



The Home Stretch: Accessing Home Value to Fund Long-Term Care

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This article represents the views of the authors, and not necessarily those of their employers.

This article describes new mechanisms to fund long-term care (LTC) using housing wealth. Our work is motivated by the following observations:

On the one hand, individuals (and society as a whole) face the challenge of how to fund long-term care. Most individuals will need long-term care at some point as they get older. The U.S. Department of Health & Human Services (HHS) estimated¹ that 47 percent of U.S. men and 58 percent of U.S. women who recently turned 65 will need some form of long-term care over the rest of their lives, and that they will need this care for 1.5 to 2.5 years on average. The median annual cost of this care in 2019 ranged from about \$50,000 for home health aides to over \$100,000 for private nursing home facility rooms.²

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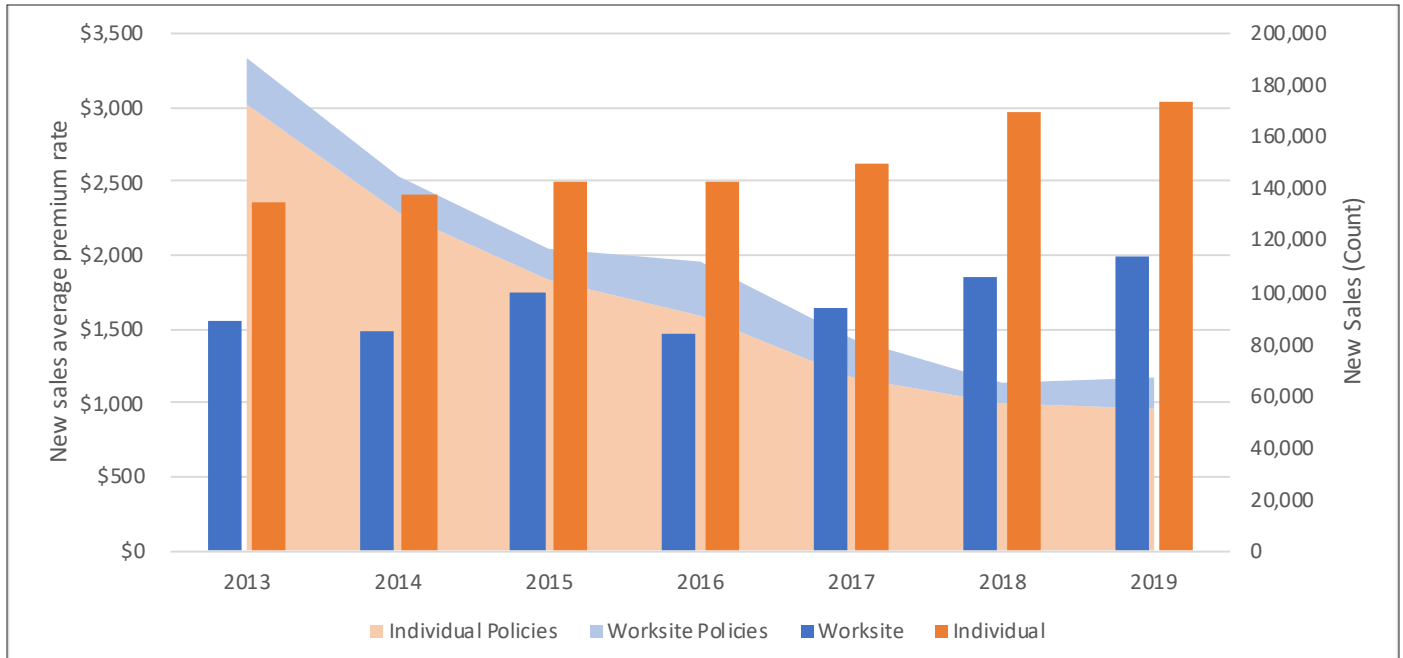
Some people prefer to receive informal care from family, but informal caregivers are not always available and informal care has plenty of indirect costs on caregivers and families. Formal care, on the other hand, can be very costly, especially when it



is provided in a nursing home. The HHS estimates³ that those people who will need long-term care will finance 53 percent of their needs out-of-pocket, with private long-term care insurance picking up only 3 percent of the total share (Medicaid accounts for much of the rest of this spending). This is a tall order for most people given that very few can afford to fund formal long-term care needs from their savings.

