

Is Aging the New Disease?

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Abstract—In this paper, we discuss the phenomenon of aging in relation to Hofmann’s three perspectives on disease including disease, illness and sickness role. We further discuss how the introduction of technology supported elderly care changes our perspectives on aging into becoming more disease focused. Especially, in user situations where technology supported care is introduced in order to prevent and reduce individual risks of prospective elders at risk of becoming wanderers, or who need support in order to avoid- or reduce outcomes of falls. Thus, even if early introduction of technology supported care is recommended in order to realize assistive technology to its potential benefits, we raise critical concerns in how this also can change our view of aging from being a natural process of life into a disease focused phenomenon.

Keywords—aging; disease perspective; assistive technology; social implications of technology use.

I. INTRODUCTION

What classifies a condition to be defined as a disease? Moreover, is aging a disease? Depending on whom we are addressing these questions to, we can expect different answers according to Hofmann [1]. There are well established international classification systems such as the International Classification of Diseases (ICD) that define and classify diseases on the basis on a minimum set of criteria [2]. However, even the ICD system changes over time as new diseases constantly are introduced, and some diseases are reclassified as rather being natural phenomenon as new knowledge is gained. Hofmann [1] debates that the classification systems and the criteria that define diseases are fluctuating over culture – historical time, and that these changes are based on our worldview, or gained knowledge and science. For example, homosexuality was formerly classified as a disease in Norway until the year of 1977 [1]. Homosexuality was viewed as a deviation from normality, and one of the primary reasons for classifying homosexuality as a disease was to avoid the homosexuals in feeling stigmatized [1]. Moreover, those who were gay were not able to sexual reproduce humankind. However, as new technology, knowledge and science were developed, homosexuality was over time viewed as a normal sexual orientation, and human reproduction is achievable as new technology can treat many of those who are infertile.

The classification of a condition can be made from different perspectives on disease by the characteristics to

whom that are represented: the medical health professionals (*disease*), the person who is being ill (*illness*) and the society (*sickness role*) [1], see table 1 below. The different terms presented in table 1 can have different departures of how we view the phenomenon of aging, and these perspectives are important to understand initially in order to discuss if we could classify aging as a disease or rather as a natural process of life. The term *illness* is associated with the person who is experiencing the negative subjective illness [1]. This negative experience of being ill can be present by the subjective experience of pain and suffering, or symptoms or a collection of symptoms (syndrome) [1]. The term *disease* is reserved to the medical professionals who based on objective signs and markers are able to classify a condition according to the established classification systems of diseases and related health problems (e.g., ICD [2]) [1]. For example, a person can experience to be ill, without necessary the health professionals approval of the illness as being a disease. Moreover, the term *sickness role* is associated with a certain social behavior that is colored by phenomena such as social status and privileges. Thus, the sickness role is defined by norms and values based on inter-subjective relationships within the society [1].

TABLE I. THE THREE CENTRAL PERSPECTIVES ON DISEASE ACCORDING TO HOFMANN [1]. COPYRIGHT: HOFMANN [1, P.134]

Term	Meaning	Characteristics
<i>Illness, To be ill</i>	(Negative) subjective experience of the person who is being ill.	Pain/Suffering, Symptoms, Syndromes (collection of symptoms).
<i>Disease, To have a disease</i>	Signs and classifications observed and identified by health personnel.	Signs, Marker.
<i>Sickness, Sickness role.</i>	To be perceived as having a sickness role in a society.	Social behavior.

However, why all this eager to define a specific condition as a disease? The main reason is that a disease diagnosis gives

an ill person welfare benefits including the rights for cure (if existing) or treatment (to regain health, reduce pain, reduce risks, prolong life/ life-sustaining treatments etc.), as well as a pause from duties and financial benefits, such as paid sick leave [1]. Moreover, the society represented by the government influences the redistribution of tax money including making socioeconomics decisions. For example, the government decides which diagnoses are the most valuable to treat according to the Diagnosis-Related Group (DRG) system [5] or which diagnosis that qualifies for retirement. The government also decides indirectly which diseases should gain more research finances in order to obtain new knowledge for improved treatment.

The health care system can also have an interest in treating those who are most valuable treating according to performance-based financing of health care services as defined by the DRG system. Furthermore, the health care system is influenced professionally by the pressure from the society and is forced to keep focus on diseases that are valued as important research areas / grant areas. These few examples illustrate the complexity of defining a specific condition as a disease or not, and show that there are several stakeholders involved, and that defining a condition as a new disease has, among others, individual-, socio-economical and medical consequences. Thus, the relationship between the different perspectives on *disease*, *illness* and *sickness* is highly intertwined as they all influence and rely on each other.

