

Strategies for Living a Long Life

by Verne Wheelwright

EXECUTIVE SUMMARY

People are living progressively longer and healthier lives. Statistics show a dramatic increase in human life expectancy over the past hundred years. Now, basic research has been conducted in several areas that appear ready to introduce new technologies and techniques that will substantially impact health, life expectancy, and possibly life span.

If living to a healthy 100 or even 150 becomes common or normal, how will that change the way we live our lives, and what will we do with all those extra years? This paper explores some impacts, plausibilities, and strategies for dealing with and enjoying very long lives.

ABOUT THE AUTHOR

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The sequencing of the human genome captured the public's interest, as did the controversy over stem-cell research. Nanotechnology has introduced tools and techniques for working with materials and biology not only at the microscopic level but also at the atomic level, and there is far more going on in science and medicine that promises to increase both the quality of human life and life expectancy.

Human life spans may also be altered in this process, but to avoid any confusion between life expectancy and life span, here are two definitions:

1. Life expectancy: the age which a person is expected to reach based on population averages. In the United States, the current life expectancy at birth is age 77.8. The average years of life remaining for a 65-year-old is 18.7 years, or an expectation of age 83.7. These figures are averages for all races, male and female (National Center for Health Statistics 2008).

2. Life span: the maximum age a human can be expected to attain. Hayflick's research (1994) suggested a maximum human life span of about 120 years. A French woman, Jeanne Calment, lived to age 122, the longest documented human life on record (Wagner 1999).

If the current research assaults on cancer, such as nanotech agents, are successful, cancer could be substantially reduced as a cause of death by 2025 (Halal 2010). That would certainly impact the lives and probable longevity of baby boomers, who would be in their 70s and 80s in 2025. If, in the same time period, stem cell and genomic research or other approaches to curing or managing heart disease are successful, the two diseases that kill more than half of older Americans (He et al. 2010) would be substantially reduced. Those two advances in medical science should allow a great number of boomers to live very long lives, possibly fulfilling the prediction by Ron Klatz that over half of baby boomers would live healthy lives beyond 100 (Klein 2003).

The U.S. Census Bureau forecasts approximately 834,000 centenarians (middle projection) will be alive in 2050. The high projection is 4,218,000 (Krach and Velkoff 1999). If Klatz's prediction is correct, and half of the boomers survive to become centenarians, by 2050 they could exceed 35 million between ages 85 and 105.

Just as important as extending lives is the medical research that is already improving life for people of all ages. Increasingly, medical science is providing tools that let people manage conditions as well as providing crucial repairs and reconstructions, such as tissue, hip, and knee replacements, with organ replacements a promise for the future. These advancements offer individuals the ability to deal with conditions that would otherwise be confining or crippling.

Beyond the research that is increasing life expectancy, science is also exploring ways to extend life spans beyond 120 years. Research into telomeres and telomerase suggest that it may be possible to prevent the shortening of telomeres or possibly rejuvenate them. If successful, this could be one avenue toward increasing life spans.

There are broad implications for society as people live longer or much longer lives. The change may be gradual, or it could make a sudden leap. If both cancer and heart disease became "curable" by 2025, there could be a substantial leap in longevity. The impacts could be enormous.

Social Security in the United States, unless substantially modified before 2025, could be in serious trouble. When conceived, Social Security plans in the United States and other countries were intended to provide supplementary income for several years, but not for decades. Current tables for life expectancy project 18.7 years for 65-year-olds, or an expected life of more than 83 years (National Center for Health Statistics 2008), and those numbers are already straining the system.

But the future may be better than expected for Social Security. Boomers who realize that they may live to 100 and still be healthy could stay in the workforce for an extra decade or more to build up their retirement plans and maintain their current income. That would give Social Security a boost, but could also have a negative impact on job markets for younger generations. Mark Penn (2007) suggests that the predictions of the collapse of Social Security in the United States may be wrong. Penn points out that, if seniors continue to work much later in life, as his research suggests, they will continue to contribute to Social Security, thereby saving the system. An additional possibility is that working seniors, in anticipation of very long lives, may postpone their withdrawals from Social Security in order to maximize their income when they do start collecting.

