

Rethinking Insurance for the Aging Population

Introduction

Aging in place, long term services and support (LTSS) and long term care (LTC) are all domains ripe for innovation. With 10,000 people turning 65 every day in the US alone, heavy reliance on family caregiving and soaring costs - the need for change is imminent and the magnitude of the opportunity is large.

While developments in predictive analytics of diseases and risks are rapidly changing the healthcare and insurance industries, little of this innovation has trickled to drive advancements in services to support the aging population. Tools, expertise and insights from healthcare, ad-tech and other domains can and should be used to rethink insurance and financial solutions for aging consumers, a market that will comprise around 20% of the total U.S. population by 2030.

We present below a two-pronged approach to transform insurance for the aging population by proactively management of its risks. We review three potential applications- reducing costs of existing LTC policies(closed block), improving new hybrid LTC policies and a new insurance product that can be an alternative to LTCI for those that were rejected in the LTCI underwriting.

All these application are based on starting support in the earlier stages of aging where the care needs are more sporadic and most of the burden is on the family caregiver. Supporting family caregivers while preventing policyholder functional decline will help delay utilization of long term care and is therefore a great investment for any product in the space.

Our approach - proactive management of aging risks

LTC insurance covers Home Care services, Assisted Living Facilities and Nursing homes. Most policyholders go through a protracted period of health decline before engaging these covered care services. During this period of decline, family members and friends are typically relied with increasing frequency to provide support and care at home. Therefore, the factors that influence how long a policyholder is able to age at home without utilizing covered services depends on both their health trajectory and their family's ability to continue to provide care, with the latter often limited by caregiver burnout.

Driven by the progress made in predictive modelling, reliable prediction of the trajectory of aging/caregiving is now possible. This capability underlies our approach to building new offerings designed for the aging population. Specifically, our strategy is built upon the two following concepts:

1. **Risk stratification:** With a combination of more data, and a gradual and proactive approach, underwriting can be enhanced. Carriers can suggest the right product with the right amount of coverage for an individual instead of rejecting them or pricing them out from a full high coverage offering.
2. **Interventions to reduce LTC need:** Data and predictive models allow us to target the right intervention per the needs and predicted deterioration of the member. Multiple interventions are already proven to prevent deterioration, or delay the need for nursing homes; our focus is on targeting and successfully executing on them. The studies in following table are examples of such interventions:

Reference	Result
Home Visits to Prevent Nursing Home Admission and Functional Decline in Elderly People. JAMA, February 27, 2002—Vol 287, No. 8	Meta analysis showing 33% less nursing home admissions when >9 visits/year. 24% less functional decline

Improving caregiver well-being delays nursing home placement of patients with Alzheimer disease. Neurology 2006;67:1592-1599. DOI: 10.1212/01.wnl.0000242727.81172.91	Randomized controlled trial(RCT)- Median delay of nursing home placement of 557 days
A Trial of Annual in-Home Comprehensive Geriatric Assessments for Elderly People Living in the Community. N Engl J Med 1995; 333:1184-1189 DOI: 10.1056/NEJM199511023331805	RCT showing 12% vs 22% requiring ADL assistance(adjusted odds ratio, 0.4; 95 percent confidence interval, 0.2 to 0.8; P = 0.02). 4% vs 10% permanently admitted to nursing homes (P = 0.02)

Successful execution of such interventions require not only ongoing monitoring but also alignment of interests with the providers (e.g. Home care agencies, Geriatric Care Managers, Assisted Living Facilities). A similar paradigm works in healthcare today as fee-for-value contracts between insurers and providers. We are showing that the same model can be applied to LTC.

