BASIC REQUIREMENTS — RETIREMENT HOUSES

A CHECK-LIST FOR RETIREMENT HOUSES

Like department stores, retirement houses have become more popular and more complex. Although some people at these ages are healthy and active, more and more older people are in need of retirement houses. The choice of a retirement house can often mean the difference between independence and some kind of institutional living in the retirement years.

The needs of older people are not peculiar to them. They are simply an extension of the needs of the general population — that is, comfortable housing that is safe and secure, and standards of comfort that permit longer years of service by older people. A retirement house may result in a family's losing a parent for an older person; it may mean a broken hip. A necessary playground for a teenager; an older person may find its possible REPETITION.

A suitable retirement house should provide for safe and comfortable living for any family — young or old — without major alterations. This requirement can be met with thoughtful design. For instance, many possible falls and other accidents can be eliminated by a home built of wood which has no stairs or steps, which has adequate, well-placed storage, and which is designed in accordance with recommended plumbing principles such as those given in publications of the Small Homes Council's circular-series. General features, that might jeopardize the worth value of a house, make it less suitable for occupancy by others, are not essential for any age group.

While this booklet is concerned with houses in the later years of life, the suggestions also apply to the young home which has been built with the thought of growing families. The booklet contains a list of some of the requirements for retirement housing. It is hoped that it may help in the selection of a suitable house for any age bracket.

Copyright, 1958, by the University of Illinois. All rights reserved. No part of this book may be reproduced in any form without permission in writing from the publishers.

Price: $1.00
ACKNOWLEDGMENT

Acknowledgment is made to the following who reviewed this publication and contributed many helpful suggestions:

Geneva Mathiasen — Secretary of the National Committee on the Aging, National Social Welfare Assembly.

Ollie A. Randall — Consultant of the Community Service Society, New York City.

Eleanor M. Watkins — Secretary of the Committee on the Hygiene of Housing, American Public Health Association.

Ralph J. Johnson — Director of the Research Institute, National Association of Home Builders.

Thomas Fonsler — Director of the Home Safety Division, National Safety Council.

Renato Contini — Research Coordinator, Research Division, New York University.

Walter K. Vivrett — Director, Housing Study — Housing the Aging, University of Minnesota.

Timothy J. Nugent — Assistant Professor and Supervisor, Student Rehabilitation Center and Rehabilitation Program, University of Illinois.

Dorothy Dunn — Associate Professor of Public Health, University of Illinois.

William H. Kapple — Research Associate Professor, Small Homes Council, University of Illinois.

Maxine K. Turquette — Editor, Small Homes Council, University of Illinois.

Frank M. Lescher — Professor of Architecture Emeritus, University of Illinois.

James T. Lendrum — Former Director of the Small Homes Council, University of Illinois; Head, Department of Architecture, University of Florida.

Rudard A. Jones — Director, Small Homes Council, University of Illinois.
BASIC REQUIREMENTS—RETIREMENT HOUSES

Life expectancy has increased greatly and more people are living into their seventies and eighties. Although some people at these ages are healthy and vigorous, many experience failing strength and are subjected to chronic illness. Anticipation of these handicaps in selecting or designing a house can often mean the difference between independence and some kind of institutional living in the advanced years.

The needs of older people are not peculiar to them. They are simply an intensification of the needs of the general population—that is, convenience becomes a necessity; safety becomes paramount; and standards for comfort become more exacting. A flight of stairs, that is difficult for a young adult to manage, may be impossible for an older person. A slippery walk may result in a bruise for a young person; for an older person, it may mean a broken hip. A basement playroom may be the delight of a teen-ager; an older person may find its possible dampness uncomfortable.

A suitable retirement house should provide for safe and comfortable living for any family—young or old—without major alterations. This requirement can be met with thoughtful design. For instance, many possible falls and other accidents can be eliminated by a one-story house which has no stairs or steps, which has adequate and well-placed storage, and which is designed in accordance with recommended planning principles such as those given in publications of the Small Homes Council's circular-series. Unusual features, that might jeopardize the resale value of a house or make it less suitable for occupancy by others, are not essential for any age group.

While this booklet is concerned with houses to be occupied by people past middle age, the suggestions also serve as a general guide to the design and the furnishing of houses which are relatively free of hazards that commonly cause accidents in all age brackets.
LAND SELECTION AND PLANNING

Older people appreciate nature and suburban living but usually prefer not to be isolated from activity and community life.