The traditional private LTC insurance market in the U.S. provides comprehensive coverage for those individuals who can afford it, and who are healthy enough to pass underwriting, but the policies can be expensive. Chart 1 shows the average premium and count of insureds who have purchased traditional LTC policies in the individual and worksite markets from 2013 to 2019. Sales of LTCI have been decreasing steadily over this time period (16 percent per year on average), while premium rates for new sales have increased nationwide about 3.9 percent per year over this period.⁴

Chart 1
U.S. LTCI New Sales Average Premiums and Policy Counts



At the same time, many older individuals own their homes. They often have an emotional attachment to their home and prefer to stay in their home for as long as possible as they age. Fifty-eight percent of older adults in the U.S. have not changed residences in more than 20 years, and 75 percent say they intend to live in their current homes for the rest of their lives.⁵ Most people also prefer to receive care at home rather than having to move into a nursing home.

Housing wealth is not just emotionally valuable, it also often forms the largest part of individuals’ total wealth. However, housing wealth is an illiquid type of asset. In order to access the accumulated savings in the family home, individuals typically have to sell and move, which they are reluctant to do.

In this article, we describe new approaches to long-term care financing that rely on home equity release and we address several of the challenges mentioned above. While these approaches stand to help expand the potential for long-term care financing to middle-class Americans, even these approaches don’t address a large swath of the U.S. with less privilege, who have little or no home equity. We will discuss the product design, marketing, pricing and risk management of these new approaches and potential behavioral factors that should be considered. The article builds on a growing body of academic research to which the authors have actively contributed. We want to share the key insights of this international work in market research, economics, and actuarial studies to stimulate more research in this area.

PRODUCT DESCRIPTION

Housing wealth may be used to fund long-term care. There are two components in the transaction: how housing wealth is unlocked and how it is used to finance long-term care. We discuss these components separately as they can be combined in different ways. And while unlocking and financing can be found in the U.S. and other markets internationally, a combined product has not yet been introduced.

Unlocking Housing Wealth

The easiest way to fund long-term care using housing wealth is to **sell the property** and use the sale proceeds to either cover long-term care insurance premiums or long-term care costs as they arise. There are many reasons why most people don’t do so. Most house sales mean that people are moving, unless a sale-and-leaseback is possible. People moving also incur sales taxes and moving costs. The strategy to sell to cover long-term care costs is particularly challenging for couples or families with only one person in need of care: the other family members still need a place to live, and they prefer to remain in the family home. Because most people won’t sell their home to finance long-term care, we look to home equity release products that allow individuals to access their housing wealth while still living in the home.

The most common form of home equity release are **reverse mortgages** (also called “lifetime mortgages” in the U.K.). Reverse mortgages are loans that allow individuals to borrow against their home equity without having to make capital or interest repayments while they live in their homes. Individuals can typically choose to receive the payouts as a lump sum, an income stream or a line of credit. All payouts that the individual receives become a

debt that accumulates interests. Fees and mortgage insurance premiums are also charged against the loan account. The outstanding debt is settled when the borrower permanently moves out of the home, either because they permanently enter a nursing home or because they have passed away. In either case, the home is sold, and the sale proceeds are used to settle the outstanding debt.

Reverse mortgages typically feature two important guarantees: a guaranteed right of the individual to stay in their home (“lifetime occupancy”), and a no-negative equity guarantee (NNEG), which ensures that only the sale proceeds are used to settle the outstanding debt. The NNEG protects the borrower and their estate from having to provide additional resources to cover the debt. With a reverse mortgage, homeowners choose the amount they wish to borrow and receive as payouts, subject to maximum loan-to-value ratios set by the provider. The level of payout for a given loan amount depends on the characteristics of the property and the age of the borrower.