There are possibilities for additional leaps in longevity. If the human life span is extended beyond 120 years, then immortality, or at least extremely long lives, must be considered (Bova 1998), whether humans continue in their biological bodies or in enhanced bodies and brains (Kurzweil 2005). Those eventualities are beyond the scope of this paper, but the same question will apply. What will people do to keep life interesting, whether they live extra decades or extra centuries?

Once people recognize the possibility of living long, healthy lives, the focus turns to individual lives and the quality of those lives. If we as humans have a substantial possibility or even a probability of living beyond 100, how will that change our lives? If you were told that you could live to 110 in good health, how would that change your

life? What would you do differently than you would if you expected your life to end in your 80s?

While you consider that question, you should be aware that there is a generation already in retirement that has been surprised by the phenomenon of a life that is longer and healthier than expected. Some people retired planning to “play golf every day for the rest of my life!” For others, maybe something other than golf, such as travel, fishing, sailing, or any activity, but they were only expecting several years of retirement. Instead, they are getting decades. Obviously, they are not complaining, yet even your favorite activity can get old if you get too much of it.

When life suddenly became longer than expected for people now in their 80s, many were unprepared for the extra years. Many felt that when they turned 60 they were suddenly “old,” and at that time, many people grew up believing that strenuous exercise was not good for older people, so they did not maintain their physical strength or condition. By the 1990s, that had started to change, leading the Census Bureau to report that more than one-third of people over age 65 in the United States were engaging in walking for exercise.

A principal concern of this paper is with “quality of life” as people grow older—much older. Will you be happy with your life in your 90s, or even your 140s? What would provide a preferred quality of life, or happiness? Would simply being alive and healthy be sufficient?

So here is an opportunity to think about the future, specifically at the individual level: an opportunity to apply futures methods to your life as you think about the very long term future, your life from age 70 to 100 and beyond. To start, we will borrow a concept from *Personal Futures* (Wheelwright 2006a), the concept that an individual’s life can be divided into six personal domains or categories of forces that exist in everyone’s life. Those domains include:

- Activities.
- Finances.

- Health.
- Housing.
- Social.
- Transportation.

Within this format of personal domains we will explore some of the impacts and choices of a very long life for individuals, considering both positives and negatives in each domain.

Activities

Activities are all the things you do, including school, work, sports, hobbies, religion, and other activities.

Of the six domains, this one deals directly with the question, “What will you do?” If people know they can live long, healthy lives, they may extend their present careers, plan for or choose multiple careers, do volunteer work, or stop working altogether. They may seek further education, whether in preparation for a new career, to upgrade their skills, or just for the learning experience. Others may turn a hobby into a new career. Some individuals may find that a career as a full or part-time caregiver for a spouse or parent(s) has become their new role.

Research conducted with people over age 60 between 2000 and 2006 (Wheelwright 2006) suggests that the decision to retire from work is more than a financial decision; it is a decision that affects every domain, although most obviously the activities domain. Respondents discovered that they now had more discretionary time. They could choose to work, or not. They could remain in their present career field, or choose something new. If they needed income they could work part time or full time, whichever they were comfortable with. If they did not need income or to be involved in work, they could do whatever they chose. At that time, people were tending to retire as early as possible. They looked forward to traveling, playing golf or other sports, and spending time with their grandchildren.

The downside for these seniors was that more than 30% of those

surveyed experienced serious illness, and more than 20% experienced the death of a spouse. Those two statistics suggest the impact of health on all the domains, and will be discussed further in the Health domain. But those same statistics also infer that two-thirds of this group did *not* suffer serious illness after age 60, and more than three-quarters did *not* experience the death of a spouse. On balance, nearly two-thirds of this group over age 60 found this to be a “very good time of life.” More than a fourth stated they were “happier than ever” (p. 269).

