A chair volleyball game brings out the competitiveness in two teams of Splendido residents. Photo: Daniel Snyder. Image courtesy of Mather LifeWays

Effective physical activity for the oldest-old

Don't underestimate the capabilities of this growing population—or the need for professionals who can work with these diverse clients

by Marilynn Larkin, MA

On any given day, Tony Martin, 97, might be among the Hollywood personalities doing yoga under the guidance of Yuriko Byers, a personal yoga trainer from Malibu, California. Although Martin is a relatively new client, Byers worked with his wife, Cyd Charisse (who died in 2008), for many years. In a career spanning close to 40 years, Byers has learned that celebrities are no different from others when it comes to doing yoga: They may need some prodding and encouragement, but they appreciate the benefits, which include stress reduction and the ability to center themselves, as well as function better.

"Some may have trouble walking because their hip muscles are tight," Byers says. "But after standing behind a chair, holding on, and swinging their legs gently from side to side as they inhale and exhale deeply, they find they can move more freely again. By doing the exercises, they feel a sense of satisfaction that no one can give them but themselves. And it makes them blossom."

Byers' experience is by no means unique. From health clubs to memory care communities, active-aging professionals are finding that their clients are getting older—often including individuals well into their 90s or beyond. And these pro-

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Yuriko Byers models regular and modified Stork yoga poses. Images courtesy of Yuriko Byers

fessionals are facing some tough questions: Should physical activities for the "oldest-old" population be different from activities for the "younger" old? Can the needs of elite athletes or longtime fitness enthusiasts be met in settings that also provide for people who have been sedentary all their lives, or who have chronic debilitating illnesses and functional limitations? How does memory impairment—more common after age 85—factor into the picture? [**Ed.** To learn the prevalence of some functional challenges in adults ages 80 and over, see page 53.]

Because there is little research on effective fitness programs for this highly diverse population, active-aging professionals are working in largely uncharted waters in their efforts to maximize the potential of oldest-old clients. Yet many would argue that programming should be based on an individual's needs and functional ability anyway, not age.

"The individuals over 85 who I'm working with are knowledgeable about fitness and can do so much more than people may think," says Sarah Kennedy, director of wellness at Splendido continuing care retirement community (CCRC) in Tucson, Arizona. "Things I would have done with the same age group years ago, like simple chair exercises, seem silly now. These residents want to try stability balls."

Other groups might find chair exercises challenging, however, which is why the fundamentals of developing effective programs are especially important when working with the oldest-old population. These include:

- doing a thorough fitness assessment of the individual
- understanding the individual's medical status and history
- appreciating the individual's likes, dislikes and goals when selecting activities to improve/maintain function and bolster health

Maximizing the potential of clients also means maximizing the potential of fitness facilities. "Many communities have gyms … but the equipment isn't being used the way it could be," states Patrice Cahill, owner of the fitness company Generational Octane and manager of senior fitness at Woodbridge Assisted Living in Peabody, Massachusetts.

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Exercise guidelines

In October 2008, the US Department of Health and Human Services released new physical activity guidelines. Individuals 65 years of age or older who are generally fit and have no limiting health conditions can follow the guidelines for all adults:

- Two hours and 30 minutes a week of moderate-intensity aerobic physical activity, or one hour and 15 minutes (75 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of both. Aerobic activity should be performed in episodes of at least 10 minutes, preferably spread throughout the week.

- For additional health benefits, increase to five hours (300 minutes) a week of moderate-intensity aerobic physical activity, or two hours and 30 minutes a week of vigorous-intensity physical activity, or an equivalent combination of both.

- Also do muscle-strengthening activities that involve all major muscle groups performed on two or more days per week.

If a chronic condition prevents someone from following these guidelines, the person should be as physically active as his or her abilities and conditions allow. Individuals at risk of falling should also do exercises that maintain or improve balance. Inactivity should be avoided.

Reference

US Department of Health and Human Services. (2008). *2008 Physical Activity Guidelines for Americans.* Available at http://www.health.gov/paguidelines/.

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Patrice Cahill, of Generational Octane, checks on a participant during a workout. Image courtesy of Generational Octane

"Communities need specific programs based on the equipment they have and the number of people who can use the gym at one time. And they need activities and professionals that bring residents in and show them that working out can be fun, as well as beneficial," she adds.

Byers, Kennedy, Cahill, and the other experts interviewed for this article have been working with older adults for many years. Indeed, some have personal training and fitness class participants who started with them when they were younger and eventually crossed over into the oldest-old category. These active-aging professionals have responded to a changing clientele by doing what everyone needs to do to work safely and effectively with older adults at every age, including researching older-adult physiology, getting certified as older-adult fitness trainers, and exploring what works and what doesn't.

