AGING, TECHNOLOGY AND HEALTH

By Sumedha Mona Khanna

One of the noticeable and largest global demographic trends of our times is a rapid increase in the population aged 60 years and over. People are living longer, and in most cases remaining healthier and active in their later lives. Of course, this extended life expectancy comes with the increased likelihood of chronic diseases and disability, creating both expected and unexpected changes in the lives of older persons and their families. Studies show that most people would like to live in independently in their own homes, managing their daily lives as successfully as possible. Fortunately, in recent years, there has been significant and innovative progress in development of technologies that can support health, wellbeing, and a balanced and satisfactory lifestyle, thereby enabling individuals to effectively monitor their health and living conditions as well as more easily and regularly communicate with their families, health care providers, and friends.

There is no doubt that aging brings changes - in our general health and energy; vision; hearing; mobility; motor skills; memory and mental retention; agility, especially with our hands; and more importantly our finances. These changes may be minor, gradual or sometimes more rapid, especially if a chronic medical condition co-exists. Exceptionally, a few people escape these changes and go on to live into their 90's and beyond, actively engaged and remaining independent until the end of their lives. They are the lucky ones. Most of us belong to the other group, experiencing at least some of the changes. Some of the common physical and medical conditions that may affect life include cognitive skills loss; memory loss; chronic medical conditions such as diabetes, high blood pressure and other heart-related conditions; arthritis and joint-related conditions; bladder control; and cancer. Changes may also occur in our social life, such as loss of a life partner; change in where one lives; change in location; and loss of family members and friends. One of the most defining changes that can occur at this phase of our lives is loss of driving ability that can also lead to social and cultural isolation.

In *Oakmont* - identified as *An Independent Active Adult Community* - in the Sonoma County of Northern California, where I live now, there are three categories of older people: younger old adults (55-65 years), middle older adults (65-80 years), and the oldest old (80 years and beyond). While these groups may be almost equally divided, with the growing number of Baby-Boomers joining this community, this proportion will most likely change soon. The so-called younger old adults are more proactive about their lives both physically and mentally, and they are often engaged in a second or third career. That said, most of us want to remain active, engaged in life and living independently in our own homes for as long as possible. There is no assisted living or nursing home facility in Oakmont, so if one is not able to live in his/her own home, one would have to move either to live with a family member or into a care facility. Most of us want to avoid that.

Fortunately, existing and emerging simple technologies are available for us to Age-in-Place and mange our health and medical conditions. We have established a group called "*Oakmont Futures"* that is reviewing these technologies and informing/educating residents about them. A growing number of people have begun to use them and find them reassuring for safe and connected living at home. These technologies generally fall into two major categories: Health and Medical and Aging-in-Place.

Health and Medical

Some of the challenges for Oakmonters and the technologies that can support them include fall prevention, access and use of medical slert systems for contact in case of medical emergency, ability to monitor and manage personal health - from physician-centered to person-centered technologies and connecting with health care provider, managing self when experiencing physical or cognitive disability- including mobility/vision/hearing issues.

Technologies that can support individuals in these challenges include blood glucose monitors (diabetes management), pulse oximeters, blood pressure monitors, heart monitors (especially those using Pace-makers), wearable medical devices, hearing aid technologies including Caption Call Phones, devices for visual enhancement, sleep monitors, home sensors that can detect movement/safety, and conventional mobility devices such as wheel-chairs and walkers with advanced technical features for ease of use.

Age-in-Place

For many of us who want to remain independently in our homes (the term currently used is **Aging-in-Place**), the important challenges are safety, comfort, connection, communication, convenience, transportation. Today there are many easy-to-use technologies already available to address these issues and this field of research is growing rapidly.

Technologies that can support Age-in-Place include simple every-day common sense ones such as arranging space in home for ease of movement, especially with vision and mobility issues; grab bars especially in bathrooms and the kitchen; smart chairs that allow one to get up and sit down with ease; and smoke and fire alarms conveniently situated and easily accessible.

The most important features in what is now termed a **Smart Home** include a wireless router, a home pod (such as the Amazon Echo - Alexa), the Apple home pod (Siri) or the Google home pod (Hey Google) - these can connect to all other smart home devices; smart lighting - to control the entire home lighting with a remote device; smart thermostats that can be set on schedule via voice; a ring security system that works with Alexa voice and allows one to monitor one's home via mobile phone; and Ring Video Doorbell - a wifi-enabled doorbell with a camera for extra security.

A Special Note

Did you know that technology is now available for managing your personal health and connecting you with your health care provider? It is built into your smartphone that most probably goes everywhere with you. It is an App - **Medical ID -** that already exists in your smartphone (or can be easily installed). Your **Medical ID** will store important information about your basic health information including:

*   your name, photo, date of birth

*   your height and weight

*   your blood type

*   your medical information (e.g. diabetes, heart/blood pressure)

*   any known allergies

*   medications that you are taking

*   any important/relevant information about your medical conditions (e.g. surgeries, internal devices such as pacemakers/knee or hip replacements, etc.)

*   names of your health care providers, and

*   emergency contacts

You can also connect with your health care providers through another app called **Patient-Portal System** which enables you to link through your smartphone to the portal system that your health care provider uses. This allows you to follow up on your medical appointments, lab results, medication renewals, among other things. *All you need is a good wifi connection and an up-to-date smartphone.*

If you need more specific information about any of these, please feel free to contact me via phone, text or email with your smartphone: Dr. Sumedha Mona Khanna; Aging Well LLC, 7 Oakgreen, Santa Rosa, CA 95409; smart phone #: +1 707 292-6956; email: khannas@mcn.org.