Hospital, Millard Fillmore Suburban Hospital, Women and Children's Hospital of Buffalo, plus the health system's 99 clinics and community health care centers.

Heart care is one of Kaleida Health's major concerns. In addition to the home care for heart patients provided by the VNA, Kaleida Health performs 75% of all cardiac procedures in Western New York region, including over 10,000 catheterization procedures and 1,400 open-heart surgery cases. The cardiac program has been named a BlueCross BlueShield "distinction center" for care in Western New York; received a HealthGrades Five Star award and the United Healthcare Cardiac Center of Excellence award.

Pioneering treatment of heart attack victims by Kaleida Health's cardiologists has been shown to reduce mortality by up to 61% [2].

Lifeline

Since 1990, the VNA has been providing seniors and people with mobility problems living

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Figure 1. Philips Lifeline helps keep patients at home as long as possible.

independently at home with Lifeline’s medical alert service. The object is to provide the necessary support to keep the patient at home as long as possible (Figure 1).

With over 30 years of experience, Philips Lifeline is America’s premier medical alert service, targeted to seniors and persons with limited mobility living independently at home.

Philips Lifeline provides added security for patients worried about the risk of falls in the home, patients with heart-related ailments and for other age-related or medical conditions. The Philips Lifeline service supports an older adult in living alone with the ability to call for assistance and also, using Philips Lifeline with Reminders, to remind patients when to take their medication.

In many cases, patients are assessed by a clinician (such as a home health nurse or case manager) in order to ensure that the Philips Lifeline service is matched to their needs. The evaluation includes assessing whether, and to what extent, patients are cognitively able to follow the instructions. Patients are taught how to use the Philips Lifeline service and how to change their lifestyle to cope with their medical condition.

The Philips Lifeline with Reminders Service prompts subscribers to take their medication, eat properly, take exercise, and keep important appointments such as doctor’s visits. Family members and/or other caregivers are taught

how to set up the personalized reminders. Up to six reminders can be set up remotely from any touch tone telephone. Daily, weekly or one-time reminders are easy to set up, and since the reminders are recorded in the voice (and language) of a family member, caregiver or health professional, they can be used for any reason: to remind the patient to weigh him- or herself, to take a water pill after weighing, or even just to leave a brief message of love and support!

A study conducted by the Visiting Nursing Association of Western NY over the period from June 2004 to September 2005 (see Intermezzo) concluded that Philips Lifeline with Reminders was successful in improving outcomes for patients with heart failure who were being treated by home health in accordance with a heart failure disease management program. The use of Philips Lifeline with Reminders reduced hospital readmissions from 86% to 37% and emergency department visits from 43% to zero. A further pilot study (not yet published) indicates that Philips Lifeline in combination with telehealth can reduce rehospitalization to 18%. Patients also become more compliant with their medication.

Philips Lifeline can not only protect a life: it can preserve a cherished way of life by giving seniors the confidence to continue living in their own homes. A fall, or some other need to call for help, could happen at any time, so subscribers to the Philips Lifeline medical alert service wear a Personal Help Button, generally in the form of a pendant linked to a

► **Philips Lifeline is America’s premier medical alert service.**

► **Philips Lifeline can preserve a cherished way of life.**

▶ Figure 2. Exterior of the United States Headquarters of Philips Lifeline in Framingham, Massachusetts, United States.



▶ **Philips Lifeline helps seniors and people with mobility problems to live in their own homes.**

Communicator Unit (See Medical Alert Sequence below). In an emergency, subscribers just press the button and they are connected to a specially trained Personal Response Associate in a 24/7 call center. These professionals have instant access to the caller's pertinent history and ensure appropriate action is taken - whether notifying a family member or neighbor, or calling the emergency services.

A further consideration is the cost. Seniors are often reluctant to pay for the necessary care, so the burden falls on the children or other family members. Philips Lifeline is relatively inexpensive: little more than \$1 a day.

The Philips Lifeline service is provided through a network of more than 2,500 hospitals and other healthcare providers, and serves a subscriber base of more than 530,000 throughout North America.

