

Brian Barrer

This home, in Midhurst, was designed recently by Toronto-based Adapt-Able Design and is fully wheelchair accessible.

Barrier-Free Design: a Home Built for Life

Aging consumers drive the demand for accessible housing

By Diane Slawych

When Frank Tepell left the hospital after a lengthy stay he had a problem. Just as he was beginning to adjust to life in a wheelchair after a spinal cord injury, he arrived home to find he was unable to access several rooms in his own home. With rooms on three levels, Frank and his wife Adele, decided it would be easier to move than undertake extensive and costly renovations.

A multiple level home is perhaps one of the major barriers to a person with a physical disability, but it's not the only one. Others include narrow doorways, hard-to-reach shelves, uneven thresholds,

stairs leading to an entrance and hard-to-reach light switches. Many of these barrier-free features are easy to incorporate into a home at the time it is built. Unfortunately, they seldom are.

It's a problem Jeffrey Baum, president of Adapt-Able Design in Toronto understands well. His company has completed more than 1,000 custom design and renovation projects for people with special needs since 1987.

"The industry should be eliminating barriers rather than creating them, and then having to take them down later," says Baum.

The toughest type of house to retrofit



A gently ramped porch makes the backyard easily accessible.

is a multi-level home. For maneuverability a single-floor home is ideal. The Teepells eventually moved to a single-storey home, but even there, they had to make modifications including an enlarged bathroom shower area and wider doorways. "It's marvelous," says Teepell of all the improvements. "It allows me to go into almost every room in the house with my wheelchair."

Many accessibility features often entail little if any additional expense. "To build universal housing does not incur a drastic amount of expenses over standard housing if it's done from scratch," says Randy Sora of EZaccess, a Toronto-based design management firm specializing in co-ordinating residential housing projects for the disabled. "The costs are pretty similar."

Best of all, the benefits can extend to other occupants - not just a disabled or elderly family member. "You see these new developments with eight or 10 stairs to the front door because they're building a garage under the house," says Baum. "I understand the reason for it but it's not appropriate for young children walking up those type of stairs, or for a mother who has to carry a stroller and the children into the house. It's not appropriate for older people who may have difficulty with stairs, so (when you build this way) you're really narrowing the user group." Baum says the demand for universal design will increase as the population ages. "I believe designs can be better suit

ed if everyone's needs are taken into account."

The Canada Mortgage and Housing Corporation, which last year sponsored the FlexHousing Design Competition, would agree. It chose four winners for their innovative, flexible housing designs, developed to meet the changing needs of occupants over time. Those changing needs include future adaptations for home offices, in-law suites or accessibility needs. CMHC calls FlexHousing an exciting new market in the housing industry.

There are plenty of basic features which

can be incorporated into most housing plans, according to Tom Parker, Senior Researcher, CMHC. "One of the primary concerns is that you have the main necessities of life on the first floor of the house - by that I mean the bathroom, kitchen and a room that can be used as a bedroom," says Parker. "In the instance of a family member coming home from hospital who can't climb the stairs, they can function on that main floor until they've recovered. This is not a huge problem for most home designs."

The other important aspect, says Parker, is the relationship of the grade level to the main living level. "By choosing the way the site is back-filled near the main entrance or from the garage, it can usually be arranged so there aren't flights of stairs, or at most 2 or 3 stairs. Perhaps all stairs can be eliminated and gradual sloping sidewalks used."

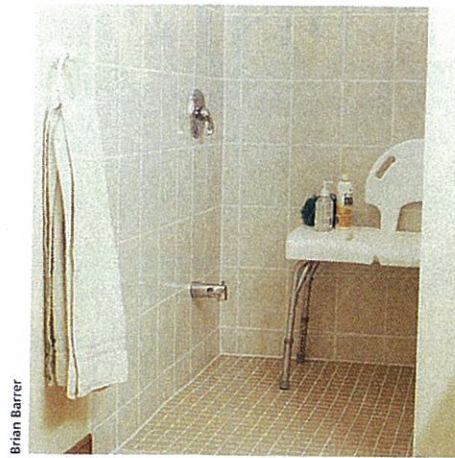
Other Easy-to-Implement Barrier-Free Ideas:

- Widen doorways - it allows easier access to those in wheelchairs or walkers to pass through. It also creates more room to fit treasured furniture through the door.

