

Courtesy Access Industries

Incline platform lifts can ascend a staircase at 20 feet per minute.

Stepping Up

When stairs in the home create barriers, knowledge of accessibility equipment could give clients a lift.

By Brandy Marcum

When Buzz and Sally Fitzpatrick arrived at their newly built home in Reston, Va., they were in for a surprise. A grading error had resulted in their home being built with nine steps linking the walkway with the front door. The problem: Buzz had been diagnosed with multiple sclerosis during the home's construction and would soon be using a wheelchair.

A disaster? Not according to Kim Beasley, architecture department director for the Paralyzed Veterans of America in Washington, D.C. He had a simple solution: Build a wheelchair lift. "I worked with this individual and his wife to incorporate a wheelchair lift into the entry of the home," says Beasley. "They had an entry with a portico and a deck. He would wheel from the walkway onto the platform tilted next to the steps."

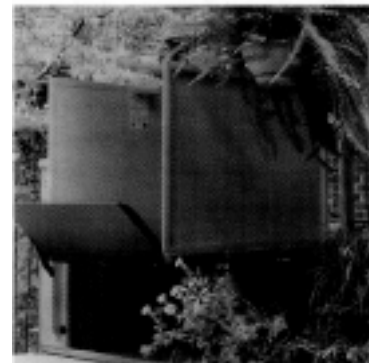
The Fitzpatricks' new vertical lift removed the barrier to their home, but many people don't know that alternatives to ramps exist to help them solve these problems, says Margaret Wylde, Ph.D., president of the ProMatura Group, Oxford, Miss., a company that researches products and services for older adults. "The big problem is finding products in the first place and understanding how they are going to look and fit into your home," she says. Other factors to consider are the space available in the home, the functional ability of the end-user and funding resources, Wylde says.

What's Available

■ **Stairway Chair Lifts:** A chair lift has a seat that moves up and down a stairway on a track and is categorized by the distance and speed it travels and the maximum weight it carries, says

Wylde. Although a chair lift is a viable alternative to a vertical inclined lift for people who are able to transfer, there are other factors that the wheelchair-user must consider, says Beasley. "The limitation of the chair lift is that it is problematic for most people who are paralyzed, but it may be OK for someone who is ambulatory." Another consideration, he says, is that there must be another wheelchair at the top of the stairs for use on the second floor.

A chair lift that travels curves, corners and bends is typically more expensive, manufacturers told *Report.* These limitations may be why chair lifts target a larger market than just the wheelchair-user, according to Bill Page, sales manager at Bruno Independent Living Aids. Bruno manufactures the Electra-Ride and the Electra-Ride II, which run on straight indoor staircases and travel at speeds ranging from 0 to 30 feet per minute. Each lift can support up to 350 pounds and retails for about \$3,500. The Electra-Ride III has the same speed and weight capacity, but can handle all turn-type indoor staircases and is adjustable for different rail configurations,



Courtesy National Wheelchair Visitor

The vertical platform lift can be used outdoors to lift a client up to the entryway of the home.

Page says. Suggested retail price ranges from \$5,000 to \$15,000, depending on the staircase, length of track and degree of turn.

Inclined Platform Lifts: An inclined platform lift travels up the railing of a staircase and functions similarly to a chair lift, except the user does not need to transfer from the wheelchair to the lift in order to use it.

One example is the Ascenda inclined platform lift home model manufactured by Access Industries, Grandview, Mo. It travels at a maximum speed of 20 feet per minute and can support a weight up to 450 lbs., including the wheelchair. The Ascenda works on straight staircases as with many other platform lifts for the home market, says Evelyn Johnson, marketing supervisor. "We do have a lift that works on turning staircases for the commercial market," she says, "but people typically wouldn't use them for the home because of space." The suggested retail price for the Ascenda ranges from \$6,000 to \$7,000.



The stairway chair lift is an alternative to the vertical platform lift for clients who can make transfers.

including installation and depending on the added features that a client wants, says Walter Farley, field superintendent of R.F. Erection Co., Laveme, Calif., a distributor of the Kwiklift and other lift products. This price varies in different states, depends on the design of the house, and doesn't include installation of a shaft, which can sometimes cost \$10,000 depending on the structure of the house, Farley says.

Vertical Platform Lifts A vertical platform lift travels in a straight line, much like an elevator. It is also commonly used at the entrance of the home to help the client get in and out, manufacturers say. Unlike an elevator, it is not built in a shaft and it is more cost-efficient, says Trent Monge, director of sales and marketing at National Wheel-O-Vator, Roanoke, Ill. "The vertical platform lift is an inexpensive way of achieving accessibility," he says. "It can be added without doing a lot of rearranging and can go up to 12 feet high."

The vertical platform lift varies significantly from job to job due to the variety of applications and types of homes, says Monge. It travels at a maximum speed of about 7 to 10 feet per minute and can support a weight up to 550 pounds, including the wheelchair. The price of the vertical platform lift ranges from \$3,000 up to \$15,000, depending on the location of the lift, how high you need it to travel, and if there is a hoist-way constructed, says Monge. "Right now, the code says that a vertical lift should not penetrate a floor, but this issue is being addressed." (See box on page 35 for more details.)