Lifeline and Philips

In March 2006, Lifeline became part of Philips Consumer Healthcare Solutions business, representing a welcome addition to Philips' products and services for home healthcare. The company continues to operate from its headquarters in Framingham, Massachusetts, USA (Figure 2).

Philips Lifeline combines Philips' strengths in technology and innovation with Lifeline's proven service delivery competencies. One result is the creation of new products and services with a clear consumer focus that differentiates Philips Lifeline from "traditional" healthcare services.

▶ **Highly trained Personal Response Associates are available 24/7.**

The synergy between the two companies also offers important opportunities for growth, including expansion to new regions where Philips can build on its global presence, functional expertise and distribution channels.

The Philips Lifeline service

Philips Lifeline helps over 530,000 seniors and people with mobility problems to live in their own homes, with greater independence and dignity. Philips Lifeline is the preferred provider of medical alert services to members of the Visiting Nurse Associations of America, and to thousands of leading hospitals across the United States and Canada.

With 250 highly trained Personal Response Associates, Philips Lifeline has a large and experienced group of response staff.

A simple touch on the Personal Help Button connects the Subscriber to a qualified Personal Response Associate at any time of the day or night. The Associate quickly makes voice contact, reviews the individual's situation and then notifies the appropriate support and medical response team as required.

Medical Alert Sequence

1. A subscriber in need of help presses their Personal Help Button (worn as a pendant or on the wrist) (Figure 3).
2. A CarePartner Communicator Unit or Telephone (Figure 4) is activated and automatically dials the Philips Lifeline Response Center (Figure 5).



Figure 3. The Philips Lifeline Personal Help Button.

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Figure 3a. The Classic Pendant version.

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Figure 3b. A Personal Help Button on a wrist strap.



Figure 4. The Basic Units.

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Figure 4a. The CarePartner Communicator Unit with:
- automatic voice-to-voice communication
- remote call answering
- monthly test call reminders
- battery back up
- adjustable volume.

◀
Figure 4b. Telephone with all Basic Unit features, plus:
- full telephone facilities
- programmable medication reminders
- spoken dial announcements
- spoken time and date announcements.

3. Trained Personal Response Associates with instant access to the complete patient profile and critical information provide rapid response any time day or night, to find out what help is needed.
4. Even if the subscriber cannot answer, Philips Lifeline sends help at once. Whether it is a neighbor, family member or ambulance, Philips Lifeline will send the help needed right away.

Lifeline's medical alert service and equipment options make it easy to select the safety and convenience features that work best for the person at risk and their family.

Special assistive devices are available for people with limited mobility and other physical challenges. These are described below in the section: Assistive Devices.

Lifeline's advanced technology is unique to Philips Lifeline, and every piece of equipment is assembled and tested by Philips Lifeline.

Supporting medical concerns

There are several good reasons why people need Philips Lifeline, from general concerns about falling, to receiving reminders about when to take medications, or to medical conditions that can affect a person's ability to be alone and still

be able to call for assistance. Today, Philips Lifeline helps over 500,000 seniors or disabled people to live with greater independence and dignity in their own homes.

Falls

For seniors, falls in and around the home have serious consequences. Falls cannot always be prevented, but people can always be prepared for one. The U.S. Center for Disease Control suggests that older adults should "think about wearing an alarm device that will bring help in case you fall and can't get up" [1].

Figure 5. Philips Lifeline's 24/7 service is provided by a call center staffed by qualified Personal Response Associates and supported by the latest technological developments
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► Falls are one of the most serious health risks among seniors.

Falls among older adults: an overview [1]

- Falls are one of the most serious health risks among seniors age 65 and older, with more than one third of this population falling each year.
- Falls are the leading cause of death due to injury in those people 65 and over.
- 20-30% of people who fall suffer moderate to severe injuries such as bruises, hip fractures, or head traumas. These injuries can make it hard to get around and limit independent living. They also can increase the risk of early death. Most fractures among older adults are caused by falls; the most common fractures are of the spine, hip, forearm, leg, ankle, pelvis, upper arm, and hand. Many people who fall, even those who are not injured, develop a fear of falling. This fear may cause them to limit their activities, leading to reduced mobility and physical fitness, and increasing their actual risk of falling.