Reverse mortgages are available in many countries, including the U.S., Canada, Australia and several countries in Europe and Asia (including China). The U.S. has the largest reverse mortgage market globally because of the Home Equity Conversion Mortgage (HECM) program, which is run by the Federal Housing Administration (FHA), a subsidiary of the Department of Housing and Urban Development (HUD). HECM reverse mortgages are insured by the U.S. Federal Government and are only available through an FHA-approved lender.⁶ Individuals must either own their home outright or have a very low balance on the home when applying for a HECM reverse mortgage. HECM reverse mortgages are complex products that involve various fees and costs, including origination fees, interest payments, mortgage insurance and closing costs. The program requires substantial product education not only for the HECM borrower but also their family members and estate. Two critical factors in developing new home equity release products are the product design and communication, to help ensure that potential customers best understand the product.

Another form of home equity release is called **home reversion**. A home reversion contract involves a partial sale and leaseback of the individual’s home. The homeowner chooses a percentage of their current home value that they wish to sell. The payout they receive reflects the current market value of the property share minus fees and minus the present value of the lease-for-life arrangement that is part of the contract. This value of the lease-for-life arrangement is subtracted because the individual is renting back the part of the property that they sold to the provider. At the end of the contract, the home is sold and the sale proceeds are shared based on ownership proportions. Home reversion contracts are available in several markets, including the U.K. and Australia.

Reverse mortgages and home reversion plans are the most common types of home equity release. Other forms of home equity release include:

- **Viager:** A real estate transaction, popular in France; a contract between two private parties, where the buyer makes a down payment and then a series of payments for as long as the seller is alive.
- **Shared appreciation mortgages:** The consumer shares a percentage of the appreciation in the home’s value with the lender in return for paying reduced or no interest on that part of his or her borrowings.
- **Home income plans:** The equity released through a reverse mortgage or a home reversion plan is automatically invested into an annuity that generates income for life.

The home equity release arrangements we described in this subsection usually terminate when the homeowner dies or permanently moves into a nursing home. Let’s turn now to discuss how these arrangements can be used to fund long-term care, both at home and in a nursing home.

Financing LTC With Housing Wealth

A simple way is to **use the home as an “ATM”** (or “equity bank”) and withdraw cash as needed to cover formal costs of long-term care. One advantage of this strategy is that if the individual never incurs long-term care costs, the value of the home is preserved and can be used for other purposes, including a bequest. A disadvantage of this strategy is that it does not provide insurance through risk pooling. The individual can face very high out-of-pocket long-term care costs, which could exceed the home value.

Alternatively, the additional liquid wealth obtained via home equity release can be used to **purchase long-term care insurance**. Home equity release contracts such as reverse mortgages and home reversion plans can fund a single upfront premium or a regular monthly or annual premium. Higher upfront premiums will deplete home equity faster. The insurance benefits can reimburse LTC costs, or indemnify the policyholder depending on their care needs.

Furthermore, home equity release can **fund the deposit or bond** required for an individual to enter a nursing home or retirement community (such as a continuing care retirement community, a CCRC). This arrangement is especially useful for couples or families living together when only one person needs care while other family members still require a place to reside and prefer to remain in the family home.

Most individuals prefer to remain in their homes as they age and receive informal care from a family member. Financing long-term care through a home equity release can address both these needs by allowing individuals to access the accumulated savings

in their home while still living in the home, and by providing the resources to pay an income to an informal care provider.

PRODUCT DEVELOPMENT AND IMPLEMENTATION

In this section, we highlight key considerations for the product design, marketing, pricing, and risk management of products that facilitate home equity release combined with long-term care funding. For more details and numerical examples, please refer to our published research papers.⁸

Product Design and Marketing

Two critical factors to consider in developing such a product are **design and communication**. Home equity release products (reverse mortgages, home reversion) and long-term care insurance are complex products in themselves, and their combination can be challenging to understand. We know that product understanding is a key driver of the demand for retirement financial products such as reverse mortgages.

