Prior Authorization Review Panel
MCO Policy Submission

A separate copy of this form must accompany each policy submitted for review.
Policies submitted without this form will not be considered for review.

Plan: Keystone First	**Submission Date**: 3/1/2027
Policy Number: CCP.1154.07	**Effective Date:** 2/2015 **Revision Date:** 2/2024
Policy Name: Medical alert devices	

Type of Submission – Check all that apply:

- ☐ **New Policy**
- ☑ **Revised Policy***
- ☐ **Annual Review – No Revisions**
- ☐ **Statewide PDL**

***All revisions to the policy must be highlighted using track changes throughout the document.**

Please provide any clarifying information for the policy below:

Please see revisions below using tracked changes.

Name of Authorized Individual (Please type or print): Dr. Manni Sethi	**Signature of Authorized Individual:**

Medical alert devices

Clinical Policy ID: CCP.1154.07

Recent review date: 2/2024

Next review date: 6/2025

Policy contains: Medical alert devices; and personal emergency response systems.

Keystone First- CHIP has developed clinical policies to assist with making coverage determinations. Keystone First- CHIP's clinical policies are based on guidelines from established industry sources, such as the Centers for Medicare & Medicaid Services (CMS), state regulatory agencies, the American Medical Association (AMA), medical specialty professional societies, and peer-reviewed professional literature. These clinical policies along with other sources, such as plan benefits and state and federal laws and regulatory requirements, including any state- or plan-specific definition of "medically necessary," and the specific facts of the particular situation are considered by Keystone First- CHIP, on a case by case basis, when making coverage determinations. In the event of conflict between this clinical policy and plan benefits and/or state or federal laws and/or regulatory requirements, the plan benefits and/or state and federal laws and/or regulatory requirements shall control. Keystone First- CHIP's clinical policies are for informational purposes only and not intended as medical advice or to direct treatment. Physicians and other health care providers are solely responsible for the treatment decisions for their patients. Keystone First- CHIP's clinical policies are reflective of evidence-based medicine at the time of review. As medical science evolves, Keystone First- CHIP will update its clinical policies as necessary. Keystone First- CHIP's clinical policies are not guarantees of payment.

Coverage policy

In-home medical alert devices are investigational/not clinically proven and, therefore, not medically necessary, for HC or other plans, but for CHC plans these devices would be considered on a case-by-case basis.

Limitations

No limitations were identified during the writing of this policy.

Alternative covered services

Safety interventions for vulnerable people in their own homes, including:

- Occupational and physical therapy assessment of individual and home for fall risk.
- Fall risk assessment by a network physician or in the home by a network home health agency.

Background

Falls are the primary cause of injury related deaths in the elderly population. One in three elderly persons will fall at least once a year and many of the deaths occur after months of medical treatment. The three top chronic medical conditions that lead to falls are heart disease, diabetes, and arthritis (Bailey, 2022). As a natural consequence of aging, sensory impairments such as impaired hearing (presbycusis) and vision loss (cataracts, macular degeneration) are also risk factors for falls. Functional limitations that impede mobility and ultimately also contribute to the need for living in an institutionalized setting (Edelman, 2012).

Falls with resulting injuries or death, as well as a fear of future falls represent a major concern to elderly persons. According to the Healthy Aging Falls database from National Council on Aging, 67% of falls prevention program participants reported having multiple chronic conditions, including 66% with arthritis, 27% with heart disease, and 24% with diabetes (Bailey, 2022). The inability to get up after a fall due to fracture or weakness and remaining on the ground for extended periods results in a condition called rhabdomyolysis, which poses an additional lethal threat to long-term health outcomes (Chaudhuri, 2014).

“Aging in place” is a term meaning remaining in one’s own home as one ages (National Institute on Aging, 2023). It is generally considered more desirable, as 76% of Americans over age 50 hope to age in place (Binette, 2019). Because of the high incidence of falls in the senior population, safety concerns associated with aging in place include the risk of falling while alone and not being able to call for help (Bergen, 2014).

Wearable communication technologies, known as medical alert devices, and personal safety and alarm systems, have been developed to allow an injured user to push a single button to communicate with an answering service that will then contact emergency providers or personal contacts. The user pays a monthly fee for remaining connected to the communication service, and some devices include a fall detection function (Castiello, 2023).

Personal Emergency Response Systems are typically necklaces or bracelets; a button-shaped radio transmitter is pressed by the subscriber when in distress. Immediately, a communicator attached to the user’s phone line acting as a speakerphone between the user and the emergency response center is activated. The center then dispatches an ambulance or contacts the responder identified by the user (McKenna, 2015).

Findings

No practice guidelines from professional medical societies supporting the use of medical alert devices exist as of this writing. A U.S. Preventive Services Task Force guideline that concluded there is adequate evidence that exercise has a moderate benefit in preventing falls among the elderly does not include medical alerts or other emergency medical systems in its report (U.S. Preventive Services Task Force, 2018). Other guidelines focus on preventing falls, rather than responding to them.