We've asked these professionals to share what they've learned for this article because every one of them has told us that there are not enough fitness professionals trained in working with this growing demographic. The US Census Bureau projects that the 85-plus population could increase from 5.3 million (2006 data) to nearly 21 million—and possibly more—by 2050.[1] Projected growth is even higher in Canada, where the federal statistical agency expects the 85-plus population to reach 2.1 million by 2051—a number more than four times greater than in 2000.[2]

Active-aging professionals need to start planning now for these surging populations by expanding their physical activity options for oldest-old clients, making sure they are not underestimating this population's potential, and striving to offer stimulating and challenging programs that incorporate all the fitness components spelled out in the latest physical activity guidelines.[3]

Here's a look at some programs that are doing just that.

Personal/group training

At home

Josie Gardiner, a former Reebok master trainer and spokesperson for the American Council on Exercise (ACE), has been working with older adults for more than 35 years. Much of that work involves personal training in the client's home, be it in the community at large, or buildings dedicated to older adults; or in retirement communities or CCRCs. Gardiner's oldest personal training client recently passed away at age 102 after training with her for 12 years.

"People ask, 'What can you do with someone aged 102?'" says Gardiner. "The answer is, I never think about age. I think about what the person can do and try to come up with exercises that he or she can do successfully, which may be more than people think. For example, my 102-year-old client had a walker, so we did a series of exercises that would facilitate her using it: strengthening her upper body with resistance bands, postural exercises like squeezing the shoulder blades together, spreading her fingers wide because they get crumpled up while grasping the walker."

Silverado Senior Living, which specializes in memory care, strives to improve function and quality of life for residents through an in-house restorative care program. Image courtesy of Silverado Senior Living

Every program Gardiner develops is different, depending on the person's capabilities, whether certain joints are affected by arthritis or other conditions, and health status. "I start by thinking about activities of daily living—what clients need to do to function—and ask myself what exercises I can do with them that might enhance their ability to perform these activities."

Gardiner also uses what's available to her in the home. For instance, a client may not be able to get down on the floor, but can do stretching or strengthening exercises while lying on the couch or bed.

In a fitness center

By contrast, Patrice Cahill does personal training in a group setting in the Woodbridge fitness center. The center's weight and cardio machines are supplied by a company that produces age- and joint-friendly equipment, and include seated elliptical machines and air-pressure controlled strength equipment that can start with resistances as low as one pound. "We run it like a circuit, with 10–15 clients—most in their 80s and 90s—working out at a time," she explains.

All participants are required to have a physician's clearance before starting the program. Cahill then does an assessment that includes strength, balance, flexibility, and cognitive abilities, and reviews each participant's medical history and goals. Based on this information, she develops a personalized workout. Cahill then takes each client through a slow, step-by-step version of the program (outside the normal circuit training hours) until they are familiar enough with it to move smoothly from one exercise to another.

The workout includes cardio, strength (upper and lower body on different days), flexibility, and balance. The client brings the workout sheet for the day to the center, where Cahill sets up the equipment for each exercise, and activity aides help with getting clients in and out of each machine, as needed.

The biggest challenge Cahill faced was getting residents to start the program. "When I arrived at Woodbridge, very few people were taking advantage of the fitness center. My first task was to get them to realize that working out is good for them, that there's nothing to be afraid of, and that I'm their friend and will make sure they're safe," she says.

"Establishing trust is crucial, because residents will be in control of something they may never have done before," Cahill continues. "Many women in their 90s have never set foot in a gym, and so I try to motivate them by asking them to think about functional activities that they may have done years ago, like putting clothes in a washing machine."

Cahill never sugarcoats the experience. "I say it's going to be work, but it's not like you won't be able to get out of bed for two days. In fact, if you give me six weeks, you'll end up getting out of bed better."

Lessons learned

- Don't underestimate what individuals in their 80s and older can do and want to do.
- Focus on abilities, not age. Clients get more individual as they get older.
- Don't become complacent. Expand your fitness knowledge and continue to grow; keep activities fresh.
- Reevaluate your current programs. Are they outdated? Are they challenging enough? Do they cover all aspects of fitness? Strive to maximize potential within a person's ability, no matter what setting you're in. Keep in mind that what works in one setting—or what worked in the past—may not be the best solution for where your organization and clients are today.
- Think out-of-the-box: Find ways to include physical activity even if money for standard therapies runs out; take a fresh look at clients and think about what they might contribute to your community or center.
- Experienced, motivated, credentialed professionals with a strong knowledge base can be the difference between success and failure.