The question remains, if you retire at 65, what will you be doing in your 80s, 90s, or possibly much longer? If you are 65 now, you will only be 80 in 2025, and expectations are high that benefits from advances in treatment of heart disease and cancer will increase your life expectancy. Those advances may be sufficient to take you to 2040. By then, it is possible that human life span may also be increased.

The Future

For those who want to work late into life, there may be challenges. Some careers—such as airline pilots, military, police officers, and even teachers—have mandatory retirement rules or laws in place that limit the age of workers. Some countries have mandatory retirement ages. Some employers may resist hiring (“Sorry, you’re overqualified”) or keeping older employees despite existing laws against age discrimination. But worldwide, attitudes and rules are changing, and by the time the baby boomers reach their 80s, the barriers may be gone.

Will you want to work full time, and if so, to what age? A recent article in *Business Week* (Coy, Conlin, and Herbst 2010) details the growth in demand for temporary and contract workers. This is an area that may prove attractive to older workers who have their own health insurance (Medicare in the United States) and are able or wish to take breaks between employment assignments. Discretionary time appears to be important to people, and the ability to temporarily leave, then return to the labor force from time to time, may be appealing to older workers.

Individuals who elect to stop working will have time to pursue sports and hobbies, travel, and spend time with grandchildren or in their later years even great-great grandchildren. A current generation in retirement has found that technology has provided broad access to information, instant news updates, entertainment, easy communication worldwide, and lots of ways to fill time. Yet, a life filled with little more than television, reading, or e-mails can become unsatisfying or even boring.

For many people who are aging in good health, this may be a time for adventure. That may include extensive travel, time in the wilderness, outdoor sports, or participating in events for which they have not had time during their working lives. Another option that older people are taking advantage of is education. Many are returning to school to take advanced degrees to prepare for new careers or simply for the learning experience. As healthy lifetimes extend beyond 100, people may cycle through multiple careers and continued education. The increasing availability of college courses online and course materials from top quality institutions may further the desire for higher and higher education.

One thing favoring older people who want to continue working is the ability to work from anywhere. Computers, the Internet, smart phones, online software, conferencing and a growing array of tools allow people to work successfully outside of traditional offices, because the tools can follow the worker.

Strategies

As you think about your own future and the possibilities of a very long life, consider what activities will keep you enthusiastic about life when you are 100 or even 150. What would you *like* to be doing at those ages?

Finances

Finances refers to everything to do with your finances, includ-

ing income, expense, investments, insurance, credit cards, debt, taxes, and assets.

This is the domain that usually receives the greatest attention when people start planning for retirement and their future in later years. In large part, this is because the financial domain can either enhance or restrict your options in all the other domains. If you don't have adequate income to cover your needs and your wants, your life will be restricted.

Some people start planning or saving for retirement early in life, often encouraged by employer provided retirement and 401(k) plans. Others wait until their 50s (and an empty nest) before saving seriously for retirement, and some just never find the opportunity to save. Even those who do have retirement savings may find that what seemed enough for a lifetime 20 years ago no longer yields sufficient income to pay all the bills. Income and assets may also be reduced upon the death of a spouse, and expenses can skyrocket with a serious illness.

The financial domain is where the money is, and everyone is aware of that fact. As a consequence, many elders feel like targets simply because of their age and the probability that they have accumulated some savings. Advertising campaigns for financial services and pharmaceuticals are in all their favorite media. Charities and non-profit organizations solicit relentlessly. Scam artists call on the phone, send mail or e-mail, or appear as phony repairmen, bill collectors, or other guises. The financial institutions they used to count on seem to have turned against them, demanding more and more fees while offering less support or security and offering questionable investments and products to their older clients.

Even family members may not be trustworthy. Several times during my research I heard from seniors who had lost sizable amounts to family members—sometimes through loans that were never repaid, sometimes through mismanagement of funds entrusted to friends or family members to manage on the older person's behalf. Even houses and farms were lost to relatives, including children. In

some cases, elderly parents turned their assets over to a child or family member to avoid paying future nursing home costs, surrendering all control. Often, that was a mistake.

