

# Personal Emergency Response Systems for People Having Chronic Medical or Psychological Conditions/Disabilities

**Based on the *Reasons Patients Are Using Personal Emergency Response Services...and It's Not Just Falls!* white paper of August 2017 by Sara Bersche Golas, MA; Niles Fischer, MPH; Stephen Agboola, MD, MPH; Kamal Jethwani, MD, MPH; Mariana Simons-Nikolova; Jorn op den Buijs; and Linda Schertzer**

Many people simply think of personal emergency response services (PERS) as devices elderly people use to call for help when they have fallen. This limited view means that many of those who could be helped by PERS are unaware that the service could be useful to them as well.

Case managers may also be unaware of other PERS applications. But with additional knowledge they can help educate patients and families, thereby assisting them in finding a system that will work for their specific needs.

**PERS Has Many Applications** Older adults, anyone having chronic illnesses, and those with disabilities want to maintain independence and live in their own homes. By offering a safety net, PERS can build their confidence in managing by themselves. It also eases anxiety for both users and loved ones alike, since PERS users know they can get help quickly in any emergency.<sup>1-4</sup>

And it isn't just for the elderly. PERS can be used by adults of all ages, adolescents—even children. Consider an older child at home alone after school, a wheelchair-bound adolescent who desires independence, a young adult with severe asthma who lives alone, or a middle-aged adult who has Parkinson's disease. Beyond the risk for falling, what about the senior who has several chronic conditions, takes multiple medications that can cause drowsiness or imbalance, or simply lives alone?

As more persons are discharged from inpatient care earlier, as the number of people having multiple chronic conditions grows (now 1 in 4 Americans), and as the average lifespan increases,<sup>5</sup> potential PERS use rises exponentially—well beyond the limited scope of calling for help after a fall. Additionally, PERS can permit many who would otherwise be discharged to an assisted living facility or skilled nursing care (at

average 2012 costs of \$51,000 per year and \$85,000 per year, respectively) to age at home.<sup>6</sup>

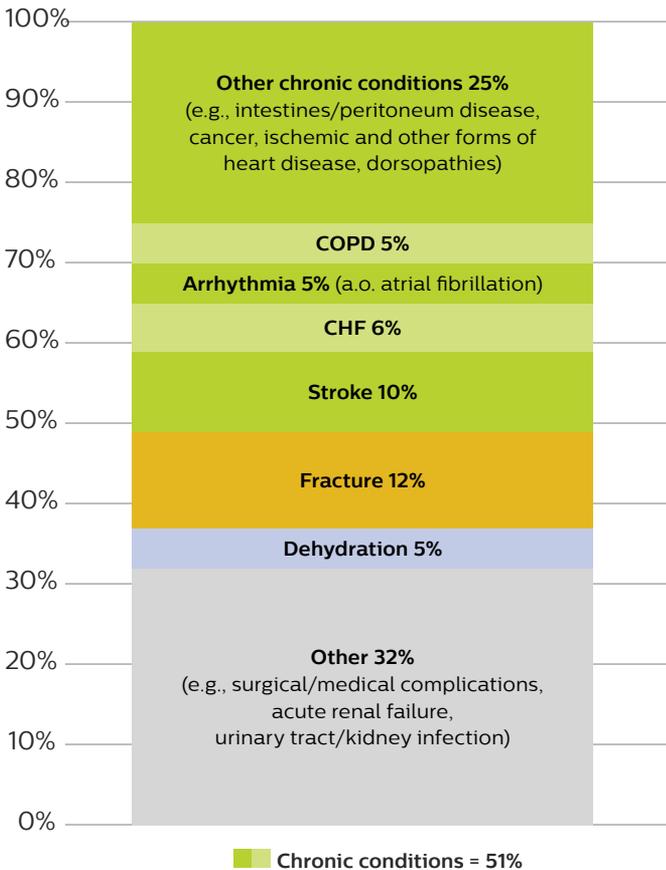
In 2009, emergency department (ED) visits rose to nearly 20 million among those aged 65 and older.<sup>7</sup> Physical and psychological symptoms—the largest category requiring treatment—encompass respiratory problems, chest and other pain, illness, and dizziness.<sup>8</sup> Such symptoms were among the top five reasons for ED visits, according to a retrospective analysis of medical records and device usage data among older PERS users conducted by Philips Lifeline and Partners Connected Health<sup>8</sup> (Table 1).