A growing elderly population demands us to design new ways of delivering health care in order to develop a sustainable elderly care systems based on cost – efficient use of scarce health care resources and shortage of health care professionals. Several initiatives have been explored in order to provide care services to more care takers by less use of resources [3]. Thus, the introduction of assistive technology is valued as an essential instrument in future elderly care; but then we have to succeed in incorporate ICT – supported elderly care in the overall elderly care trajectory – and not just in specific acute phases, e.g., as a follow-up intervention after hospital admission [4]. There are a number of ethical dilemmas by the introduction of technology supported elderly care. Prior studies that have touched on these dilemmas are concerned about concepts such as intrusion of the privacy, stigma of assistive technology use, or (false) trust in the safety of technology use.

In many studies, the conclusion is that the ethical implications need to be balanced with the personal gain of assistive technology use, e.g., the mastery of living as an independent individual. This paper adds to the existing HCI literature by expanding the knowledge on how technology use within elderly care can have personal, medical and social impacts on our view of aging. Thus, this paper aims to make a contribution by widening the debate on ethical aspects concerning assistive technology use among elders. We are doing so by discussing aging in the light of the following research questions (RQ):

RQ1: Is aging a disease according to Hofmann’s three perspectives on disease?

RQ2: Are the three perspectives on disease and aging changed when assistive technology is introduced to support the aging population?

The paper is organized as follows: Section 1 introduces the research objective of this paper. Section 2 presents the background. Section 3 summarizes the related work. Section 4 discusses how the different perspectives on disease and aging are changed when technology is introduced into the caring for elders. Section 5 presents summary of this paper.

II. BACKGROUND

In this section, we present and discuss the three perspectives on disease in relation to the phenomenon of aging.

A. The disease perspective

Medical professions define diseases after well-established international medical classification systems such as ICD (specialist health care), the International Classification of Primary Care (ICPC) (primary care) and Diagnostic and Statistical Manual of Mental Disorders (DSM) (psychiatry) [1]. These classification systems hold a number of criteria that could coincide with the subjective experience of aging including physical dysfunction, progressive impairment, various treatment and preventive efforts, changes in social structure and deviations in social behavior [1]. Therefore, several of these classification criteria could diagnose age-related symptoms and signs of aging into various diseases. However, a sum or combinations of various criteria gathered from the classification system are not sufficient or necessary in order to define something as a disease. Nevertheless, aging is defined as decline in organs and functions; as a result of normal arts and age-related biological processes, thus these processes cannot be said to be disease related nor a deviation from normality in the aging population [1]. It is also important to note that most elderly persons actually live a more or less active life. Statistics Norway [6] reports that as many as 74 % of the elderly Norwegian population (above 67 years of age) are non-users of municipal health care services. Therefore, aging is not a disease viewed as an isolated phenomenon. However, the reminding 26 % of elderly persons that are health care receivers have additional diseases [7]. These numbers display that it is important to separate aging and diseases / age-related diseases.

In the Global Burden of Disease Study 2013 (GBD 2013) [8], there is no death cause referred to as old age. However, old age could be indirectly the cause of death, but the death cause is always disease specific. The eight most frequent death causes in Norway 2013 are listed below, in addition to the number of deaths in parentheses [9]:

1. Myocardial infarction and other ischemic heart disease (7290)
2. Alzheimer's disease (4126)
3. Stroke (4020)
4. Lung cancer (2283)
5. COPD (2176)

6. Pneumonia (2083)
7. Colon cancer (1999)
8. Fall (incl. hip fractures and other injuries) (1193)

Alzheimer's diseases are the second most frequent cause of death in Norway in 2013. Alzheimer's diseases are according to the Alzheimer's organization "*not a normal part of aging*" [10], however the most dominant risk factor for Alzheimer's is aging, as the majority of persons who are suffering from these diseases are from 65 years of age [10]. However, there are exceptions as early onset of these diseases can appear in younger years and the Alzheimer's Association [10] says that almost 5 % of these incidents are present already from the age of 40 – 50 years.