In the end, management of finances is the responsibility of the individual, and it is up to the individual to manage wisely, regardless of experience or capability. One major investment for most families is their home. In the past, people (and lenders) expected mortgages to be paid off before retirement, but attitudes appear to have changed, so some elders will be forced to continue working in order to meet their obligations. In 2007, about 68% of older homeowners owned their homes free and clear (Administration on Aging 2009), which suggests that nearly a third of older homeowners still carry a mortgage.

The Future

One important question every individual should answer is, “How long *must* you work before you can afford *not* to work for the rest of your life?” Once you know the answer to that question, you can then develop strategies that meet your financial needs and your preferred lifestyle.

What will be the long-term source or sources of your income? What events could interrupt or reduce those sources? For example, many seniors have invested in certificates of deposit, CDs, because they were secure. The problem they discovered is that, when the economy falls, interest rates on CDs also fall, reducing income. Other investments, including stocks, bonds, commodities, currencies, and real estate, are also vulnerable to market changes.

How much debt will you carry into retirement? As mentioned earlier, seniors have tended to be conservative, particularly about mortgage debt. This may be largely psychological, providing some peace of mind to the homeowner who knows the home is paid for and will be there no matter what happens in the economy. The home may be worth less in a downturn, but not worthless (upside down) at the bank.

Strategies

One effective strategy is to learn, at any age, to live *below* your means.

Do not be too trusting. Older people are targets for fraud and scams.

Decide who will manage your money, either as your adviser or as a representative because you are no longer able to manage. If you or you and your spouse are managing your money and investments now, could your spouse take over the responsibility for managing your finances very late in life? If not, who?

Be extremely cautious about giving control over any of your assets to any one individual, no matter how close or competent that individual may appear. Multiple individuals, as in a trust, may be safer. A trust is a legal vehicle that can include several people who should be protecting your interest. An additional consideration is that a trust may exist for many decades, while individual advisers may not.

Health

Health encompasses your physical and mental health, including health care, nutrition, exercise, medications, and prevention of illness or injury.

Health is a controlling domain. Some would say it is *the* controlling domain. If you are sick or disabled, the quality of your life may be affected or limited. There are some health conditions that can be managed with regular medication. Blood pressure, enlarged prostate, and cholesterol are examples of conditions that can affect the quality of your life, but can be controlled with daily medication. Diabetes can be managed with monitoring and careful attention to diet. The same is true of several heart and vascular conditions; they can be managed with attention and medication. All of these conditions become more common as one gets older, so it is not unusual for people in their 70s and 80s to take several medications every day to control or manage their conditions. Yet, most of these people are able to en-

joy high quality of life.

The Future

The big changes in medical science that are on the horizon will be largely related to cures and repairs, followed by maintenance. Many types of cancer will eventually be cured, adding many years of life for recovered patients. New treatments will replace chemotherapy and radiation, relieving patients of some of the severe effects of treatment and improving quality of life.

Although medical science will probably reduce many of the risks of disease and death, science may not stop the aging process in the foreseeable future. Your body and mind will still require maintenance and care to avoid illness and to prevent deterioration.

You should plan to work at keeping your body healthy and in good condition. The physical condition of your body when you are 50 or 60 will provide the foundation for the rest of your life. If you enter your 60s in terrific health and physical condition, you have a much better chance of retaining that condition into much later life. If you are already declining in health and physical condition at 60, you will have to work extra hard to get up to normal and to maintain good health.

Alzheimer's and other brain conditions or diseases appear directly associated with aging. Research is promising, but could take decades to find answers for some conditions. In the meantime, there appears to be considerable benefit in mental and physical exercise, as well as in maintaining multiple social relationships.

Strategies

Some powerful advice comes from James Rowe and Robert Kahn, authors of *Successful Aging* (1998). They offer three specific components of successful aging:

- Avoid disease.
- Engage with life.
- Maintain high cognitive and physical function.