Group fitness classes

In a CCRC

Cahill had a similar challenge—motivating people to participate—when she started group fitness classes at Woodbridge. So every morning she would go to the dining room and "sell fitness" to the residents. She'd invite them to come to her class after breakfast and emphasize how good they'd feel. "I still do that today, even though we now have 18–35 people in our classes," she adds. Classes run about a half-hour and include cardio, strength training with resistance bands, stretching, and balance exercises. Residents take classes two to five days per week, depending on their capabilities.

Those who feel intimidated by the machine-based workouts generally go to the classes, according to Cahill, so their fitness needs are covered one way or another. Unusually, she does not use music in her classes "because I want everyone to hear my voice, to focus on the directions I'm giving them, to count the beats, and to listen to their body. All that is easier without music, which tends to be a distraction," she notes. The absence of music also allows Cahill to hear the group members, an important safety consideration if someone needs assistance, or has to leave the room for any reason.

'Establishing trust is crucial,' says Patrice Cahill, seen here with a client. Image courtesy of Generational Octane

Cahill also runs a group exercise class at Woodbridge for 15–20 residents with memory challenges. Participants usually come to the 20-minute class two or three days a week. "I do similar exercises, but I get much more theatrical, really over the top. I have to go into these classes with so much energy to wake everybody up," she comments. "Once I get to know the residents, I often bounce around to each one to pull them in—so much so that some of them know what's going to happen, and say, 'Oh no, here she comes again.'" Yet this high-energy approach often succeeds in getting people involved in the activity, which varies based on feedback about the mood of the group on any given day.

With the memory care participants, Cahill uses the workout as a springboard for the mind as well as the body. For example, if an exercise involves reaching an arm out as if to grab something, "I ask them what they want to grab—an apple, for instance—and use that image

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Sarah Kennedy leads a Strong Living progressive weight training class at Splendido continuing care retirement community. Photo: Daniel Snyder. Image courtesy of Mather LifeWays

in the workout," she explains. "I'll say, 'We're grabbing an apple now, and then we'll grab nine more for a total of 10 apples.'"

In health clubs
Josie Gardiner has been working for 20 years with two very motivated groups—now ages 74–90 years—in health clubs in the Boston, Massachusetts, area. Because group members vary in their abilities, Gardiner selects exercises she knows everyone can do successfully while maintaining good form and having a good time. In contrast to Cahill, she generally uses mixes of big band and other music from the 1940s and '50s. The speed varies depending on whether the class is doing conditioning, floor work, or cardiovascular exercise.

Each class starts with a longer 10–15 minute warm-up that mimics moves that will be done in the cardio section. The class segues into 20 minutes of "light and easy" cardio with simple choreography. "We do smooth and controlled transitions, no pivot turns, and lots of repetitions of the same moves," Gardiner notes. "We teach one thing at a time, and once participants have achieved that, we move on." The focus is on the large muscles of the lower body and the feet. "If I try to add arm movements, participants get confused," she says. After the cardio section, the class does a standing cooldown that includes balance exercises such as heel raises and standing on one foot, then another. The strength-training segment follows, during which participants use free weights of one to five pounds.

Gardiner tries to keep the program fresh, but acknowledges that "not everything I try works." She has learned to ask permission from the group before introducing a new exercise. "I give participants a full visual preview before I do it, so they can see where we start, where we finish, and what muscles are working. If they don't like it, they don't do it."

For example, the group might be accustomed to doing a standing biceps curl keeping the feet hip-distance apart as they do the arm exercise. To add a balance component that engages the core, Gardiner might show participants how to do the same arm exercise with one foot in front of the other, creating a much narrower base of support. "Some people will feel this is too hard for them, and refuse to do it," she says. "I let them know it's okay, and that they can continue doing the original exercise. They feel safe, but also successful."

In an independent living community
Sarah Kennedy works with a highly motivated group at Splendido, where 90% of residents participate in the fitness center. "Everyone wants to try the latest trends," Kennedy observes. "We have the Wii, laughter yoga, as well as progressive weight training and low-impact aerobics—something I never thought we could have with this age group. I have to stay up on everything because that's what the residents are doing," she continues. "They want to try it all." In addition, because residents enjoy being competitive, the community also has active chair and pool volleyball teams.