Falls after discharge from the hospital

The fall rate is more than four-fold higher in the first two weeks after hospitalization compared to three months after discharge [2]

- More than half (55%) of all falls by seniors happen in the home. An additional 23% occur outside but near the house [3]. Philips Lifeline works in and around the home and can therefore intervene in close to 80% of all falls.
- Those who fall are 2-3 times more likely to fall again within the next year [4]
- Many chronic medical conditions place millions more seniors at risk. Cardiovascular disease, pulmonary disease, arthritis, diabetes, osteoporosis, diminished hearing and eyesight, and Parkinson's all leave seniors vulnerable to helplessness at home [4].

Prevention and treatment

- 30-40% of falls are preventable by multifactorial interventions: removing hazards in the home, managing medications to minimize increased risk of falls, and introducing a physical activity program to develop strength and improve mobility, balance and flexibility
- Preventing falls and the resulting injuries can promote independence, by reducing or delaying the need to move out of the home [5].

Fall prevention checklist

- Have a lamp or light switch that can be reached without getting out of bed.
- Use night-lights in the bedroom, bathroom and hallways.
- Keep a flashlight handy.
- Have light switches at both ends of stairs and halls.
- Install hand-rails on both sides of stairs.

Fitness

"If exercise could be packaged into a pill, it would be the single most widely prescribed and beneficial medicine in the nation." – Robert N. Butler, MD. Former Director, National Institute on Aging.

Treatments including exercise for elderly adults can reduce the risk of falls, as well as help prevent or delay some diseases and disabilities. Older people of all ages have much to gain from staying active, and it is something they can do easily at home.

Heart-related ailments

Philips Lifeline provides extra protection from ailments unrelated to falls, particularly for those coping with heart disease. There are many situations in which someone may need immediate assistance but is unable to call for help themselves: a serious heart arrhythmia, chest pain, difficulty breathing, general fatigue, muscle weakness or other serious forms of distress.

Frequent hospital admissions are another common problem for patients with heart failure. This is mainly because managing heart failure at home is a complex task requiring individuals to remember to take medications, to weigh themselves on a regular basis (an indication of fluid retention) and to follow a low sodium diet and exercise plan.

Other age-related conditions

As people get older, they face a greater risk of stroke, and are more prone to developing chronic diseases like arthritis, diabetes, and osteoporosis. There can also be impairment of vision and hearing, and it can be harder for seniors to move around the house with the same confidence as they did before. Each of these conditions, accompanied by anxieties about falling or being incapacitated, can lead to less physical activity and a decline in their ability to live on their own.

Assistive devices

A selection of specially designed assistive devices, offered as an alternative to the Personal Help Button, help people with neuromuscular disabilities and disorders (such as paralysis, Parkinson's, MS, Cerebral Palsy, and ALS) to call upon Philips Lifeline for help.

Assistive devices include:

- Pillow Switch that can be pinned to a pillow and activated by a controlled head movement
- Wobble Switch that can be activated by gross body or head movements coming from any direction

► Anxieties about falling or being incapacitated can reduce people's independence.

- Rocker Lever Switch activated by gross hand, arm or body movements or by a mouth or head stick
- Sip or Puff Switch that is activated by sipping or puffing on a tube depending on whether there is breath control or respiratory control
- P-Switch activated by minimal movement detected by small sensors (set by the user) placed on any part of the body capable of minimal motion.

These devices can also be used to answer incoming calls by activating Philips Lifeline's remote answering feature and speakerphone.