Providers must design products that potential clients can understand. We have analyzed home equity release products offered in different markets, including Australia and China, and found that some products are unnecessarily complex. For example, one reverse mortgage product piloted in China provides fixed monthly payments for life, which are partly structured as a deferred annuity. While this structure might be attractive from the insurer's perspective, it is difficult to communicate to potential customers, and this was one of the reasons this product failed to attract demand.

We also see that the demand for equity release products is higher when **customer needs and concerns are openly addressed**. For example, potential customers are sometimes concerned that they may be evicted from their property. To address this concern, providers emphasize the guaranteed lifetime occupancy. Potential customers may also view reverse mortgages as unattractive when house prices are increasing. Fortunately, in a reverse mortgage, homeowners and their estate participate in house price increases and are protected against downturns in the housing market by the no-negative equity guarantee. With a home reversion arrangement, homeowners remain exposed to house price fluctuations for the fraction of housing wealth they retain.

We also recommend that providers openly address **bequest motives and intergenerational transfers**. Based on our research, we argue that the long-term care strategies described in this article should be marketed to older homeowners and their adult children as both groups sometimes have misconceptions about each other's views on housing wealth. In one study we conducted in China,⁹ we found some older homeowners rejected the reverse mortgage because they wanted to leave their property to children or grandchildren, while very few of the adult children we surveyed were concerned about this. At the same time, a number of adult children thought their parents would not be interested, even though reverse mortgage approval rates were high among older homeowners.

Companies selling these products can emphasize that long-term care financing strategies based on home equity release can **reduce the burden on children and grandchildren**, who might have debt and low incomes themselves, and can provide resources to facilitate informal care. The product design can also include an option for children to settle any outstanding reverse mortgage debt or buy back the home reversion share, and keep the property within the family.

Finally, there is a perception that older homeowners are an especially vulnerable group of customers. However, many older homeowners have decades of experience in dealing with mortgage lenders because they had traditional (forward) mortgage loans during their working lives. We also note that mortgage borrowing is increasing among older Americans: Between 1980 and 2015, mortgage usage by homeowners 65 and older increased from 13 percent to 38 percent.¹⁰ Some customers might be reluctant to take on debt again after having paid off their mortgage over many years. To address this concern of **debt aversion**, product messages may highlight how long-time homeowners deserve to access the value in their homes—which they have earned over years of payments—in a time of long-term care need.

Pricing and Risk Management

Strategies and products that combine the use of housing wealth to fund long-term care are exciting and novel areas of research. These products may provide an attractive solution to the challenge of how to fund long-term care by allowing individuals to use their housing wealth. These strategies and products are also interesting from a modeling perspective, as they require estimating uncertain factors and risks.

For example, reverse mortgages typically include an NNEG, which caps the borrower's repayment at the house price at the time of termination. Pricing this guarantee is central to the pricing and risk management of reverse mortgages. This pricing exercise requires projections of house price growth rates and interest rates over a long time-horizon. We found that house price growth varies substantially across suburbs and depends critically on the property's characteristics, including location. The properties of older homeowners often have different characteristics than new properties (such as the kitchen layout and the number of bathrooms) and are maintained differently as the homeowner ages. Ideally, such factors should be considered when estimating future home value. In our research, we have used vector autoregressive with exogenous variable (VARX) models to project disaggregate house price indices rates along with other macroeconomic variables.¹¹

For home reversion, a lease for life agreement is usually embedded in the contract. After selling part of the property, the occupants actually need to pay rent for the proportion they sold. The lease for life agreement represents the rent of the proportion of the home that is sold. Therefore, the proceeds of the home reversion consist of two components: a lease for life agreement, and the purchase of long-term care insurance. To calculate the

value of the lease for life agreement, on top of the components mentioned in reverse mortgage considerations, the rental yield also needs to be considered. In addition, the expected calculation of the lease for life value should also include the likelihood that the occupant moves out, as well as mortality and the incidence of requiring long-term care services outside the home.

Pricing the new strategies and products also requires modeling the borrower's life expectancy and their chance of needing long-term care. Today's state of the art for such modeling is a first-principles, multi-state transition model, following an individual's transition in and out of long-term care states, into potential lapsation, and death. If the product provides reimbursement-based payments, the pricing will model inflation in the cost of long-term care. Products that are sold to couples need to account for joint disability and survival rates.