**TABLE 1: Circumstances for incidents requiring emergency hospital transport**

Circumstance	Number of incidents	Percent of incidents
<b>All transports</b>	<b>2,474</b>	<b>100</b>
Physical and psychological symptoms	1,144	46
Falls and fractures	568	23
Other (e.g., incidents described in free-text case notes)	762	31

Among ED patients who later enrolled in PERS, the primary reasons for emergency hospital admissions in the 4 months before such enrollment are shown in Figure 1. To reiterate, the conditions were not falls, but acute and chronic illnesses such as urinary tract infections (UTIs), congestive heart failure (CHF), pneumonia, septicemia, and chronic obstructive pulmonary disease (COPD).<sup>8</sup>

**FIGURE 1:**  
Principal diagnostic categories for emergency hospital admissions in the four months before PERS enrollment



## A Safety Net for Those Having Chronic Conditions

We're all living longer. The number of Americans 65 and older will reach 98 million by 2060.<sup>10</sup> Seventy percent (70%) of this group will have two or more chronic conditions.<sup>11</sup>

**Physical or Psychological Symptoms** – Annually, there were 380 ambulance transport requests per 1000 PERS users in the Smits and Ryter study. In nearly half of these, physical or psychological symptoms were the recorded reason. Less than a quarter of them were recorded as being related to falls or fractures.<sup>8</sup>

After ambulance transport and emergency hospital admission, diagnoses were primarily congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), or acute and chronic illnesses diseases—such as urinary tract infection, pneumonia, or septicemia (Table 2).<sup>8</sup>

A separate study of 78,585 registered cases of PERS use showed that falls represented 43.2%, whereas physical and psychological symptoms (including breathing, pain, bleeding, illness, dizziness, confusion, or anxiety) comprised 42.7%—nearly the same amount as falls.<sup>1</sup>

Smits and Ryter found that about 80% of PERS users enrolled in their service shortly after a physician, ED, or hospital visit. And emergency hospital stays—50% of which were necessitated due to chronic conditions—preceded enrollment in 35% of users.<sup>8</sup>

**TABLE 2:** Five most common principal conditions for hospital admission after ED visit for US population and PERS patients. Disease classification according to AHRQ's Clinical Classifications Software.

U.S. population 65–84 years <sup>9</sup>		U.S. population 85+ years <sup>9</sup>		PERS population 78 ± 11 years in this study <sup>8</sup>	
Condition	%	Condition	%	Condition	%
Septicemia	6.1	Congestive heart failure	7.8	Urinary tract infection	6.3
Congestive heart failure	5.5	Septicemia	6.8	Congestive heart failure	6.1
Pneumonia	5.1	Pneumonia	6.1	Pneumonia	5.9
Chronic obstructive pulmonary disease	4.8	Urinary tract infection	5.1	Septicemia	5.7
Cardiac dysrhythmias	4.3	Hip fracture	4.3	Chronic obstructive pulmonary disease	4.8

## Diagnoses for emergency hospital admission after ambulance transport were primarily CHF, COPD, or infectious diseases—not falls.

Both studies demonstrate that PERS is not merely limited to signaling a fall, but is a resource that can be used with a variety of patients—regardless of age—who live alone and/or who have disabilities, multiple chronic conditions, or psychological issues. In all of these cases, the PERS subscriber can call for assistance.

### How PERS Works

Often called *medical alert services*, several companies offer PERS—including Philips Lifeline. PERS generally have three parts: a small radio transmitter, a phone-connected console, and a response center to monitor calls. Most PERS are worn as pendants or wrist straps, but they can also be carried in a pocket for those who don't care to wear the device in the open.

Each unit usually includes a button that the user (or a caregiver) can press to reach a response center. Some devices have a GPS to help find the user's location; others have sensors that detect falls and automatically send a distress signal. The devices provide users with quick access to a response center that then determines whether an ambulance or some other type of response is needed.

**Making the PERS Investment** – Systems can be purchased, rented, or leased. They're sold to individuals, long-term care facilities, continuing care retirement communities, and more.<sup>12</sup>

At this time, PERS are not usually covered by Medicare or most insurance companies.<sup>14</sup> Insurers who do pay for systems almost always require a doctor's recommendation.

Nearly all states and the District of Columbia offer some type of Medicaid assistance for home safety monitoring of the elderly. Coverage differs across programs and by type of device.<sup>13</sup> Medicaid waivers, consumer-directed services, state plan personal care attendant (PCA) programs, and "Money Follows the Person" programs are included. The cost of PERS for low-income people may also be subsidized by social service agencies—something case managers can investigate for patients.<sup>14</sup>

**Beware of Contractual Obligations** – Patients buying a PERS may be required to pay an installation fee and monthly monitoring charge. Rentals are available through national manufacturers, local distributors, hospitals, and social service agencies, with fees often including the monitoring service. A person's local Area Agency on Aging may have information on companies that provide PERS.<sup>14</sup>

Advise patients to carefully read their contract before signing, making note of extra charges such as cancellation fees. More questions for patients to ask are listed below.