Residents of all ages participate together, according to Kennedy. "We made a conscious decision not to separate people by age. They're a community and a family, and I don't see any ageism. I'm also not seeing much of a difference among different ages in terms of interest or ability," she says.

Years ago, the fitness professional was viewed as a guru who told everyone what to do. "Now residents are finding out what to do themselves," Kennedy comments. "I can work with people 85 and up and … they already have a baseline knowledge; they're eager and motivated to improve and try new things. This is contrary to the idea that older people like routine and are afraid to try something new."

Many Splendido residents also want to contribute to others. One group is learning American sign language in a workout routine set to music, which they will perform at a local nursing community. "It's a good brain and body exercise, and the performance part brings in additional dimensions of wellness, so the program becomes more than just physical activity," Kennedy concludes.

Resources

American Council on Exercise
www.acefitness.org

Generational Octane
www.generationaloctane.com

Mather LifeWays: Splendido
www.splendidotucson.com

Silverado Senior Living
www.silveradoseniorliving.com

Woodbridge Assisted Living
www.woodbridgeassistedliving.org

In a memory care community
Innovation and motivation are not confined to independent living, of course. At Silverado Senior Living in Plano, Texas, which—like all Silverado locations—specializes in memory care, one resident is teaching yoga to other residents and staff. The former New Yorker came to the community after living for years with depression and dementia in a dark, secluded apartment, advises former administrator Travis Fogle. After learning that the 80-year-old had taught yoga when she was younger, Fogle asked her if she would like to teach a class.

"The big 'aha' for me is that I thought the class might work for a little while, but it's worked for more than a year and still hasn't faded out," Fogle marvels. Six to 12 residents and staff—including associates, housekeeping, and often Fogle himself—participate in the 45-minute class. "Everyone gets value from it. The resident who teaches the class is no longer depressed; our staff like it because it's calming and allows them to have some downtime. And the other residents, mostly in their 80s and 90s, really enjoy it."

Fogle faced several challenges before the class got off the ground. "The biggest fears were safety and liability. But our culture says that love is greater than fear, and we've seen the difference in our residents' lives with yoga," he says. In terms of liability, "we provide a safe environment and we have an engagement associate participate in every class to assist and help ensure safety."

Another concern was whether the resident could teach a coherent, ongoing class. "We were promoting this class without knowing whether it could really happen," Fogle acknowledges. "We took a chance, and it worked." What happens if the instructor has a lapse? "Sometimes she will want to repeat an exercise that we did earlier," notes Fogle. "When this happens, we prompt her for another one. A staff person will say, 'What can we do for our backs?' or 'What can we do for our stress?' and she gets back on track." (See "Maximizing the Potential of Lay Leaders" in the July/August 2008 issue of the *Journal on Active Aging*® for more tips on effectively integrating volunteers into physical activity/wellness programs.)

The experience has prompted "out-of-the-box thinking" on the part of Silverado staff. Now, at monthly staff meetings, "We think, What can our residents do?" says Fogle. "If they've done something in the past, they might be able to do it in the present, despite memory impairment."

Common functional challenges among oldest-old adults

A 2006 report from the US Centers for Disease Control and Prevention shows the prevalence of functional limitations among adults ages 60 and older. For each of three age groups (60–69 years, 70–79 years, and 80 years and older), the report estimated the percentage of adults who had any difficulty with, or were unable to perform, specific functional activities. Among respondents ages 80-plus:

- 66% had trouble stooping, crouching or kneeling
- 49% had difficulty walking a quarter-mile
- 46% had trouble lifting or carrying 10 lbs.
- 45% had difficulty rising from an armless chair
- 41% had trouble climbing 10 stairs without resting
- 25% had difficulty using their fingers to grasp or hold small objects

Compared to the two younger age groups, those in the oldest group had the highest prevalence of difficulties.

Reference

Ervin, R. B. (2006, August 23). Prevalence of Functional Limitations Among Adults 60 Years of Age and Over: United States, 1999–2002. *Advance Data from Vital and Health Statistics,* Number 375. Retrieved from http://www.cdc.gov/nchs/data/ad/ad375.pdf.

Participants enjoy a laugh during Splendido's Strong Living progressive weight training class. Photo: Daniel Snyder. Image courtesy of Mather LifeWays

Restorative care
At the other end of the spectrum are oldest-old adults with physical challenges that preclude vigorous or even moderate activity—those who are bed- or wheelchair-bound after a hip fracture or other condition or trauma. Although many organizations offer restorative care for this population, in general, that care—largely physical therapy—ends if the resident doesn't meet stringent guidelines for "progressing." If the individual doesn't progress, Medicare or private insurance doesn't pay.