Pricing these products can be effective using stochastic models that capture the correlation in assumptions over the time horizon. Stochastic models allow the pricing team to vary key, inter-related assumptions such as reimbursement costs, home prices, underlying economic factors, asset returns, and even geographic migration. The complexity of these products will require expertise drawn from many areas of actuarial, insurance, and finance practice, and an elevated degree of collaboration.

Another factor to consider is the payout structure from the equity release product. Reverse mortgages that pay out a high lump sum at the beginning of the contract are riskier from a provider's perspective than those that pay out smaller amounts over time: The outstanding debt typically accumulates faster due to compound interest than the home value. One risk management strategy to address this is to offer loan-to-value ratios that start low for younger borrowers and increase by age. However, this strategy might suppress demand.

There can be interesting selection effects in products that combine home equity release and long-term care insurance. For example, reverse mortgages are attractive for long-lived individuals as there are no repayments while the individual is alive. If these long-lived people are also healthier, a combined reverse mortgage/LTC insurance product may face less adverse selection than standalone long-term care insurance.

CONCLUSION

The long-term care insurance market in the U.S. will benefit from new ideas, and housing wealth should be considered as a source of funding for LTC needs. We see that individuals often have a strong emotional attachment to their homes, while at the same time the home is often the largest component of individuals' total wealth.

Many of the mechanisms and products we describe in this article (accessing home value; pre-funding long-term care needs) are offered in markets internationally. However, the combined solution of equity release and long-term care funding is still

underexplored. The considerations here may generate healthy discussion as companies assess the feasibility of entering such a market in the U.S. ■



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ENDNOTES

- 1 LONG-TERM SERVICES AND SUPPORTS FOR OLDER AMERICANS: RISKS AND FINANCING, Table 1, Retrieved August 26, 2020 from <https://aspe.hhs.gov/system/files/pdf/106211/ElderLTCrb-rev.pdf>
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- 5 United States of Aging Survey 2015, retrieved August 26, 2020 from <https://d2mkg26uvvg1cz.cloudfront.net/wp-content/uploads/USA15-National-Fact-Sheet-Final.pdf>
- 6 More details about the program can be found here: https://www.hud.gov/program_offices/housing/sfh/hecm/hecmhome.
- 7 See also: Mayhew, L., Smith, D., & O'Leary, D. (2017). Paying for care costs in later life using the value in people's homes. *The Geneva Papers on Risk and Insurance-Issues and Practice*, 42(1), 129-151.
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Retirement Planning Challenges With CCRCs

By John B. Cumming

Editor's note: John B. Cumming is an actuary who became involved with the economics of Continuing Care Retirement Communities after he moved to one 14 years ago. He has been an actuary for over 50 years. He qualified by examination as a Certified Aging Services Professional, and he has published extensively on matters relating to senior living. During his working career, he was active in life insurance, pensions, and health insurance. The author acknowledges the help of Anna Rappaport, FSA, in developing the reasoning in this paper.

At first glance, Continuing Care Retirement Communities (CCRCs) seem like an excellent living choice to ensure a secure retirement. Residents pay an entry fee to move in after which most of their living and care needs seem to have been met. No less an authority than the Government Accountability Office, however, concluded that such communities "... can provide benefits, but not without some risk."¹

A deeper reading of the report discloses that the risks are such that people considering retirement should approach such a living option with great caution. This paper explores those risk exposures and how actuarial principles might be applied to make CCRCs more attractive. This is a paper grounded in principle, so it's appropriate at the outset to declare what those principles are before we go into their practical application.

CCRCs are a form of residential housing with standby care for those who are aging, requiring the payment of an entry fee for admittance. The CCRC name originated with an actuary, Walt Shur, though the industry has recently sought to rebrand these entities as Life Plan Communities.² Still, the original name continues in widespread currency and will be retained here.