Elevators An elevator is different from the vertical wheelchair lift in that it has an enclosed cab. An outer door at each stop matches the design of the house and an interior door with the car, says Wylde. Manufacturers note that, unlike the vertical lift an elevator requires a 6- to 12-inch pit below the floor level of the elevator to facilitate the car.

The Concord Kwiklift II is a fully enclosed elevator designed for the home. It uses a 6-inch pit and travels up to 50 feet with up to six stops. It has a 750-pound weight capacity and travels at 36 feet per minute. Cost for a base model Kwiklift II is about \$17,000,

Funding and Other Options

Gerri Shaw, OTR/L, home modification consultant for the Philadelphia Corp. for the Aging's Adaptive Modification Program, looks at the needs and appropriate home modification adaptations for clients with disabilities. "I do the evaluation by looking at the [clients'] disabilities and limitations, then project what they are going to need in the future, especially with children," she says. "We take a look at the house and agree what is going to work best."

The Philadelphia program has allotted \$2 million in funding and serves city residents of any age with a permanent disability who can benefit from home modification. Maximum construction expense per job is about \$15,000; each client can be served once.

Most clients are pleased when a lift has been added to their home, Shaw says. "The positives far outweigh any negatives," she says. "Naturally, you have to think of resale value of the house, but people are so happy [when they have a lift], even if it's just to get out of the house."

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Safety Considerations

Chair Lifts:

- Many systems have a swivel seat that must be locked into position before the lift will move.
- Choose a seat whose dimensions fit the user.
- Seat belts and proper foot plate placement help secure the user.

Platform Lifts:

- The platform is positioned and parked at the top or bottom of the stairs when unused.
- Ambulatory people may have to walk on them or step over them to use the stairs.
- These reduce available foot space on the steps and may pose an obstacle for non-users.

Elevators:

- Elevator must have appropriate square footage for oversize wheelchair-user or user with an attendant.
- Some units have a battery-powered lowering system that brings the user to the bottom floor in case of emergency.

Source: *Building for a Lifetime: The Design and Construction of fully Accessible Homes* by Margaret Wylde, Adrian Baron-Robbins and Sam Clark. The Taunton Press, New-town, Corm., 1994.

Stepping Up

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Manufacturers say that most lifts are paid out of pocket by the consumer or, depending on the reason for the lift, by private insurance. "Medicare doesn't cover the cost of the lift," says Johnson. "But there are a few instances where the Department of Veterans Affairs or Easter Seals will pay."

For those who cannot afford to build a lift, an alternative would be to alter the house, says Sara Kennedy, OT, clinical coordinator for occupational therapy at Cheyenne Mountain Rehabilitation Outpatient Clinic, Colorado Springs, Colo. When there is a stroke, for example, many families know that they are going to need the lift and either move [to a more accessible house] or rearrange their existing house to accommodate the individual, she says. "They either make a permanent transition or modify their home," she says. "Medicare does not consider these products a medical necessity."



Many home elevators have an outer door at each stop that matches the design of the user's home.

New Safety Codes

The Accessibility Equipment Manufacturers Association in December 1997 helped form a new American Society of Mechanical Engineers committee to develop safety standards for platform lifts and stairway chair lifts independent of those for residence elevators, says Greg Harmon, current chair of the A18 Codes, Safety and Standards Committee. The codes serve as a guideline for the design, construction, installation, operation, inspection, testing, maintenance, alteration and repair of inclined stairway chair lifts and inclined and vertical platform lifts.

Previously, manufacturing and design codes for platform and stair lifts were grouped with those for elevators, despite the differences between the products. "By promoting using today's technology, we can come up with alternative means of access without jeopardizing safety," says Patrick Bass, AEMA co-chair, treasurer and board member.

"The AEMA formed initially to address the misconceptions and concerns that the general public may be having about the accessibility equipment industry," says Harmon. "We felt that we needed a voice and to be represented." The nonprofit organization formed in 1990 with the goal of actively promoting the industry of accessibility equipment, he says.

The association is made up of 15 manufacturer members. Among the members:

■ Access Industries, Grandview, Mo.; Circle RS# 311.

■ Ascension, Tucson, Ariz.; Circle RS# 312.

■ Bruno Independent Living Aids, Oconomowoc, Wis.; Circle RS# 313.

■ Concord Elevator, Brampton, Ontario, Canada; Circle RS# 314.

■ Garaventa (Canada) Ltd., Surrey, British Columbia, Canada; Circle RS# 315.

■ Inclinator Company of America, Harrisburg, Pa.; Circle RS# 316.

■ National Wheel-0-Vator, Roanoke, Ill.; Circle RS# 317.

For additional lift manufacturers, visit the June issue at <http://www.teamrehab.com>

For more information, contact Greg Harmon or Patrick Bass, co-chairs of the Codes, Standards and Safety Committee, AEMA, P.O. Box 380, Metamora, IL 61548-0380; 800/514-1100; fax: 309/923-7964; Web site: <http://www.aema.com>