Let's go through each of those three points.

1. Avoiding disease. Nobody gets sick or injured on purpose, but a lot of people have health problems simply because they are not taking precautions to prevent those problems. Smoking and inhaling polluted air make people sick, but millions of people worldwide continue to smoke and breathe polluted air every year. Improper diet can cause diseases, including diabetes, but again, millions have the problem but have not changed their eating habits.

Inoculations can prevent disease, regular screenings can detect disease, and simple hygiene can stop bacteria from gaining a foothold. So yes, it is possible to avoid many diseases, illnesses, or conditions by being aware of your health and taking reasonable precautions.

Strive for early detection of any disease or condition with screenings and regular examinations.

2. Engagement with life. This is covered in more detail in the Activities and Social domains.

3. Maintaining high cognitive and physical function. Exercise your brain and your body throughout your life. The human mind and the human body both seem to thrive on exercise. Diet is also very important in this area. Both the brain and the body need the right nutrients.

You should also be aware how to protect your mind and body, including your eyesight, hearing, joints, organs, and skin.

If you become sick, suffer injury, or have surgery or other problems, get completely well as quickly as you can. Do the therapy. These are not times to waste energy on anger, self-pity, or pride, but times to focus all your energy on making as full a recovery as possible as quickly as possible. Why quickly? When you have a weakness in your body or mind, that weakness may make you vulnerable to some other illness or injury.

When medications are prescribed, take them as for as long as the doctor says to continue. If in doubt, ask. People have strokes, die,

or suffer serious consequences from stopping medication inappropriately. If you don't trust or believe your doctor, find one you can believe.

Take advantage of medical technology whenever it is appropriate. Older people often suffer for years from treatable problems. Knee and hip replacements are examples of such technologies and many more will be developed in the coming years.

Plan for health contingencies, including who will provide long term care if you have need for it.

Housing

Housing means your home as well as your neighborhood, community, country, region, and the climate in which you live.

Substantial numbers of people over 60 move to a different address. For many, this is simply downsizing from the family home, but for a great number, this is an opportunity to move to a new neighborhood, a warmer climate, get out of the city, or even move to a different country. Some become "snowbirds," living in a northern climate part of the year and in a southern climate the rest of the year. As elders have aged, there has been a progression from homes to care facilities (or with relatives), to nursing homes or to hospices.

Historically, about 30% of non-institutionalized elders live alone, and most of those are women. "Among women aged 75 and over, for example, half (50%) lived alone" (Administration on Aging 2009). This statistic may change dramatically if life expectancy increases substantially in the future.

For example, a woman who recently celebrated her 100th birthday lives in a nursing home. That doesn't sound unusual at her age, but there's more to this. She moved to the nursing home about five years ago, although she was quite healthy and living independently in her own home in a small town in Mississippi. She had been frightened. She answered the door to a man who said he was with the power company and wanted to come in. The screen was locked, so she was

able to decline when he couldn't offer ID. She had handled it well, but she felt vulnerable because she was alone, old, and female. She was healthy, mobile, and able to take care of herself, but not physically strong. Her generation had been told that exercise was not good for older people. Shortly after the stranger appeared on her porch, she arranged to move to the nursing home, which appeared to her to be the best choice in her area. She did not need care, just a place to live.

In effect, she had institutionalized herself. She gave up nearly total control of her life. She now lived, ate, and slept on the nursing home schedule. She now had a roommate. Possessions disappeared. Visitors were welcome only during visiting hours. Medications came late in the morning. The saline drops that relieved her dry eyes were considered a medication, so she waited until late in the morning to put drops in her eyes. She was now dependent on the staff, and soon spent most of her time in a wheelchair or in bed.

What other choices did she have? She felt it was important to stay in the community where she had spent her life, and the nursing home seemed to be her best choice. She reported that she was well treated and well cared for, but she no longer had much control over her life.