APPLICABLE PRINCIPLES

1. **Inter-cohort equity.** The first principle applicable to CCRCs is that each cohort of entrants should be priced and managed



to be financially self-sustaining over the expected lifetime of that cohort. This principle was first applied to life insurance mutual company dividend cohorts by New York Life's actuary, Rufus W. Weeks.³

2. **Speculative discounting.** Another principle is that hypothetical, speculative future gains should never be discounted to offset concrete losses in the near term.
3. **Financial sustainability.** This principle is like the preceding. Contract and other promises made to induce a sale should be priced to ensure that the promises can be fulfilled over the lifetime of the contract.
4. **Fair marketing.** Principled illustrations of future rate increase patterns should be plausibly related to changing macroeconomic scenarios so as not to be misleading.
5. **Projection integrity.** Contracts that include lifetime rights should be treated as lifetime undertakings, just as single premium life annuities and whole life insurance contracts are considered lifelong undertakings.

These principles are not exhaustive, but they provide a framework for evaluating CCRC enterprises. Some CCRCs employ actuaries though financial statements are, for the most part, prepared according to accounting practices rather than actuarial principles. A deeper actuarial engagement could help ensure that CCRCs operate with scientific and financial integrity.

CCRC VARIATIONS

CCRCs, which promise availability and access to care over a resident’s remaining lifetime, usually require an entry fee. The entry fee is a special kind of single premium life annuity in that monthly rental fees that would otherwise be required are usually reduced by the income stream generated by the entry fee.

The balance between the entry fee and recurring fees varies from CCRC to CCRC. A typical entry fee for an attractive, modern CCRC might be \$400,000, say, for a two-bedroom residential unit, with a monthly fee that might be \$3,500 for the first resident, increased typically by a second resident fee of about \$1,000 per month for a couple. Entry fees are strictly contract consideration and convey no ownership.

There are a number of options typically associated with CCRC contract sales, most of which can be priced to be actuarially equivalent. Although these options could be consumer choices, generally CCRCs offer only one or two. Despite the lifelong commitments undertaken, most CCRC developers and operators have little understanding of human life contingencies.

CARE INCLUSIVE VARIATIONS

What the industry calls Type A contracts include the possibility of future assisted living or skilled nursing costs within the pricing structure. With these contracts, residents do not face increases in fees if their care needs change during their residency. Thus, Type A contracts provide a kind of managed long-term care protection.

Type C contracts are at the other end of the continuing care spectrum. With a Type C contract, residents are entitled by con-

tract to receive care on the campus where they live but they have to pay for all such care. Often, the charges for care are organized into pricing “tiers” so that those who need some, though relatively little, care are grouped into tiers with others who may need more care.

Type B contracts vary widely in what they include, and they fall between the Type A and the Type C extremes.

REFUND VARIATIONS

CCRC contracts also vary widely in the forfeiture provisions applicable to entry fees. At one extreme are communities that scale entry fee refunds down over three to four years, so that after a short period the entry fee is fully forfeited to the provider. At the other extreme, some CCRCs offer a full refund, contingent upon resale of the residential unit to a successor resident.

This is where it gets dicey since U.S. GAAP⁴ accounting for CCRCs allows the provider to take the refundable entry fee into income over the accounting life of the building with the rationale that, “In those situations, the CCRC’s own funds will never be used to make the refunds to the prior resident; instead, the CCRC is effectively facilitating the transfer of cash between the successor resident and the prior resident.”⁵

MATRIX OF OPTIONS

Thus, the options fall into a matrix with one axis comprised of the risk assumed by the CCRC versus that which is left to residents, with the other axis including the forfeiture possibilities. Actuaries are seldom involved in CCRC pricing, so most pricing is handled by accountants or by market analysis of what the local competition permits. (See Figure 1)