A mailed survey to 2,610 (mostly elderly) users of personal alarms found that alarms were worn consistently inside and outside the home, but less frequently in bathrooms and while sleeping. Responses show faster assistance in an emergency, greater ability to remain at home, increased sense of security, reduced anxiety about falling, and increased confidence in performing everyday activities (De San Miguel, 2008).

Personal emergency response systems are not without their limitations. A study of persons over age 90 (n = 110, with 265 falls in a one-year period) showed 80% did not use their alarm system to call for help after a fall. In 54% of falls, the person was found on the floor, and in 82% the person was alone (Fleming, 2008). Other methods of alarm detection of falls and other adverse events in the elderly include devices worn by a person (e.g. a wristwatch or clothing attachment), and cameras, microphones or pressure sensors (Chaudhuri, 2014).

Early studies of Personal Emergency Response System users found mixed results. Positive outcomes included certainty of getting help, decreased hospital stays, and reduced fear of falling. Outcomes of concern included limited relief from anxiety or fear of falling, unexpected responder visits, and uncertainty about pushing the button (McKenna, 2015).

A more recent review of 33 studies of Personal Emergency Response Systems noted improvements in safety and independent living for users, but also found changes in daily living and affecting user identities (Stokke, 2016).

A review (n = 2,643) assessed utilization trends in 2011-2015 among elderly Boston residents who were users of Personal Emergency Response Systems purchased through a home care service. There were 4,321 incident cases (average three years), of which falls accounted for 43.2%. The proportion of encounters that were hospital admissions rose from 3.5% to 5.7% (n = 1,427) from 2011 to 2015. Hospital readmission rates among users increased significantly at 90 days (27.7% to 34.5%, *P* = .03) and 180 days (38.3% to 43.9%, *P* = .04). Admissions with a principal diagnosis indicating a potentially avoidable admission rose from 34.1% to 39.8% (Agboola, 2017).

A review of 57 articles on wearable devices for detection of falls found only 7.1% reported monitoring older adults in a real-world setting. Authors identified creation of highly accurate unobtrusive devices as a major challenge, even as progress is being made towards this goal (Chaudhuri, 2014).

A systematic review of 12 studies on fall prevention, detection, and monitoring technologies indicate that intrinsic factors related to older adults' attitudes around control, independence and perceived need/requirements for safety are important motivators to using these technologies, along with extrinsic factors such as usability, feedback gained and costs (Hawley-Hague, 2014).

A study of elderly women (n = 265) with at least one stroke factor were randomized into groups using a medical alert device and controls. No significant difference in health-related quality of life was observed between the two groups (Morganstern, 2015).

Elderly adults (n = 197) presenting to an emergency department were randomized subjects to a home alert system or telephone contact. Significant reductions in emergency visits and admissions in the first six months of the trial were observed, with no between-group difference. Medical alert participants with one or more admissions had a significantly lower median stay (*P* = .045), and significantly higher health score (*P* = .008) (Ong, 2018).

Haase (2017) studied electronic alerts that provide an early warning of acute kidney injury (n = 32,842 patients). In 13 of 15 studies, alarm activation was accompanied by concrete treatment recommendations. In controlled but non-randomized trials, the provision of concrete treatment recommendations when the alert was activated led to more frequent implementation of diagnostic or therapeutic measures, less loss of renal function, lower in-hospital mortality and lower mortality after discharge compared with control groups without an electronic alert.

A systematic review of 43 studies reviewed efficacy of various methods of in-home detection of seizures showed concerns over false positives and missed seizures for each device (Jory, 2016).

Personal Emergency Response Systems have traditionally been used as fall alert systems for the elderly (Agboola, 2017). A survey of 244 elderly residents of Hawaii who were system users showed that 47% had fallen at home within the past 12 months. Authors conclude that the lack of broader fall prevention measures, such as medical alert adoption by older adults, presents a problem resulting in a greater number of preventable falls (Yamazaki, 2017).

References

On November 15, 2023, we searched PubMed and the databases of the Cochrane Library, the U.K. National Health Services Centre for Reviews and Dissemination, the Agency for Healthcare Research and Quality, and

the Centers for Medicare & Medicaid Services. Search terms were “personal emergency response systems” and “medical alert devices.” We included the best available evidence according to established evidence hierarchies (typically systematic reviews, meta-analyses, and full economic analyses, where available) and professional guidelines based on such evidence and clinical expertise.

Agboola S, Golas S, Fischer N, et al. Healthcare utilization in older patients using personal emergency response systems: An analysis of electronic health records and medical alert data: Brief Description: A longitudinal retrospective analyses of healthcare utilization rates in older patients using Personal Emergency Response Systems from 2011 to 2015. *BMC Health Serv Res*. 2017;17(1):282. Doi: 10.1186/s12913-017-2196-1.