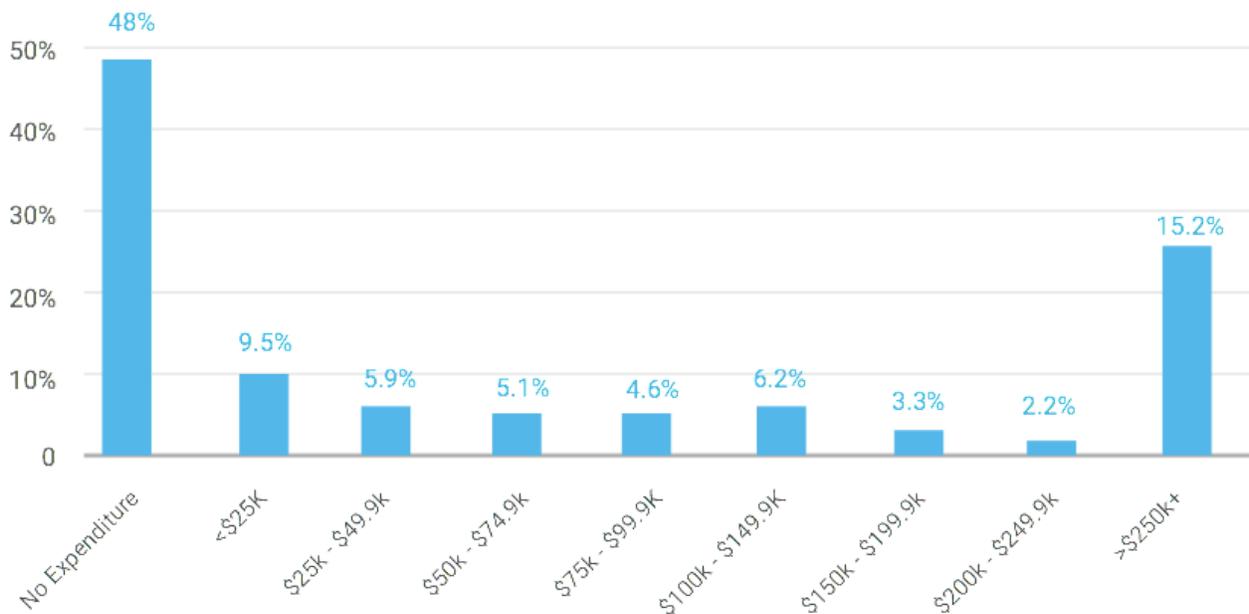
Several factors support establishing a relationship with family caregivers or with the aging adults earlier on in the caregiving journey. Specifically:

- Aging related needs typically begin 10-15 years before an ongoing need for LTC activation (e.g. “the sporadic need”).
- Very few efficient solutions exist for families early on in their caregiving journey. The available services are mostly expensive and out of reach for many. In addition, families who have LTC insurance often refrain from using it at this stage.
- The majority of the caregiving work early on in the process falls on the family caregivers, commonly a spouse, or adult child/grandchild. In a recent survey of over 100 caregivers, the need for trusted and affordable help was ranked as #1.
- Prevention of future deterioration and assisting family caregivers (both known to decrease nursing home usage) are more effective in these earlier stages.

Expected impact

The following HHS projection shows the expected distribution of LTC costs in the general 65+ population. Applying our approach will enable an LTC carrier to better populate their risk pool and decrease the \$250K+ portion of the distribution. This will be done not only by rejecting applicants, but also by gradually accepting more of them and by increasing coverage proactively based on a prediction of what will happen to them. Applying our approach will also enable a carrier to proactively manage and reduce the risk of utilization of services. By intervening at the right times to prevent functional decline and/or collapse of family caregiving, usage of expensive services such as nursing homes will be delayed.

**Expected LTC costs from age 65 to death for those turning 65 in 2015-2019
(thousands) , source: HHS**



Application 1-Reducing expected costs of in-force blocks

There are currently \$2T in in-force LTC policies. The policies have low lapse and analysis shows that a person buying the average long-term care policy at age 60 would have paid \$52K in premiums by age 82. The amount of total benefits available at age 82 for the same person is \$547K. At the moment, very little is done to change the expected utilization. However, as explained below, much can be done by switching the management of the policies and proactively targeting the members to provide them with value while reducing the overall utilization. In comparison of other methods to prevent losses on these policies (e.g. raising premiums) this is a win-win solution as the policy holder will be happy for the extra help and for improvement in their function. Raising premiums also causes much more friction with the regulatory body than our proposed approach.

Application 2-Improving hybrid LTC policies

Sales of LTCI hybrids are rising but they face several major challenges:

- **High decline rate:** Over 40% of people who can afford and want LTCI are currently declined. Our approach leverages risk stratification to offer an initial, more limited offering to such applicants and proactively upsell additional coverage, based on our data collection and predictive modelling. This is also synergistic with the ability to intervene and delay utilization. Factoring caregiving parameters (that are non medical) which are currently not used in underwriting can also impact the accuracy of predictions.
- **Complex purchase path:** The current purchase for LTCI is filled with friction points and highly complex. Our approach is an initial simple offering to start building a relationship and collect data. Once the medical condition, moral

hazard and other factors become predictable, an expanded product can be offered.