Figure 1
Potential Actuarial Equivalencies

Care Continuum		Entry Fee with Minimal Refund—Declining each Month	50% Refund	90% Refund	Full Refund of Entry Fee at Withdrawal or Death
Type AAA	Full Care and all Medical Care—Not Offered				
Type A—No Added Cost for Higher Care Levels with Entry Fee Requirement	No Medical Care but Full Assisted Living & Nursing Care				
Type B—Limited Higher Care at No Added Cost with Entry Fee Requirement	Respite and short-term care; sometimes discounts small or large				
Type C—Full (or Discounted) Fee for Service with Entry Fee Requirement	No care provided; i.e. similar to staying in own home except for community and meals, etc.				
Type D—Straight Rental with No Care Commitment	Active living community model but may include some affiliated care options				

REGULATORY APPROACHES

Over the years, some regulatory authorities have considered actuarial approaches, but they have not gained acceptance. As an example, in a conference some years ago, Bob Thompson, then the well-respected CCRC regulator for California, explained why CCRC contractual refund obligations were not required to be funded. He said, “The actuarial review does not contemplate the proceeds of the resale of the unit, so although there’s offsetting revenue to the obligation, the obligation is assessed so that it leads to basically an actuarial deficiency ... which then the actuary will be quick to explain has not suggested that the provider is in unsound financial condition.”⁶

The “offsetting” revenue is the entry fee paid by the successor resident, if the unit is resold, which is diverted from the successor’s contract to meet the obligation to the predecessor. Most actuaries would not consider that to be “offsetting,” nor does it seem to accord with accounting principles by which performance obligations should be matched to the revenues that give rise to them.

Thompson went on to assert that providers (presumably with the alleged connivance of their actuaries) would manipulate the actuarial assumptions to make their operations appear sound so that their marketing would not be impacted. His hope, he asserted, then became to persuade some providers to look at the actuarial realities of their undertakings. Consequently, the regulators required providers offering Type A contracts to get an actuarial opinion every five years. To avoid the marketing challenge, the actuarial report was withheld from the public. He made it clear that he was treading a tightrope of political consequences that militated against credible actuarial soundness as a standard for all entry fee CCRCs.

Thompson’s stated view is common among regulators elsewhere. There is no involvement by the National Association of Insurance Commissioners or other national bodies that might bring about a more defensible approach to CCRC regulation. A common view among CCRC operators is that entry fees are a real estate investment used to secure debt. Entry fees, however, are not regulated as securities. If they are viewed as a contract consideration, then they are the same as insured life annuities funding a stream of deferred lifetime benefits.

ACCOUNTING ANOMALIES

In the absence of statutory accounting standards, GAAP accounting is prevalent. Moreover, GAAP accounting for CCRCs has held that, “Because a CCRC resident has the ability to move out and discontinue paying the monthly fee at any time, FinREC believes the resident agreement for a Type A life care CCRC resident is generally a monthly contract with the option to renew.”⁷

This AICPA guidance countermands the Financial Accounting Standards Board’s codification requiring that revenues from pre-

payments like entry fees be matched to the performance obligations that they fund and that revenues only be recognized as the obligations are fulfilled. It also violates the actuarial principle that lifelong commitments be valued over lifetimes.

A second GAAP anomaly allows for amortization of entry fees into revenue over variations of life expectancies. Thus, the accounting standards ignore any investment earnings (or debt service foregone) attributable to entry fees. This would be like taking single premium life annuity proceeds into income at a rate equal to the reciprocal of the life expectancy.⁸

Thus, all earnings from the use of the entry fee proceeds between the time of payment and the time benefits are provided are taken into revenue. This has the effect of advancing earnings in the early years making the enterprise appear more profitable than it would be according to the standards applicable to life annuities. Moreover, the accounting standards for determining the mortality to be used to determine the life expectancies are less rigorous than what actuaries would ordinarily use.

As if this weren’t enough, many accountants argue that a “negative net asset position” is acceptable for a “going concern” CCRC, apparently on the premise that a “going concern” can be considered a perpetual enterprise until, and unless, it faces imminent termination. A “negative net asset position” occurs when liabilities exceed assets.

It is that deficiency that constitutes the negativity. CCRCs are deemed to be viable provided there is enough cash to meet debt and other obligations despite the reality that a large infusion of cash comes in the form of entry fees intended to fund deferred contract obligations.⁹ This would seem to nullify the case for accrual accounting.