- Make outlets and other controls easy to reach while sitting or standing - this usually involves lowering the standard level of wall switches to 1,200 millimeters or 48 inches above the ground and raising electrical outlets to 450 millimeters or 18 inches above the floor.

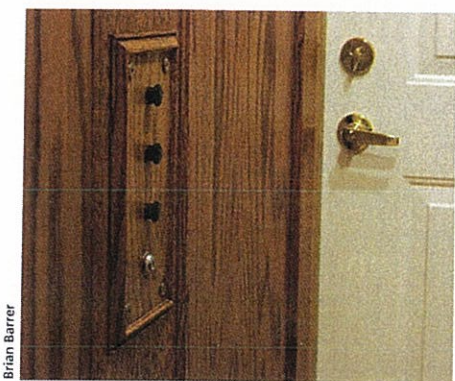


Jeff Steckley demonstrates how easily he can use his new kitchen.



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Shower grab bars and levered door handles are just a few details that make a home more liveable for all occupants.



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■ Stack closets - closets that are stacked vertically from floor to floor and reinforced can serve as an elevator shaft in the future. "Closets have to be placed somewhere," says Parker. "It's just a matter of placing one over the top of the other. If you want to prepare it so that there's minimal cost to renovate, then you can do so by pre-reinforcing the joist so that it's easy to cut the hole in the floor. That could cost \$200-\$300."

■ Select straight run stairs over winding stairs or stairs which change direction. The latter are more difficult for older people to manage. Straight run stairs are also easier to retrofit for a stair lift.

■ Install grab bars in the bathroom to make getting out of a slippery tub safer.

■ Choose lever handles instead of door knobs, they're more flexible. Also consider lever faucets. "It's much easier when your hands are soapy to push on a lever than it is to fight with a slippery knob, especially if your grip is not very strong," says Parker.

■ Mount windows at a level that permits enjoyable viewing from a seated position. Low windows are common in living rooms, but less so in kitchens.

■ Install windows with a single latch to enable easier opening from a seated position.

■ Install hardwood floors, which provide a firm surface for a wheelchair or walker, and consider non-slip flooring such as textured tiles, in entrance foyers, kitchens and bathrooms.

■ Wall ovens are easier to clean and safer especially when handling casseroles and roasters because you're working at counter level.

■ Consider a bathroom door that swings out. A bathroom door that swings in could make closing the door more difficult for someone in a wheelchair. But make sure an out swinging door would not pose a risk to people using the corridor.

More elaborate features include elevators, which may cost about \$15,000 and automatic door openers with a price tag in the \$2,000 range. At least half a dozen companies in Toronto and Ottawa alone specialize in providing a range of accessibility options, usually in the form of modifications to existing homes.

Condominium developers are aware of the needs of the aging population, says Baum. "They're building environments to suit the empty nesters." If the idea hasn't quite caught on with builders of detached homes in Canada, perhaps they should look overseas for what may turn out to be trend-setting policy.

To accommodate its aging population, in March 1998 Britain passed legislation requiring all new homes to incorporate several accessibility features, including level thresholds, a

downstairs lavatory accessible to the disabled, wider internal and external doors and corridors and less steep foot-paths and approaches.

Considering the negligible cost of many barrier-free features, Ontario home builders may be wise to follow Britain's lead.

And with Canada's aging population, they'll likely find a ready market for their product.

CMHC has a variety of books, guides and videos to enable builders (and home owners) to construct accessible homes. They may be reached at 1-800-668-2642. Or visit their web site at: www.cmhc-schl.gc.ca



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Consider easy access sinks and stoves for kitchens.



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An elevator provides access to the second level.