Aging increases the risk of diseases and death [11], thus for some health professionals, e.g., the geneticists, increased risk for diseases and death are enough to define the cause as a disease. Hence, preventive efforts are made in order to avoid development of diseases, e.g. surgical treatment can be done in order to reverse or reduce the risks for hereditary breast-ovarian cancer syndrome by undergoing mastectomies and/or remove the ovaries in cases where the geneticists have identified abnormal BRCA1 gene [12]. However, as discussed above; aging and diseases are not objectively concurrent. Aging is rather a natural biological process, and currently there is no cure that can stop the process of aging, even if some treatments give promises of slowing down the process of aging [13] [14]. Thus, in order to stop aging you have to die young, which is not normality in the western world where the life expectancy is set to be approx. 82 year as average for both genders [15].

Nevertheless, the outcome of relatively harmless diseases such as the seasonal flu have much worse prognosis for elderly people above 65 years of age as their human immune defenses weaken with aging [16]. Similar can other minor diseases cause major health consequences for elderly people, e.g., urinary tract infection and constipation can lead to acute delirium [17]. Other examples are; the mortality caused by hip fracture for elderly Norwegian is as high as 25 % of 10 000 registered incidents per year. The mortality percentage is not directly linked to the fracture itself, but the strains of the fracture are worsening their general health and sickness [18]. Hence, the elderly people's vulnerability and mortality after falls including hip fractures is present as the eight most frequent death cause in Norway in 2013 [9].

No general practitioner (GP) or specialist health care doctor would give a sick leave to a working person of 60 years solely based on observed signs and markers of aging. There has to be an additional disease present. Thus, based on the disease perspective; aging is not a disease.

B. *The illness perspective*

Albert, Munson and Resnik [19] state that a "*...disease is best understood as a departure from normal functioning*" [19, p. 160]. What is the characteristic of normal functioning for aging people are probably a subjective perspective, as well as depending on the context and individual's experiences of what is normal functioning. An active younger person that exercises three times a week is more

likely to keep on exercising at older age, but at reduced and adjusted pace. However, even if the normal functioning is subjective experienced as being abnormal compare to younger years of life, the abnormality is still a normal process within the aging population. The onset of the biological aging starts already at 20 years of age, where aging is characterized by a gradual reduction of the body's organs and functions, which is said to be 50 % reduced at 70 years of age [7]. However, this reduction of organs and functions is not classified as a disease from the disease perspective of medical professionals, however persons of old age have increased vulnerability for diseases, mortality and stress [7]. Additionally there is also present a mental and social aging process that onset later in life. Mental aging refers to reduced memory capacity, and the subjective experience of everything going slower than it did before. Social aging is associated with a decrease in social contact. The reduction in social life is especially present after retirement. The energy level of elderly persons decreases, and even if wanting to participate in social activity, elderly persons are often cutting down on social networking, which can make them vulnerably for loneliness and isolation [7].

The *senior report* of Oslo municipality [20] has brought attention to active aging. In doing so, the health government in Oslo has emphasized that each elderly person has a responsibility for self- caring to the extent it is possible, and that families should increase their involvement in the caring for their elderly relatives. This is comparable to the global health movement of developing strategies for successful aging, whereas the concept embraces aging as something positive, and refers to physical, mental and social well-being in older age [21][22]. However, prior studies have displayed findings that the elderly people's subjective experiences of quality of life are weighted higher than the absence of diseases [21] [23].

The notion of successful aging aims to develop strategies to increased adaption of aging well. These strategies vary over time as new knowledge is gathered. However, lifestyles strategies such as diets, physical exercising, non - substance use, social activities, prevention or treatment of depression, in addition to positive attitude and reduction of stress are some examples [22], [24], [25]. The notion of successful or active aging can also have an opposite effect for those elderly people who are not mastery aging well. Especially, can this be the case for those elderly persons who have additional diseases. Pushed to the extreme; the society can blame those elderly who have not lived their life according to the successful aging strategies. We know that factors such as socio – economics can have impacts of life expectancy [26] and for some elderly people the society's expectations of active aging and increased self – care activities cannot be fulfilled. Subjective life quality for some elderly persons can also be that aging is experienced as illness as decline in general health, limited capabilities and/or functional abilities make them struggle with daily life activities, and we know that the transition from work life to pension life can be experienced as brutal for some [25] [27]. The experiences

from someone's younger life are also likely to affect the subjective experience of older age.

The poet and philosopher Ralph Waldo Emerson (1803–1882) is famously quoted for “*All diseases run into one, old age*” that has origin from the Emerson's essay *Circle* (1841). Emerson's somehow extreme description of old age can be interpreted as old age leads to the only “disease” that none human are able to escape, as death is the only fixed and known outcome of life. Other translations could be that the author argues for the fact that it is the sum of diseases or lived life that is the most essential factor of our final experience of old age.