The Future

A number of alternatives have come into existence over the past 50 years: group homes, adult communities, retirement communities, continuing care retirement communities, and assisted living facilities, each offering advantages and alternatives. An increasingly popular option is receiving care at home.

What kind of housing would you prefer if either you or your spouse need long-term care? Think in terms of your first three choices, because different conditions may require different solutions. Or you might approach the question from the opposite direction; which are the least desirable choices for long term care. In any case, nursing homes should be considered if skilled care is required, so it is impor-

tant to know what is available and what the differences are between nursing homes. The Medicare Web site (<http://www.medicare.gov>) offers Nursing Home Compare, which can give you valuable insights into comparing nursing homes, and also offers alternatives.

As people grow older, they may find themselves or their spouses in any of four different stages of life. The last three stages are optional, but each must be considered a possibility:

- Independent.
- Vulnerable (needs some help).
- Dependent (requires care daily).
- End of life (daily care or hospice care).

Each of these four stages can take place in a family residence, but some preparation of the home is necessary; the last two stages often require a full-time caregiver. The alternative is a care facility such as assisted living or a nursing home.

Strategies

Make your home safe and easy to live in at all ages.

You and your spouse will benefit by discussing, understanding, and writing down each other's housing or care preferences for each potential future life stage.

Consider preparing your home for caregiving should it be necessary on a temporary basis or longer.

Social

The *Social* realm covers your relationships with family, friends, acquaintances, co-workers, advisers, and other people.

One of the first things that people notice when they retire from full-time work is that they have lost their social "role." For years, they have been associated with a career, a company, and a position, and that is suddenly gone. Also for years, they have spent large amounts of time with co-workers, clients, and even competitors, many of whom they viewed as friends. Suddenly, the link is broken, and all those

people are no longer a real part of life. Some friendships will continue, but most will probably fade quickly.

Roles may change in other ways as well—for example, when one spouse becomes responsible for care for the other, or when a child becomes responsible for a parent.

In many cases of role loss or change, people go through the equivalent of a grieving process (denial, anger, bargaining, depression, and acceptance). In the case of retirement, some will be relieved and ecstatic to be free. In either case, they eventually find new roles and go on with life.

Another aspect of long lives is that, although there is an expectation that baby boomers may live very long lives, many people in the generations ahead of the boomers are already living very long lives. Some boomers may find themselves in their 80s and responsible for care for parents who are centenarians.

In earlier generations, older people who became widows (or widowers) or required care moved into their children's homes. This still occurs, yet a significant number of older people indicate that they will seek other alternatives, as they do not want to be a burden to their children.

The Future

Prepare for contingencies including illness, caregiving, accidents, or death of your spouse or yourself.

Who will be your family and your friends when you are in your 90s or older? A recent poll of 100 centenarians suggested that being close to family and friends was the most important factor in healthy aging (Mozes 2010).

If your parents are boomers or younger, they may live past 100. If their health fails, will you participate in their care or management?

As people live longer, they are likely to have larger extended families. At 100, you might have four or five generations of living descen-

dents. Think about those numbers and assume approximately 20 years between generations. When you are 100 or more, your children could be 80, your grandchildren 60, your great-grandchildren 40, your great-great-grandchildren 20, and your great-great-great-grandchildren infants. A person who lives to 150 might be a great-great-great-great-great-grandparent!

As you grow older, friends and family members will die. One of the great concerns of many very old people at the present is that they have no friends. They have lost their social networks. This suggests that maintaining and continuing to build your social networks may be very important.

Further, when people move to nursing homes or other institutional settings, it can become very difficult to maintain normal social relationships with friends. Suddenly your friends must always come to where you are, and under whatever rules or surroundings are imposed by the caregiving organization. If you are suffering from Alzheimer's or are too sick to talk with visitors, this probably doesn't matter. But if you are still healthy and able to socialize, you may be better off to explore other alternatives. That may involve remaining in your own home and receiving whatever assistance you need there, or moving to a facility that supports your efforts to maintain relationships with friends and family.