- **Value proposition questions:** Prospects desire more immediate and tangible value - our approach is to add a “pre-ltci” coverage which provides immediate value as an add-on to hybrid LTCL products / retirement products.

Application 3- An alternative to LTCL

Today, 40% of those who want and can afford LTC, are rejected. Using the principles outlined above, a new type of policy can be created. The policy will deliver immediate and tangible value to aging adults and their families and will have some partial future coverage that is sufficient for ~25% of the population.

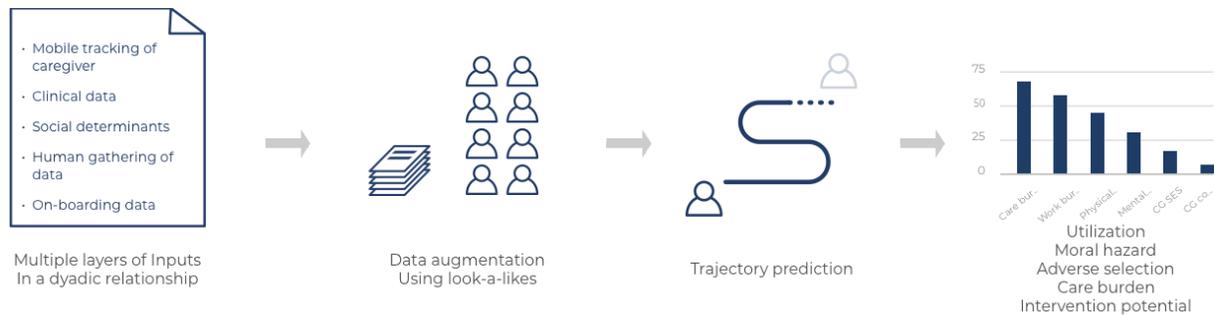
- **Backup care (e.g. safety net)** - support for the family caregiver when they cannot be there for their aging parent due to sickness, travel or crisis. In our interviews and surveys of family caregivers, they have repeatedly singled out the lack of easy and affordable back-up care and respite care as a key source of stress that limits their ability to continue to provide care.
- **Crisis case management (e.g. during and after hospitalization)** - expert support and guidance for the family and aging adults helping to develop a care and recovery plan.
- **Expert assistance during hospitalization** - support for the aging adult and family in a time of crisis (e.g. during hospitalization). An example of the benefit of such service is the mobilization of aging adult during the hospital admission which is proven to prevent physical deterioration due to bed rest.
- **Caregiver support** - Access to online and offline support communities, providing access to helpful resources, and forum to connect with other caregivers facing similar challenges.
- **Short term care** - care services for a capped duration of 1-2 years.

Our technology

Transforming insurance for the aging population necessitates the modeling of aging and caregiving processes. We are using a combination of clinical data, social determinants data and detailed proprietary data tracking the caregiving relationship to create a model of the trajectory of aging and caregiving. We are tackling the challenges of mashing up these different types of data using a look-a-like based approach. A look-a-like approach means finding people in a dataset that are similar to an individual in order to predict what will happen to that individual (e.g. impute certain probabilities on them). Using that, we are able to find similarities between people in different datasets and predict the future based on multiple parameters across all our datasets combined.

This comprehensive model allows us to model the functional decline, intervention recommendation and targeting, and future risk prediction drive the approach detailed above.

The following scheme is a high level illustration of our analytics process:



The Future of Insurance for Aging is Now

It has been over 40 years since LTCI was first introduced as an insurance offering to care for the aging population, with limited innovation to the paradigm over that time. As Baby Boomers increasingly reshape the demographics of the U.S. population, the need for more accessible, and profitable insurance offerings for the market is now greater than ever.

Combining the growing market need for support services with significant advancements in technology, predictive modelling, and the ability to introduce new models directly to customers, creates an opportunity for established companies and new startups to collaborate and build a new set of valuable products and services to ensure seniors have the support they need.