The illness perspective is a subjective perspective, thus people of old age may define aging as an illness if they experiencing aging as painful and negative. However, most elderly people (74 %) do not have a need for public health care services according to Statistics Norway [6], so the majority of elderly Norwegians are likely to think of aging as a natural process of life.

C. The sickness perspective

One understanding of the perspective of sickness is that it is a social constructed phenomenon as the notion of age has different meanings and values within cultures and nations [27]. Thus, there is a belief that Eastern and Asian culture value and honor the wisdom of their elderly people to a greater extent than the industrialized Western countries – however there are scarce literatures supporting this hypothesis according to Löckenhoff and co - authors [27]. Moreover, the western world has been criticized for their youth focused societies, where cultural traditions have outdated elderly persons as they retire from work life [27].

The aging population has in past decades been stigmatized by the view of elderly people being a burden for the society, especially has this been the case in several Western countries [27]. This negative value of the aging population can also be reinforced by the mass media's focuses and stressing about how to cope with the growing proportion of elderly people in the society in conjunction with scarce health care resources and shortage of health care professionals. Moreover, there have been tendencies that research studies have focused on the negative aspects of aging where elderly people have been viewed as more care needy in opposite to resourceful human beings. Several contributors have in recent time claimed that aging is in fact a disease, and should therefore be treated [28] [29]. Consequently, Caplan [28] requires the society to put in extensive resources to do research on how to cure aging so we can live longer under the assumption that the cure of aging also includes maintenance of the younger people's health and quality of life. However, this standpoint brings up ethically dilemmas that conflicts with the earth's sustainability, and is sensitive as many people on the earth struggles to survive their 60 years. One of the Caplan's argument for curing aging is that premature born babies get treatment, which Caplan argues are conflicting with the

evolution theory and survival of the fittest – thus he questions why not elderly people should be saved from dying [28]. However, there is a difference between premature babies that have a potential for life and human reproduction versus elderly persons who have lived a life and are done with reproduction. It is also a question of prioritization of scarce health care resources, and curing aging should not be on the top list of health care issues that need to be resolved.

The sickness perspective is based on norms from the inter-subjective relationships within the society. The society may define aging as a sickness when they still are young, or are experiencing signs of aging – or making effort in slowing down the aging processes with various measures. However, the society's sickness perspective of aging is rather linked to additional diseases such as Alzheimer's diseases and other age-related diseases, so per definition aging as an isolated phenomenon is not classified as a sickness itself. Thus, aging is not sickness from the sickness role perspective.

In the previous sections, we have discussed how aging can be classified according to the various perspectives on disease, illness or sickness role. We argue that none of the three perspectives is defining aging as a disease. However, we understand that from a subjective experience; elderly persons can have own experience of aging as being an illness. Further in this paper, we want to discuss if the introduction of assistive technology influence our discussion of aging being a natural process of life.

III. RELATED WORK

There are no other HCI studies that have explored upon the different perspectives of diseases in regard to the phenomenon of aging and technology use. However, several studies from interdisciplinary research communities have examined various ethical aspects of assistive technology use, often in the context of people with dementia and Alzheimer's diseases. These research contributions are focused on concepts and issues in regard to the following: autonomy [30] [31] [32] [33] [34] [35] [36] [37], privacy issues [38] [39] [40], stigma of assistive technology use [41] [42] [43], affordance [44] [45] and safety [46] [47] [48].

However, Greenhalgh and co-authors [30] discuss illness and frailty in the living body by use of phenomenology. They are doing so in order to develop a phenomenologically and socio-materially informed theoretical model of assistive technology adoption and use by older people. However, they do not discuss aging in the light of the different perspectives on diseases, but rather how the experienced body influences the technology use and appropriation. The authors [30] argue that providers of assistive living technologies are not supporting the users in coping with their illness in everyday life activities. Moreover, the authors [30] state that introduction of technologies in order to support for independent living require for solutions that support the users in “*think with things*” [p. 86] to increase usability and user experiences.

IV. APPLYING THE DIFFERENT PERSPECTIVES ON DISEASE ON TECHNOLOGY – SUPPORTED ELDERLY CARE

The classification of a disease often comes along with the fact that “*something can be done*” [1, p. 24]. Hofmann [1] refers to infertility and the innovation of assisted reproduction as one of the driven forces of redefining infertility as being a disease. This, according to Hofmann [1], indicates that in situations where something can be done in order to “*control or intervene*” [p. 24] we are willing to include these into our disease perspective [1].