Computers, the Internet, and networking have already changed how people socialize. Families that have spread apart over great physical distances are able to exchange e-mails frequently and talk together face to face on their computers with the aid of webcams and services such as Skype. It seems logical to expect that new services will be introduced that keep families, friends and acquaintances in close contact, possibly with the aid of 3-D avatars or holographic images as technologies are enhanced and new approaches introduced.

Strategies

Make an effort to build and nurture relationships with family

members and friends at every age level.

Anticipate that individual roles will change, particularly upon retirement, but at other times as well.

Become involved in organizations where you can contribute your time and your knowledge while interacting with other people.

Participate in activities and organizations wherever you have an interest.

There are several legal documents that every individual should consider. Preparing these documents will assure that your interests are protected or met in the future:

- Will.
- Directive to physician (DNR).
- Medical power of attorney.
- Financial power of attorney.

Transportation

Transportation, or mobility, encompasses all of your various transportation needs and the methods available, including walking, personal transport, and public transportation.

In the United States, the automobile is probably the most important form of personal transportation. Consequently, a driver's license is very important to people of all ages, and particularly to seniors who are often at risk of losing their driving privileges due to an age-related condition, such as poor vision. Older people have most of the same needs as the rest of the population. They must go to food markets, doctor appointments, pharmacies, and other stores for all their needs.

Some senior-living facilities offer transportation for their residents, an important service. Some communities provide door-to-door bus services, but other public transportation follows a fixed route or may not be manageable.

Even more important than transportation as we usually think about it is mobility—i.e., the ability to get around in the most basic

sense, walking. For individuals who are unable to walk, or are limited, there are options, including wheelchairs, scooters, or other aids to mobility.

The Future

Beyond automobiles, each individual or family must consider what their transportation needs will be in the future. Is it important to be near bike paths, a waterway, an airport, or a rail station? The future may usher in new alternatives for personal transportation, such as exoskeletons that can help you stand, walk, run, and perform other personal activities. Wheelchair technology has already evolved into chairs that can climb stairs and raise the passenger to eye level to hold a more normal conversation; other innovative products will be introduced as well. Scooters and motorized wheelchairs have become common, enabling people who would otherwise be disabled to live independent lives.

Will flying cars return? They were here once, in the 1950s, but never gained popularity because they required a licensed pilot, so did not offer enough advantages to attract buyers. The Moller Skycar (2010) is beautiful and is certainly a candidate, but will have to deal with similar licensing problems, plus enormous changes in aircraft regulations and eventually, if successful, an entirely new airways system.

Strategies

Try to anticipate your transportation needs about 10 years in advance. If you move to a new home, consider how you will meet your transportation needs if you can no longer drive or provide your own transportation.

One of the exciting technologies on the horizon is intelligent or self-driving cars. Driverless systems are being tested, largely as a result of the successes in the DARPA (2010) competitions, and are expected to be available to the public before 2020. This technology could fill a substantial need for older drivers, presuming that licensing re-

quirements are adjusted to recognize driverless cars.

CONCLUSION: PREPARING THE PERSONAL FUTURE

Exploring these six domains within each individual's life offers an opportunity to see life from different perspectives and at great depth. Most important, the domains provide platforms from which to explore the long-term future in detail. The discussion here should raise questions in each domain that readers can explore on their own.

Overall, one valuable inference that can be drawn here is that people of *any* age who are in good health today should be prepared to live to be centenarians. Obviously, not everyone will reach 100, but the numbers are increasing. It appears worthwhile to develop a strategy or at least a contingency plan for living beyond 100.

For the younger generations, say younger than 50, it is reasonable to expect that life spans will be increased during your lifetime and that your potential for a very long life will rise dramatically.

For all ages, an effective strategy is to create a personal strategic plan for the next 10 years of your life, then update it regularly. Beyond that, you can create a *vision* of your future at 110, or if you are under 50 now, a vision for life at 150.

Then you will be prepared for whatever life brings.

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