- Select a neighborhood that is residential in character, but not overrun by children or restricted to older people.
- A nearby park with benches is desirable.
- Transportation, shopping areas, health services, places of worship and community centers should be conveniently accessible.
- Outdoor living areas should include a porch or terrace, shade trees, and a small area for gardening.

The desire for a calm and quiet atmosphere increases with age.

- Select a building location with a generally low over-all intensity of sound.
- Trees and shrubs may be used as buffers to reduce street noise, but they should not block the view of surrounding activities.

The ability to move quickly and one's speed of reaction decline with age; accident probability increases.

- Land should be reasonably level to avoid steep walks and high ground-floors.
- Street lighting and sidewalks are essential.
- Avoid locations with excessive traffic or wide and dangerous street crossings.

People past middle-age usually cannot dash across busy streets.
Falls frequently occur on walks and steps.

- Walks or terraces should not be paved with materials that are slippery when wet. Concrete ramps, steps and walks should have a rough finish.

- In cold climates, locate walks away from downspouts and eaves to prevent the accumulation of water, snow and ice on the walks. Sloping roofs above entrances should be equipped with gutters and snow guards.

- Provide indoor switches and shadowless front lighting for outdoor steps.

- All steps should have handrailings for support. These should extend 12 to 18 inches beyond the top and bottom steps. If there is a door at the top of the stairs, at least 3'-6" should be allowed between the door and the top step.

- All risers and treads should be uniform in size. Treads for exterior steps should be broad (12 to 14 inches); risers should be low (5 to 6 inches).

- The desirable maximum rise of ramps for wheel chairs is 1.4 inches in 12 inches. In no case should the rise exceed 2 inches in 12.

One or two steps are easily overlooked.

- Outdoor steps, if they are necessary, should have at least 3 risers.

- Where possible, there should be no difference in level between inside floors and porches and terraces. Entrance stoops should be 5' x 5' for wheel-chair use.

Walking up stairs consumes 3 times more energy than walking on level ground.

- All living, sleeping, and work areas should be on the same level if possible. Multi-level houses should have a bedroom and a bathroom on the first floor.

- If indoor steps are necessary, they should have handrails on both sides. Minimum recommended width of stairs between handrails is 3'-4". Treads should not be narrower than 12 inches nor risers higher than 6 inches.
FLOORS

Changes in level and obstructions on the floor cause accidents.

○ Sliding doors and partitions should have tracks at the top only.
○ Avoid the use of throw rugs.
○ Eliminate interior door thresholds.

Smooth, slippery floors are dangerous, particularly in the kitchen and bathroom.

○ Kitchen and bathroom floors should be of skid-resistant materials, such as unglazed ceramic mosaic tile, or unwaxed vinyl or vinyl asbestos. If wax is used, it should be a slip-resistant type.

Hard and noisy flooring surfaces in the bedroom or living room are annoying.

○ Cork, vinyl, and carpeting are suitable floor coverings for the bedroom and living room.

HALLWAYS AND DOORS

Wide hallways and doors are particularly convenient.

○ All interior doorways should have a free space of 30 inches, the minimum clearance for wheel chairs. This means that doorways having hinged doors should be 2'-8" wide. Doorways with sliding doors can be 2'-6".
○ Hallways should be short, straight, and at least 3'-4" wide. They should be kept free of projections.
Rapidly closing doors and incorrectly hung doors are hazardous.
• Avoid the use of spring-activated doors and double-acting doors.
• In most cases, hinged doors should open into a room. They should *never* open into a line of traffic or towards a flight of steps.
• Easily operated sliding doors are preferred to hinged-type doors for wheel-chair patients.

Hardware on doors should enable doors to be opened easily from either side.
• Sliding doors should have door pulls that can be grasped easily.
• Interior doors with locks should have a safety release so that the door can be opened from either side in an emergency.
• For walk-in closet doors, select hardware which enables the door to be opened from either side.

**CLOSETS AND STORAGE**

Adequate storage space is important. Objects left on floors and steps are a major cause of falls.
• Storage should be provided at places at which items stored will be used—*i.e.*, garden equipment in a tool shed; card tables near the living area.

Storage spaces should be accessible without climbing on chairs or other objects.
• Closet shelves should not be higher than 72 inches above the floor.

High storage shelves involve dangerous climbs.
Direct sunshine and a view of the outside world are important.

- Window area in each room should be at least 10 per cent of the floor area — 20 per cent is desirable in the living-dining area.
- Face large living-room and bedroom windows to the south for maximum winter sunshine.
- Provide some window area for a street or activity view.