Technical solutions that aim to support elderly persons with Alzheimer’s diseases or technology to prevent falls for those having fall tendency are important interventions in order to reduce the risk of mortality. Hence, these types of technologies could fit into the prescription of having the function to control or intervene in order to reduce the risk for accidents with severe outcome. Especially considering that Alzheimer’s diseases are the second most frequent cause of death among elderly people, and falls are reported as the eight frequent cause of death. But then again, Alzheimer’s diseases are not a natural part of aging. However, in order to succeed in incorporating assistive technology into the overall ICT- supported elderly care system it is considered beneficial to introduce technology at early onset of old age, e.g. before the elderly person is diagnosed with Alzheimer’s diseases. However, the person has to be at risk for Alzheimer’s diseases if defending a formal consent of installing door controller or other technical solutions such as Global Positioning System (GPS) to either use technology for diagnostic purposes, or to control and prevent accidents if the person has a social behavior that make the family concerned.

A. *From the disease perspective: Introduction of assistive technology to support the aging population*

Delegation of health care services to technology in the caring for elderly persons brings up a number of ethical dilemmas, especially in relation to protecting the elderly people’s right to privacy. It is also important to emphasize that use of assistive technology is not merely affecting the elderly persons, but also bring the elderly peoples’ families and public health care staff within its scope. For example, technologies that alert in a pre-defined situation require an infrastructure where “someone” responds to the alert or acts when the collected information requires some action. That “someone” could be health care staff and/or family, which means that they also need to familiarize themselves with the introduced technology. And the housing – oriented care system has a motivation for including the family to a greater extent in the care network – as past institutionalization of care services has resulted in the family being less involved in practical matter or in the caring for their relatives [49]. The phenomenon of aging has advanced into becoming increasingly disease focused from the perspective of disease in user cases where the GP and municipal health care service make a formal decision of introducing assistive technology

for the purpose of reducing the risks of potential accidents and/or diseases.

B. *From the illness perspective: Introduction of assistive technology to support the aging population*

A home is perceived as a private sphere and should be protected against the health authorities intruding with mandatory sensors for monitoring purposes. Thus, it is a danger that introduction of assistive technology within the home will do something about the elderly residents’ perceptions of the home.

The purpose and gain of the elderly person using assistive technology should be weighed against the intrusion of the elderly person’s private sphere. In a Norwegian Official Report [3], it is argued that use of technology within welfare services can give the elderly possibilities to extend their time living as self-reliant in their private homes. Thus, technology that controls or intervenes in order to prevent diseases and mortality can slow down age related diseases and prevent risks for accidents. However, elderly persons may also experience the introduction of assistive technology as an intrusion to the home, as well as they may fear that technology is replacing social contact. This is especially true in user cases where technology is introduced in a top-down approach from the public health care system.

Moreover, the elderly persons could have increased negative subjective experience of being ill, or get the impression of being vulnerable for diseases and accidents as all these interventions must have a purpose. Thus, from the illness perspective of aging, aging has an increased illness-focus by the preventive efforts being made in the homes of elderly persons in order to reduce the risks for additional diseases and/or accidents.

C. *From the sickness perspective: Introduction of assistive technology to support the aging population*

In this scenario, it is essential to address the question: assistive technology for whom? As in the long run who are the beneficiaries of the increased ICT supported elderly care. Is it the community, health care system, patient / user or their families? It could also appear that there might be potential conflicts of interest between these stakeholders. The society will benefit from a more efficient use of scarce health resources, and use of technology in the elderly care will generate a need for additional manpower, which again will reduce the work load on health care staff. The Health governance is forced to develop a more cost efficient elderly care system as increased safety efforts in the home can reduce repeated hospital admissions and decrease the need for long term stay in nursing homes.

The future plan of having a health watch call center for more efficient treatment and safety system will require access to shared patient health record systems within all levels of the health care services. Thus, all these preventive efforts are turning elderly persons who may not have any health care needs into potential users or patients of a health watch call center.

The families of elderly persons can use public technology for remote visits and then feel less guilty of not going on a home visits to their loved ones. Thus, from the sickness - role perspective of aging, aging has got an increased sickness-focus by the preventive efforts being made in the homes of elderly persons in order to reduce the risks for additional diseases – and the society’s need of prolonging the time elderly persons can live in their ordinary homes.

It is also a dilemma to use the society’s scarce health resources on elderly persons who are considered as non-users of health care services for preventive purposes.

