

## Section 4

# Home Environment Optimization CAP

### Problem

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The Home Environment Optimization CAP focuses on the home environment, looking at features generally classified as environmental hazards. These include such items as general disrepair, poor lighting, unsafe flooring and rugs, inadequate heating or cooling, faulty appliances, and a general state of squalor. The focus of this review is broad and addresses concerns with life safety, falls, health status, and basic quality of life.

Resolving these problems is often a challenge. The person living on a modest income may have made decisions that contributed to the situation (for example, paying for food rather than heat). Such a person may have little personal physical or financial reserves to address these problems. Available public support programs or services may have limited funds to correct environmental deficits, or their program entitlement guidelines may restrict who can be helped and how funds can be expended. Finally, alternative housing may be in limited supply, with a long waiting list and restricted eligibility, while family may be unable to provide an alternative setting for the person.

At a minimum, this environmental assessment identifies hazards that can be corrected relatively easily. For a more successful implementation of a residential improvement program, the person and his or her key informal caregiver should be included in the decision-making process. For some, acceptance of recommended changes is a process that occurs over time. It is important for the assessor to understand the person's resistance to change, including feelings of potential loss, shame, or inadequacy, as well as denial of the problem.

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### Overall Goal of Care

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- Improve the safety of the environment in which the person lives.

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### Home Environment Optimization CAP Trigger

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This CAP triggers for frail adults who live in the community in a home environment with problematic features and who have physical or mental conditions that complicate these problems or allow the problems to put the person at higher risk of adverse outcomes.

TRIGGERED

Persons who exhibit **both** of the following conditions:

- ☐ The home environment has **one or more** of the following:
- ☐ Lighting problem

- ☐ Flooring or carpeting problem
- ☐ Bathroom or toilet problem
- ☐ Kitchen problem
- ☐ Heating or cooling problem
- ☐ Significant disrepair of the home
- ☐ Squalid conditions
- ☐ The person has **two or more** of the following indicators of frailty:
  - ☐ Not able to climb stairs
  - ☐ Less than 2 hours of physical activity in the last 3 days
  - ☐ Unsteady gait
  - ☐ Poor health
  - ☐ Conditions or diseases that make the person unstable
  - ☐ Difficult access to the home
  - ☐ Difficult access to rooms in the home
  - ☐ Depression Rating Scale (DRS) of 3 or higher
  - ☐ Any one of three mental-health symptoms: hallucinations, delusions, abnormal thoughts

This triggered group includes about 15% of persons receiving home care and 2% of adults living independently in the community. Of those triggered, about one-half will have problems with flooring and bathrooms, while one-quarter or less will have problems in the other areas.

NOT TRIGGERED      Includes all other persons. This group includes about 85% of persons receiving home care.

## Home Environment Optimization CAP Guidelines

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Not all of the environmental conditions covered in this CAP will require immediate intervention. Although some conditions represent clear hazards (for example, an absence of heat in cold weather), others may represent only a slight hazard or may have only a minimal impact on the person's function (for example, high doorsills for those who are restricted to wheelchairs or a squalid condition with excessive hoarding). Given these thoughts, the following approaches are relevant.

**Heating and cooling.** A failure to maintain an appropriate temperature in the home can place the person at risk of hypothermia or hyperthermia. When this risk is present, immediate action is needed to correct the problem.

- ☐ Does the person's medical condition or degree of frailty prohibit him or her from sensing the temperature in the home?
- ☐ Does the person suffer from a condition that is likely to prevent him or her from performing a basic activity such as setting the thermostat: depression (for example, a DRS score of 3 or higher), severe

malnourishment (triggered by the Undernutrition CAP), or excessive daily consumption of alcohol? [See Tobacco and Alcohol Use CAP.]

- ☐ Is the problem made worse by economic issues? If yes, is there a solution?
  - ☐ Does the community have fuel assistance, weatherization, or home modification programs for low-income homeowners and renters?
  - ☐ Is there a relative who could help the person in either managing the heating/cooling or in providing economic assistance with home utilities?
  - ☐ Is the person making poor choices (such as spending money on alcohol) or is he or she generally unable to manage his or her own finances? The caregiver, relatives, or friends may be able to provide advice or assistance in designing a more appropriate budget.