**Brightness contrasts and glare are disturbing.**

- Avoid separated window openings in a single wall. Group window openings to eliminate contrasts in brightness.
- Paint window walls a light color and sunlit walls a darker shade to reduce brightness contrasts.
- Use flat glareless paints throughout the house.
- Reflection of sunlight from a light-colored wall of a neighboring building is unpleasant.

**Windows that are difficult to operate or clean represent a waste of energy and are an accident hazard.**

- Windows should open and close easily. Wherever suitable, windows with crank-operated hardware are desirable.
- It is recommended that all windows be cleanable from the inside. Ventilating window sections or hardware should not project dangerously into the room.
- Screens for ventilating window sections should be removable from the inside. Roll-up window screens are suggested.
- Window sills should be at least 30" above the floor to minimize falls against glass.
- At least one window in every room should be large enough for easy escape in case of fire. Minimum dimensions are 24" x 30", with the bottom of the window not more than 36" above the finished floor in all levels above grade and 54" in basement rooms. An outside door is desirable in bedrooms occupied by persons using wheel chairs.

A roof overhang on the south side provides shade from the summer sun, yet allows the low winter sun to penetrate the windows.
Moving air promotes summer comfort. Design the house to control the summer sun and take advantage of breezes. Shade the glass area against the summer sun. Avoid blocking the path of the breeze by trees or fences. Provide cross ventilation in the bedrooms.

**LIGHTING AND WIRING**

Older people desire more light than the young.

- Use fixtures of high intensity lighting where required.
- Provide lights inside closets and storage spaces.

**Bending and reaching are tiresome.**

- Place convenience outlets so they will not interfere with furniture — *i.e.*, under windows and near doors. If possible, install them 28 to 30 inches off the floor.

Entering an unlighted room or groping in the dark for a light switch can cause accidents.

- Provide night lights in the bedroom-bathroom area.
- Three-way switches are desirable for rooms having more than one entrance.
- Light fixtures should be controlled by wall switches having a luminous cover-plate for identification in the dark.
- Ventilation fan for an inside bathroom should be on the same control circuit as the light switch.
- For safety, bathroom lights should be controlled by a switch located directly outside the bathroom door. *No convenience outlet or switch should be within reach of the tub or shower.*

Low electrical outlets are hard to reach.

Stumbling at night can be averted by an unobstructed and lighted passageway.
HEATING AND COOLING

Less active people require more heat for comfort than others.

- The heating system should be capable of maintaining a temperature of at least 75°F Fahrenheit in every room of the house.
- Heating equipment should be completely automatic, requiring only thermostatic adjustment. Unit oil and gas heaters should be vented to the outside.
- The thermostat should be located in the room where the temperature is most important. It should be placed 2 1/2 to 4 feet above the floor and away from windows, lights or electrical appliances.

Sensitivity to drafts and cold spots in a room increases with age.

- In cold climates, double glaze all windows and weatherstrip windows and doors to eliminate drafts. Sealed double glass is more convenient than storm windows.
- To reduce drafts, provide full-length draperies, which can be pulled, for all large picture windows.
- Exterior walls as well as ceilings and floors which are above and below unheated spaces should be well-insulated in order to maintain an interior surface temperature which is not more than 5 degrees below the room air temperature.

Large variations in temperature increase convection currents and are chilling.

- The difference between the air temperature just above the floor and at the 6-foot level should not exceed 6 degrees Fahrenheit; a differential of 1 to 3 degrees Fahrenheit is preferable.

Excessive heat and humidity are uncomfortable.

- Avoid the use of heating systems that produce a floor temperature higher than 85°F Fahrenheit.
- Consider the installation of air-conditioning.
A too-small bathroom may make convenience and safety impossible to achieve.

- Locate the bathroom close to bedrooms.
- The lavatory and the water closet should be wall-hung and free of floor supports that interfere with cleaning.
- Install a low bathtub with a flat bottom and a built-in seat.
- The bathtub should not be located beneath a window.
- Locate the water closet near the bathtub so that the former may be used as a seat when filling the tub and testing the water.
- Equip shower with a showerhead which is adjustable in height.

Minor precautions can prevent accidents from occurring in the bathroom.

- Glass or thin tubing should not be used for towel bars.
- The medicine cabinet should have sliding doors and shatterproof shelves.
- Install all clothes hooks above eye-level to prevent face or eye injury.
- A shower-stall should have a non-skid floor.
- Nonbreakable grab-bars, which will withstand a pull of 300 pounds, should be mounted on the walls around the bathtub or in the shower. Special grab-bars are available for the physically handicapped.
- Faucet handles should be easy to grip and turn. They should not have sharp or pointed edges. Avoid the use of self-closing faucets.