The resources used on preventive measures can pay off in the long run if the elderly persons have reduced need for complex health care services in the future. However, there is a lack of research that explores upon the health economics gains of implementing assistive technology into the overall elderly care.

The perspectives on disease and the relationship between disease, illness and sickness role are changed when assistive technology is introduced as an incorporated part of the ICT-supported elderly care for preventive efforts when no other diseases are identified, see figure 1 (as Appendix). The reason is because assistive technology is also introduced into the homes of elderly person who have no health care needs – but who are at risk of diseases or accidents that can have fatal outcome. Thus, preventive measures made to control or intervene in the private homes of elderly persons give an increase disease focus on aging.

However, this has to be separated from user cases where assistive technology is introduced in order to support elderly person with additional diseases such as known Alzheimer’s diseases – the technology is then a treatment measures in order to support additional disease and not aging. Thus, it is important to recognize that it is a difference between aging and assistive technology usage for preventive measures supporting “healthy” elderly persons, and aging and assistive technology usage in user situation where the elderly person has additional diseases that need to be controlled or intervene for safety reasons or treatment purposes.

V. SUMMARY

In this paper, we have discussed aging in relation to the three perspectives on disease including disease, illness and sickness role by addressing two research questions:

RQ1: Is aging a disease according to Hofmann’s three perspectives on disease?

RQ2: Are the three perspectives on disease and aging changed when assistive technology is introduced to support the aging population?

Thus, we argue that the phenomenon of aging is not a disease according to Hofmann’s three perspectives of disease when looking at aging as an isolated phenomenon. Thus, aging is acknowledged as a natural process of life in regard to RQ1. It is also emphasized that aging and ordinary diseases / age-related diseases need to be separated as the majority of elderly persons in Norway (74%) are non-users of public health care services. Moreover, we recognize that even if aging increases the risks for diseases and death;

diseases like Alzheimer’s diseases are still not a normal part of aging.

We have also discussed further how the introduction of assistive technology affects our perspectives on aging as being a natural process of life in order to address RQ2. Especially, in user situations where the technology is introduced to prevent and reduce individual risks, such as technical efforts made to support potential wanderers, or persons with fall tendencies. We argue that the phenomenon of aging gets an increased disease focus when applying all the different perspectives of disease. Especially, in cases where assistive technology is introduced to “healthy” elderly persons who have no ordinary diseases or age – related diseases, but who are at risk of getting diseases.

Prior research studies have brought attention to other aspects of assistive technology use, such as privacy, stigma and safety. We recognize use of Hofmann’s disease perspectives as highly informative in order to bring the ethical debate further and by this highlight other aspects of assistive technology use within the elderly care.

Future research needs to be aware of how the move of assistive technology into the homes of elderly people can challenge our perspectives of aging as being a disease. Thus, if assistive technology for preventive purposes is scaled to a larger proportion of elderly persons, we need to re-debate if turning aging into a disease is actually beneficial for us as a society.

“Since life itself is a universally fatal sexually transmitted disease, living it to the full demands a balance between reasonable and unreasonable risk” [50, p. 44].

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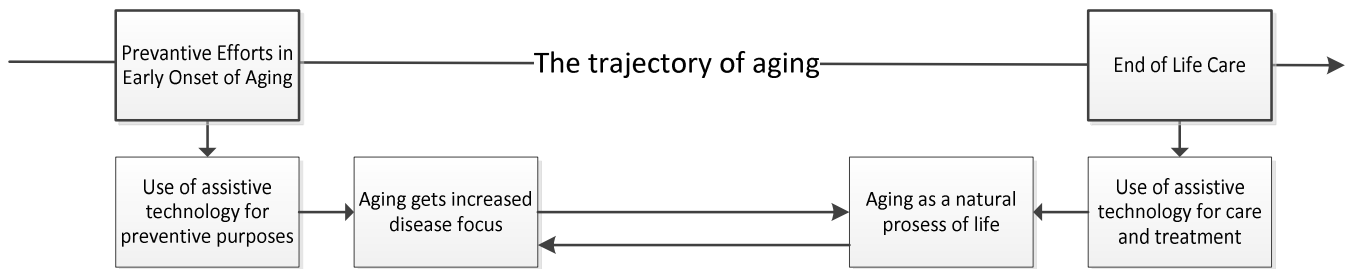


Figure 1. A simple model illustrating how the phenomenon of aging gets increased disease focus when technology is introduced as part of preventive efforts to prospective elders at risks, as well as later introduction of technology is viewed as efforts that are done in order to support aging as a natural process of life.