Smoke detector

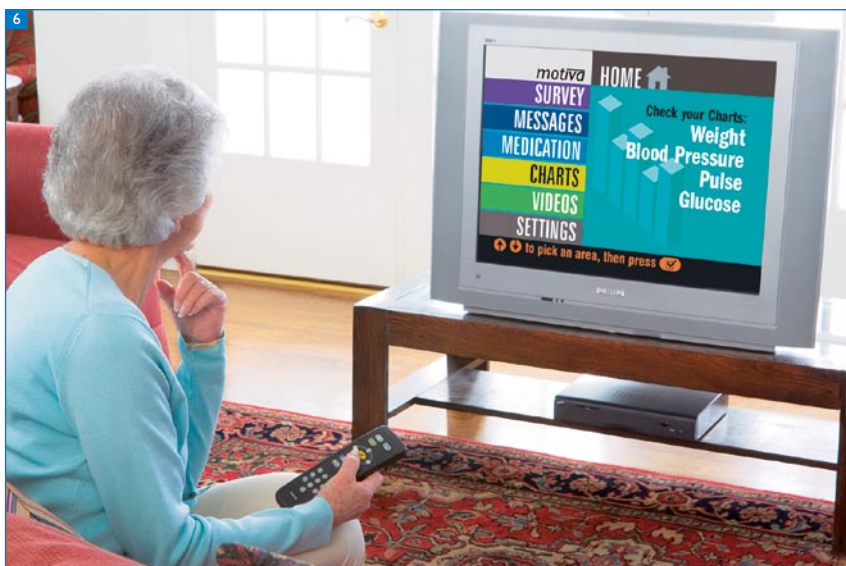
The addition of a Philips Lifeline smoke detector offers added security and protection. The smoke detector can automatically send an emergency signal to the Philips Lifeline Response Center so that the Fire Department is quickly dispatched.

Medication reminders

Philips Lifeline helps ensure that medication schedules and plans of care are followed through the use of its Philips Lifeline with Reminders service. Failure to take the proper medication at the right time accounts for 25% of all hospital admissions for those aged 65 and older. Timely reminders help to avoid mistakes in medication adherence or in following a plan of care which could result in a hospital re-admission or admission to a nursing home. Ongoing studies indicate that Philips Lifeline in combination with telehealth can reduce the likelihood of rehospitalization still further (Figure 6).

Awards and recognition

Philips Lifeline is recognized for its unmatched service and integrity by organizations that know the most about caring for seniors and others in need, including the Visiting Nurse Associations of America.



▲ Figure 6. Motiva healthcare management via the home TV offers extra security.

The service has received numerous awards, including: the American Society on Aging's 'Business of the Year' for exemplary programs meeting the needs of older people and their families; the Dana Foundation's commendation and medallion for pioneering achievements in healthcare; and the Shingo Prize for manufacturing excellence and quality products. Ronald Feinstein, President and CEO of Philips Lifeline Systems, was also appointed by Governor Mitt Romney to represent the Commonwealth of Massachusetts at the White House Conference on Aging. In addition, it has been recognized for its focus on its employees by being honored by the Boston Business Journal as one of the top places to work in the Boston area.

Further information

For further information on the Philips Lifeline Medical Alert service please refer to the website www.lifelinesys.com. To order the Philips Lifeline service for a patient or a family member in the United States or Canada just call 1-800-LIFELINE (543-3546) ■

► **Philips Lifeline has received numerous awards for achievements in healthcare.**

References

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Heart Failure Outcome Report

The following report shows the results of a study conducted by the Visiting Nursing Association of Western NY over the period from June 2004 to September 2005.

Heart Failure Outcome Report

Study Conducted by the Visiting Nursing Association of Western NY
June 2004 – September 2005

Lifeline with Reminders Reduces Hospital Readmissions for Patients with Heart Failure

I. Key Findings

Lifeline with Reminders reduced hospital readmissions for exacerbation of heart failure at the highest level of statistical significance, when compared to a control group.

Two comparable groups of patients with heart failure were recruited into the pilot study at the start of care and randomly assigned to one of two groups; the pilot group was given Lifeline with Reminders for use during the episode(s) of care and up to a maximum of six months. The control group did not have any Lifeline service, neither Personal Response Service nor Lifeline with Reminders.