Bailey, E. Chronic conditions and fall risk: Cross-promoting programs across the continuum of care. National council on aging: National falls prevention resource center for professionals. https://www.ncoa.org/article/chronic-conditions-and-fall-risk-cross-promoting-programs-across-continuum-of-care. Published June 14, 2023.

Bergen G, Stevens MR, Burns ER. Falls and fall injuries among adults aged ≥65 years — United States, 2014. *MMWR Morb Mortal Wkly Rep.* 2016;65:993–998. Doi: 10.15585/mmwr.mm6537a2.

Binette J, Vasold K. 2018 Home and community preferences: a national survey of adults age 18-plus. AARP Research. https://www.aarp.org/research/topics/community/info-2018/2018-home-community-preference.html. Published July 31, 2019.

Castiello L, Ames H. What to know about medical alert systems. MedicalNewsToday. https://www.medicalnewstoday.com/articles/medical-alert-systems. Published January 27, 2023.

Chaudhuri S, Thompson H, Demiris G. Fall detection devices and their use with older adults: A systematic review. *Geriatr Phys Ther*. 2014;37(4):178-196. Doi: 10.1519/JPT.0b013e3182abe779.

De San Miguel K, Lewin G. Personal emergency alarms: What impact do they have on older people’s lives? *Australas J Ageing*. 2008;27(2):103-105. Doi: 10.1111/j.1741-6612.2008.00286.x.

Edelman, M, Ficorelli, CT. Keeping older adults safe at home. *Nursing*. 2012;42(1):65-66. Doi: 10.1097/01.NURSE.0000408481.20951.e8.

Fleming J, Brayne C. Inability to get up after falling, subsequent time on floor, and summoning help: Prospective cohort study in people over 90. *BMJ*. 2008;337:a2227. Doi: 10.1136/bmj.a2227.

Haase M, Kribben A, Zidek W, et al. Electronic alerts for acute kidney injury. *Dtsch Arztebl Int.* 2017;114(1-02):1-8. Doi: 10.3238/arztebl.2017.0001.

Hawley-Hague H, Boulton E, et al. Older adults’ perception of technologies aimed at falls prevention, detection, or monitoring: a systematic review. *Int J Med Inform*. 2014;83(6):416-426. Doi: 10.1016/j.ijmedinf.2014.03.002.

Jory C, Shankar R, Coker D, McLean B, Hanna J, Newman C. Safe and sound? A systematic literature review of seizure detection methods for personal use. *Seizure.* 2016;36:4-15. Doi: 10.1016/j.seizure.2016.01.013.

McKenna AC, Kloseck M, Crilly R, Polgar J. Purchasing and using personal emergency response systems (PERS): How decisions are made by community-dwelling seniors in Canada. *BMC Geriatr*. 2015;15:81. Doi: 10.1186/s12877-015-0079-z.

Morgenstern LB, Adelman EE, Hughes R, Wing JJ, Lisabeth LD. The women independently living alone with a medical alert device (WILMA) trial. *Transl Stroke Res.* 2015;6(5):355-360. Doi: 10.1007/s12975-015-0411-0.

National Institute on Aging. Aging in place: growing old at home. https://www.nia.nih.gov/health/aging-place-growing-old-home. Reviewed .October 12, 2023.

Ong NWR, Ho AFW, Chakraborty B, et al. Utility of a medical alert protection system compared to telephone follow-up only for home-alone elderly presenting to the ED – A randomized controlled trial. *Am J Emerg Med*. 2018;36(4):594-601. Doi: 10.1016/j.ajem.2017.09.027.

Stokke R. The personal emergency response system as a technology innovation in primary health care services: An integrative review. *J Med Internet Res*. 2016;18(7):e187. Doi: 10.2196/jmir.5727.

U.S. Preventive Services Task Force. Interventions to prevent falls in community-dwelling older adults: US Preventive Services Task Force recommendation statement. *JAMA*. 2018;319(16):1696-1704. Doi:10.1001/jama.2018.3097.

Yamazaki Y, Hayashida CT, Yontz V. Insights about fall prevention of older adults in the state of Hawaii. Hawaii J Med Public Health. 2017;76(1):3-8. https://pubmed.ncbi.nlm.nih.gov/28090397/.

Policy updates

1/2015: initial review date and clinical policy effective date: 2/2015

12/2015: Policy references updated.

12/2016: Policy references updated.

12/2017: Policy references updated.

12/2018: Policy references updated. The policy ID changed from 17.021.02 to CCP.1154.

11/2019: Policy references updated.

2/2021: Policy references updated.

2/2022: Policy references updated.

2/2023: Policy references updated.

2/2024: Policy references updated.