Overheated water can cause serious scalding.

- Install an automatic water heater with a temperature control and a relief valve.
- Install pressure-sensitive, automatic mixing valve in shower and mixing-type faucets in lavatory and bathtub.
The kitchen should be designed to minimize routine cleaning tasks and physical effort.\textsuperscript{13}

\begin{itemize}
\item Select a refrigerator with a food compartment which is easily accessible with a minimum amount of bending.
\item The oven should be at a height which permits its use without excessive bending and without the hazard of burning one's arm on the open door\textsuperscript{14} — \textit{i.e.}, for a built-in oven, the lowest rack in the oven should be at counter-height.
\item It is desirable to provide undercounter clearance at one point so that a person may work while seated.
\item Counters, range and sink should preferably be continuous in arrangement.
\item Install a garbage grinder and an incinerator or provide a covered garbage receptacle on an outdoor platform near the kitchen door.
\item Install an exhaust fan (preferably in a hood over the range) to remove hot air and cooking odors.
\item Store items at the point of first use.\textsuperscript{15}
\end{itemize}

Glare can make even the simplest task unpleasant.

\begin{itemize}
\item Kitchen counters should have a non-glossy finish to minimize reflected glare.\textsuperscript{16}
\item Provide shadowless lighting above work spaces and counters.
\end{itemize}
Articles stored on very low or high shelves are difficult to reach. Vertical pull-out racks and drawers are preferable to shelves in base cabinets.

- Overhead cabinet shelves should not be more than 12” deep or higher than 72” above the floor.

Open cabinet doors, sharp edges and projecting hardware are frequent causes of injury.

- Appliances, cabinets, sink, and counters should not protrude into the line of traffic. Edges and corners should be rounded.
- Avoid appliances and cabinets with hardware that may catch clothing or pinch fingers.
- Sliding doors of shatterproof material are suggested for above-counter kitchen cabinets.

Elderly people are sometimes unable to detect escaping gas.

- Use of an electric range eliminates the possibilities of asphyxiation or explosion.
- Gas appliances, when used, should bear the label of approval of the American Gas Association. They should be vented to the outside.

Burns and scalds are common accidents in the kitchen.

- Do not install the range or counter burners under a window. Arrange burners side by side in a counter rather than one behind the other.
- Provide counter space on one side or both sides of the range or counter burners.
- Do not locate storage space or a pass-through above the range or the counter burners.
- Kitchen windows near the range or counter burners should not be curtained with a flammable material.
FURNISHINGS

Improperly designed furniture can inflict serious injury.

- Do not select tables, chests, bed frames, etc. having sharp edges. All furniture should have rounded corners and edges.
- Furniture drawers should have a catch to prevent them from being pulled out and dropped.

Shifting heavy furniture around for cleaning can result in physical strain.

- The bottom surface of large or heavy furniture should be high enough off the floor to permit cleaning underneath.
- Casters can be used on heavy furniture if they do not create a hazard by rolling too freely.
- Built-in furniture eliminates a number of cleaning problems.

The need for immediate aid often arises.

- Install a telephone at the bedside for convenience in making emergency calls.
- Installation of a room inter-communication system is desirable.
SUPPLEMENTARY LITERATURE

Additional information on various subjects discussed in this booklet can be obtained from the University of Illinois publications listed below. All Small Homes Council circulars are available for 15 cents per copy.

4. Research Study by Staff of the University of Illinois Rehabilitation Center.
5. Small Homes Council Circular C5.1, HOUSEHOLD STORAGE UNITS, Helen E. McCullough.
BIBLIOGRAPHY

Standards of Design — Housing for the Elderly, Massachusetts State Housing Board, March 1954.

Making the Years Count, New York State Joint Legislative Committee on Problems of the Aging, Document No. 32, 1955.

Planning the Home for Occupancy, American Public Health Association, Committee on the Hygiene of Housing, Public Administration Service, 1313 East Sixteenth Street, Chicago 37, Ill., 1950.

Basic Principles of Healthful Housing, American Public Health Association, Committee on the Hygiene of Housing, 1939.

Planning the Neighborhood, American Public Health Association, Committee on the Hygiene of Housing, 1948.

Construction and Equipment of the Home, American Public Health Association, Committee on the Hygiene of Housing, 1951.

Housing an Aging Population, American Public Health Association, Committee on the Hygiene of Housing, 1953.


Heart of the Home, American Heart Association, 1948.

Facts for Housing the Aging, University of Michigan and Home Finance Agency, 1952.