**Lighting.** Simple corrective steps are often all that will be needed, including replacing burned-out bulbs, increasing bulb wattage, installing night-lights, or providing more lamps.

**Flooring and carpeting.** Some easy strategies to be considered include

- ☐ Avoid scatter rugs.
- ☐ Adhere rugs to the floor using double-sided tape.
- ☐ Use a bath mat with nonskid backing.
- ☐ Repair loose flooring and holes in the floor or carpet. If the person does not have the money to make repairs, identify others who could help (for example, a volunteer group in the community, a relative, or a church member).
- ☐ For persons with mobility problems, home modifications including space, width of doorways and hallways, doorsills, ramps, and other safety installations may be warranted.

**General space requirements.** Mobility aids such as wheelchairs and walkers require a significant amount of space within rooms, corridors, and bathrooms to permit independent use. For instance, wheelchairs require a turning radius of 5 feet and wider doorways. Removal of doorsills or doors may be warranted, and furniture and room contents may need to be rearranged or removed. Absence of such accommodations is to blame for higher rates of injuries among wheelchair users.

**Bathroom.** About one-half of all serious falls occur in the bathroom. If possible, properly installed permanent hand supports and grab bars should be present, although arranging for installation of such support devices can be difficult. As a first step, identify any community groups that may be willing to help. Also speak with the person and family about their ability to have the support devices installed.

**Kitchen.** Stove-related fires are a critical risk. Preventive measures include using a timer, having another person cook, or cooking only when someone else is present. For persons who have a history of hazardous use of the stove, consider using childproof knobs, installing a cutoff switch, or shutting down the stove and only using a microwave.

- ☐ Make sure smoke alarms and fire extinguishers are present, working, and in a known location. Discuss an emergency plan with the person

and family, ensuring there is a common strategy in place (for example, emergency alert call system).

- Check that necessary safety equipment is within reach and that the placement of the stove does not put it at risk of igniting flammable materials such as curtains or of having something fall on the stove, thereby causing a fire. Consider alterations in layout of the kitchen or need for structural modification.
- Alternative housing may be necessary if the person lives alone or if it is not possible to make necessary modifications to the home.

**State of disrepair of the home or squalid conditions.** Look for general clutter as well as frayed wiring, overloaded electrical circuits, broken stairs, shattered windows, leaky pipes, rat and bug infestation, clogged drains or toilets, pet feces, and old garbage. First try to identify why these conditions exist (for example, cognitive or functional impairment, absence of money, lack of any other place to live) and then offer possible remedial steps.

If self-neglect due to depression or mental health issues is the key barrier, notify the person's physician and consider referral for a mental health assessment.

**Neighborhood.** Assessment of safety of the community or neighborhood.

### Additional Resources

**AARP Home Design.** [www.aarp.org/families/home\\_design/](http://www.aarp.org/families/home_design/)

**Berg K, Hines M, Allen SM.** 2002. Wheelchair users at home: Few home modifications and many injurious falls. *American Journal of Public Health* 92: 48.

**Gitlin LN, Winter L, Dennis MP, Corcoran M, Schinfeld S, Hauck WW.** 2006. A randomized trial of a multicomponent home intervention to reduce functional difficulties in older adults. *JAGS* (May) 54(5): 809–16.

**Misset B, De Jonghe B, Bastuji-Garin S, Gattolliat O, Boughrara E, Annane D, Hausfater P, Garrouste-Orgeas M, Carlet J.** 2006. Mortality of patients with heatstroke admitted to intensive care units during the 2003 heat wave in France: A national multiple-center risk-factor study. *Critical Care Medicine* (April) 34(4): 1087–92.

**Van Bommel T, Vandenbroucke JP, Westendorp RG, Gussekloo J.** 2005. In an observational study elderly patients had an increased risk of falling due to home hazards. *Journal of Clinical Epidemiology* (January) 58(1): 63–67.

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