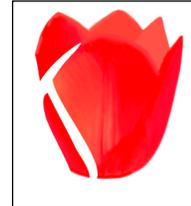


Benefits and Economics of a Home Monitoring System for Seniors D. Wobschall, Red Tulip Monitors

Personal Comment:

As a senior living in my home alone as well as an ex-professor of electrical engineering specializing in networked sensors, I am especially aware of the detailed specifications of sensors and wireless technologies which are available and how sensors can help make homes smarter and safer. And I know what kind of light-touch sensors I want in my own home. Red tulips were my wife Katrina's favorite flower in our backyard.

Long ago elders lived with relatives and were taken care of day to day by family. Today elders live apart by mutual consent. Then people were taken care of in the family home, but life expectancy was low and the burden on the family was not great.



Most seniors living in their own home want to keep living there as long as possible. There are advantages to assisted living but it is costly (average of \$3500/month in USA). If seniors, such as myself, decide to stay in their home there is often concern by family and friends that medical emergencies may go unnoticed. Perhaps they will call frequently to be sure that all is ok. Calls are nice when there is news but no one wants to be a burden. This is where home monitoring sensors come in. If a problem arises in a home being monitored, the caregivers will be notified immediately. Family members then will call when there is news, not for duty.

Economics greatly favors installing a home monitor over moving to assisted living. A monitoring system lease costing \$50+ per month which allows a delay of \$3500 per month expense is clearly a good investment. The question is which the monitoring system is effective for the individual. .

Our concept of a light-touch home monitor system is that it does not use a camera or microphone because we consider them intrusive. Also audio and video electronics are easily hacked. Our sensors are deliberately designed to be able to process only the minimal digital data required for the sensors and do not have a complex operating system with multiple digital pathways in and out. If anybody wants a camera or microphone, these can be added and these will complement the red tulip system. For example Alexa can be added to respond to voice commands at either the home end or the caretaker end (Alexa – is Mom ok?).

We includes a call/fall detector for immediate response but is backed by checks for false alarms. Otherwise the monitor just checks for deviation from normal activity and information sent to the caregiver on non-urgent basis. We consider many existing medical alert products, such as call pendants, as to be too limited in function, somewhat intrusive and lacking in avoidance of false alarms.