1. The pilot group demonstrated statistically significant reduction in hospital readmissions for heart failure ($p < 0.001$)

	Group With Lifeline	Control Group	Diff
	(N = 35)	(N = 35)	
# Hospitalizations for heart failure	13	30	131% fewer

2. Patients Using Lifeline with Reminders had NO Emergency Department (ED) Visits

	Group With Lifeline	Control Group
# ED visits for heart failure	0	15

For the control group, the 15 ED visits for heart failure represented 83% of all ED visits.

3. Lifeline with Reminders dramatically improved the number of patients who were independent in medication compliance. (Home Care Compare Improvement in OASIS MO780)

Group With Lifeline	Start of Care	Discharge OASIS	Difference
# patients able to independently care for medications	18	25	+7

Control Group	Start of Care	Discharge OASIS	Difference
# patients able to independently care for medications	22	24	+ 2

4. Lifeline with Reminders Made it Possible for Early Intervention in the Home

Average Number of Nursing Visits by Episodes of Care	Group With Lifeline	Control Group	Difference
# Episodes	46	45	+ 1
# Nursing	9.5	6.5	+ 3

II. Study Implications

The data suggests that Lifeline with Reminders is effective in changing patient behaviors and improving adherence to their plan of care. Patients with heart failure who use Lifeline with Reminders were able to improve adherence to their care plan thereby reducing exacerbations and hospital utilization. In addition, Lifeline with Reminders made it possible for nursing to intervene at the first sign of problems, resulting in a trade off of a modest increase in nursing visits in lieu of more costly hospitalization.

III. Study Overview

Hypothesis

This pilot study evaluated the effectiveness of Lifeline with Reminders in improving care plan adherence for patients with heart failure during their active stay in home care. The pilot tested several hypotheses regarding the value of Lifeline with Reminders in improving the health of patients as measured by:

- a) reduced hospital re-admissions
- b) reduced emergency department visits
- c) improvements in Home Care Compare Scores for medication compliance
- d) one less nursing visit during an episode of care.

Key Elements of the Pilot

Heart Failure Treatment Protocols

There were 70 research subjects, 35 pilot and 35 control group patients, who were all admitted to the VNA of Western NY with a primary diagnosis of heart failure. All patients were treated according to the VNA's Heart Failure Disease Management Program following a clinical path-way which details nursing interventions, standardized orders, and teaching guidelines. Clinical performance is defined by measures established by the Department of Health of New York. No telehealth program was in place during the pilot.

Lifeline with Reminders Protocols

The Lifeline Program Manager (LPM) managed the activation of the Lifeline service and educated the patient and family on its proper use. The LPM managed the Lifeline subscriber as they would any other with the exception of a post-activation telephone survey to assure complete understanding of the use of the service. The

Case Manager functioned as the initial reminder contact identifying the unique reminder messages and recording them while in the patients' home. Reminder messages were customized to the needs of each patient and related to weight, medications, diet, and medical appointments.

Data Sources

The OASIS assessments were the source of data for all measures.

IV. Discussion

The VNA of Western NY has since implemented a telehealth program which is used for select patients. In the context of a telehealth program, Lifeline with Reminders can be used as a step down to telehealth and recommended in month two of the certification, in preparation for discharge. The telehealth nurse is in an ideal situation to identify patients who need continued support after discharge and to identify the specific reminders that a particular patient needs to support adherence. In addition, since not all patients qualify for telehealth, Lifeline with Reminders is a cost-effective way of supporting adherence and improving outcomes for the patient and the agency.

V. Research Subject Testimonials

"I remembered to be more compliant with my medications."

"I remembered to weigh myself daily and take my medications."

"It made me feel secure that someone was there to help."

"Lifeline was easy to use."

VI. Conclusion

This pilot study demonstrated that Lifeline with Reminders was successful in improving outcomes for patients with heart failure who were being treated by home health in accordance with a heart failure disease management program.

- Lifeline with Reminders reduced emergency department visits
- Lifeline with Reminders reduced hospital readmissions
- Lifeline with Reminders helped patients become more compliant with medications ■

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