The guidelines for benefits are so strict that residents with cognitive impairment or dementia, who have good days and bad days, usually can't maintain coverage, explains Joann Fetgatter, RN, BSN, Silverado's senior director of quality assurance. For this reason, the organization decided to develop its own restorative care program, at no charge to families of the residents who participate. Another contributing factor? Some of the physical therapists initially assigned to work with residents were not sensitive to the needs of people with dementia, compounding the likelihood of failure.

Instead of going to an outside agency, Silverado asked for volunteers from its own staff. Caregivers who are motivated to participate and have appropriate skills—for example, good transfer techniques, ability to take initiative/responsibility, and handle course content—undergo a full day of training and testing. "Our caregivers know our population well and know how to redirect and

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focus them," says Fetgatter. This makes it easier for residents to participate in restorative care, progress, and stay as independent as possible.

A four-month pilot in three Silverado communities yielded impressive results. More than 90 residents participated in the program, which included walking, sitting, standing, and pedaling exercises; range of motion work; eating skills; hydrotherapy; and massage. An average of 76% of the participants showed improvement, some leaving their wheelchairs and walking with minimal assistance. A second pilot study is now underway as part of an effort to demonstrate the program's value.

"It makes sense to me that if you keep a population more mobile, you'll have fewer complications like contractures, skin breakdowns, pneumonias, and so forth," observes Fetgatter. "We're hoping the fall/fracture rate goes down, that quality of life improves, and that the residents can stay as functional as possible."

The program is also valuable for people who are at end of life, but can benefit from being stretched and having improved range of motion, or assistance with eating, adds Susan Kruse, RN, Silverado's corporate director of clinical education. Kruse's goal is to have restorative care aides working full time in each community, rather than staff who include restorative care as part of their other responsibilities. "We're not there yet," she says. "The directors want to see the benefits, and so we're gathering those statistics now. But meanwhile, it's a wonderful addition to our existing programs," Kruse concludes, "and another tool to help residents go above and beyond what might be expected of them, and to enhance their quality of life."

Maximizing potential

Regardless of the specific setting, many active-aging professionals are working with people in their 80s and beyond—and the number of oldest-old adults will only increase in the years to come. Now is the time for professionals to prepare. By learning about the individual needs and challenges of these highly diverse clients and offering a range of physical activity options to meet them, professionals can help adults maximize their potential safely and effectively at any age, improving the health, independence and quality of life they enjoy.

Marilynn Larkin, MA, a fitness professional and award-winning medical writer and editor, is the creator of Posture-cize®, an exercise and motivational program to improve posture and self-esteem (see www.mlarkinfitness.com). She is also ICAA's Northeastern Regional Manager and a regular contributor to the Journal on Active Aging®.

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3. US Centers for Disease Control and Prevention. Physical Activity for Everyone. Retrieved from http://www.cdc.gov/physicalactivity/everyone/guidelines/olderadults.html.

Safety, transitions

Before any new resident or health club member embarks on a fitness program, it's important to do a baseline assessment of the individual's medical history, fitness and functional level, and personal goals, says Sarah Kennedy, director of wellness at Splendido continuing care retirement community (CCRC) in Tucson, Arizona. "We try to incorporate the dimensions of wellness into all of our programs, so my first job is to get to know each individual and try to find a way for them to become motivated from within," comments Kennedy. "This means listening carefully to what they want to do and what their goals are." She then develops a physical activity program geared specifically to the person's needs, capabilities and desires to help them maximize potential—something that should be part of every organization's process.

It's equally important to monitor people as they do their workouts. While this may seem to be a no-brainer, interviews with potential sources for this article revealed that some facilities and fitness directors don't do so; individuals use equipment in unsupervised gyms and others may conduct exercise classes with no staff or assistants on hand. This unexpected finding is particularly disturbing in light of the age and health conditions of some participants.

Moreover, monitoring can be important for more than safety reasons and to avoid potential liability. In CCRCs and other settings where residents age in place, fitness center staff need to be tuned into signs of cognitive transitions. Kennedy—who is part of the Splendido team that decides when residents need to move, for example, from independent to assisted living—notices changes when she's in the fitness center.

"I see moments of confusion and disorientation, as well as sequencing problems," notes Kennedy. "I know the residents so well, I can tell when they're not following directions, or when their technique changes when they're doing resistance training." Those observations lead to discussions with other staff to see whether they've also noticed increasing cognitive challenges, and if so, it may be time to transition the resident to a situation that provides more care and attention.