### Questions Case Managers and Patients Should Ask About PERS Providers<sup>14,17</sup>

- Is the company's monitoring center open 24/7?
- Does the company have monitoring centers in the U.S. rather than overseas?
- Is the monitoring center certified?
- What kind of training do staff receive?
- What is the average response time?
- What are the initial and ongoing costs?
- Is the device wearable? Is it waterproof? How durable is it?
- What is the device's range, mobility, and connectivity?
- What is the battery life?
- Does the company offer devices that work strictly with cellular phones as well as devices for landlines?
- Can the device be taken to a new city or used with a different company?

## Decreased Healthcare Costs, Increased Independence, and Better Patient Outcomes

Having multiple chronic conditions is associated with substantial healthcare costs—about 71% of total health spending in the U.S. and 93% of Medicare disbursements is for the care of persons so afflicted.<sup>5</sup> Studies have shown that PERS can help reduce hospital utilization, costs, and mortality.<sup>15,16</sup> Yet less than 5% of the total elderly market (65+) were using PERS in 2012.<sup>6</sup> That figure does not consider the entire addressable market, which includes patients of younger ages who may have chronic, serious conditions or disabilities.

**Early Referrals** – Early PERS referrals for patients having chronic conditions or a risk for falls could initiate timely care and interventions. In turn these would help reduce costly hospital admissions, improve clinical outcomes, and help patients having multiple chronic conditions remain in place as they age.

Therefore it's imperative for case managers and discharge nurses to be aware of these valuable systems and, where appropriate, to discuss them with patients who could benefit. Health management strategies—such as monitoring the risk of patients needing ambulance transport in any upcoming period, or choosing patients having multiple chronic conditions—can pinpoint a patient population who could benefit from PERS.

**PERS Growth** – In 2011, there were about 1.6 million monitored PERS accounts, with an expected growth of about 2% per year. Related mobile systems are expected to grow 35%.<sup>6</sup> ■

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## Questions

- 1. The personal emergency response system (PERS) does the following:**
  - a. Offers a safety net
  - b. Builds a person's confidence in being able to manage alone
  - c. Eases anxiety for family members and users
  - d. All of the above
- 2. PERS can be used by any person.**
  - a. True
  - b. False
- 3. PERS is primarily a callout for help after falling.**
  - a. True
  - b. False
- 4. According to a retrospective analysis of medical records and PERS usage data among older PERS users, the top reasons for emergency department visits include:**
  - a. Respiratory problems
  - b. Chest and other pain
  - c. Illness and dizziness
  - d. All of the above
- 5. The majority of PERS users enroll in such a service shortly after a physician, emergency department, or hospital visit.**
  - a. True
  - b. False
- 6. PERS is not just for signaling falls, but is a resource that can be used by a wide variety of patients who:**
  - a. Have disabilities
  - b. Have multiple chronic conditions
  - c. Live alone
  - d. All of the above
- 7. A PERS device provides users with quick access to a response center that determines whether an ambulance or other type of response is needed.**
  - a. True
  - b. False
- 8. Studies have shown that PERS can reduce:**
  - a. Hospitalization
  - b. Costs
  - c. Mortality
  - d. All of the above
- 9. In 2012, what percentage of the total elderly market was using PERS?**
  - a. Less than 3%
  - b. Less than 4%
  - c. Less than 5%
  - d. Less than 6%
- 10. Early PERS referrals for patients who have chronic conditions or a risk for falls could initiate timely care and intervention that would reduce costly hospital admissions and improve clinical outcomes.**
  - a. True
  - b. False

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### Personal Emergency Response Systems for People Having Chronic Medical or Psychological Conditions/Disabilities

#### Objectives

November 2018

1. Define personal emergency response system.
2. Identify three categories of individuals who would benefit from a personal emergency response system.
3. List three benefits of a personal emergency response system.

#### Answers

Please indicate your answer by filling in in the letter:

1. \_\_\_\_\_ 2. \_\_\_\_\_ 3. \_\_\_\_\_ 4. \_\_\_\_\_ 5. \_\_\_\_\_ 6. \_\_\_\_\_ 7. \_\_\_\_\_ 8. \_\_\_\_\_ 9. \_\_\_\_\_ 10. \_\_\_\_\_

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