THE FUTURE

The Government Accountability Office conclusion that CCRCs involve risk remains true today as it was in 2010 when the study was first published. While from a consumer and public interest perspective, it would be desirable for CCRC reserve liabilities to be actuarially determined, this is seldom the case for CCRCs as it is, say, for insured life annuities. Stronger regulation like that to which life insurance companies are subject could make CCRC residency a more attractive retirement option especially for planning-minded consumers.

Moreover, guaranty protections could help CCRC marketing. Bank deposits, insurance policies, pension benefits, and security brokerage accounts are all protected by guaranty programs to shield customers if the enterprise fails. There are no such protections for CCRCs, so financial failures fall either to debt providers or to the residents. There is a steady stream of CCRC financial failures, most of which result in voluntary reorganization or takeover by another operator, but some of which do proceed to full bankruptcy.

The financial collapse of Air Force Village West is one such example. In that case, Federal bankruptcy laws and courts were used to void the residents' lifetime continuing care contracts. Entry fee investments were recognized only to the extent that they were refundable. A guaranty law might have minimized the losses since it could have allowed the regulators to seize the company early. As it was, the CCRC continued as a financially troubled enterprise for several years during which the insolvency deepened.

We can hope that changes will come about to make CCRC residency less risky for consumers. Actuaries can play a leading role in making that possibility a reality. ■



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ENDNOTES

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Long-Term Care Population Management: Pursuing Healthful Strategies

By Robert Eaton and Missy Gordon

More people in the U.S. will need long-term care (LTC) services in the coming decades than ever before. At the same time, the number of people with a solid plan to finance formal care is lagging that need. LTC needs are difficult to insure, evidenced by market-wide standalone LTC insurer exits and ubiquitous premium rate increases. There are hopeful emerging alternatives in hybrid life and LTC solutions, but the traditional standalone LTC policy sale is rare today with stakeholders hesitant to underwrite new risks. However, this needn't be the case forever. One strong step to making LTC an acceptable, insurable risk for insurance companies is to better understand the **latent morbidity risk in advance of an LTC need**.

Toward the goal of pursuing healthful strategies, we are creating models to estimate the morbidity risks of policyholders prior to their making a claim and needing formal LTC services. Understanding those risks can allow insurance carriers to offer healthful interventions to those policyholders who need them most, and create a situation where all stakeholders are better off. In this article we highlight the conceptual and technical precursors on this new path to LTC in force management. This is the first article in a series—in subsequent articles we will connect these concepts to results through a case study and other related research.

STAKEHOLDERS

There are many people and institutions with an interest in making LTC widely insurable. The current strategies for managing in-force populations leave many stakeholders wanting more. Figure 1 lays out how many stakeholders view the various in force management strategies in place today: premium rate increase activity, traditional claim management (including fraud







detection), and—in the event that a company is suffering losses—cross-subsidization with other lines of business, i.e., other stakeholders.

A strategy of pre-claim health management, on the other hand, has the possibility of satisfying all stakeholders:

- **Policyholders** appreciate wellness and health benefits, but may be suspicious of interventions from an insurance company.
- **Insurers & shareholders** see that such interventions are expensive, but can provide positive ROI.
- **Regulators** prefer healthier residents and fewer future rate increases, all else equal.
- **Taxpayers & the general public** may be concerned if certain wellness interventions are tax-favored over others; however, the public generally benefits from healthier financial and insurance institutions.

Figure 1
Stakeholders’ View of the Various In Force Management Strategies magnifying

	 Premium rate increases	 Traditional claim management	 Cross-Subsidizing	 Pre-claim health management
Policyholders	<ul style="list-style-type: none"> • Financial strain • Reduced benefits 	<ul style="list-style-type: none"> • Benefit from appropriate claims paid • Reduction in fraud • Greater hurdles to file a claim 	<ul style="list-style-type: none"> • Policyholders receiving the subsidy benefit at the expense of other policyholders or shareholders 	<ul style="list-style-type: none"> • Appreciate wellness and health benefits • Suspicious of interventions from an insurance company
Insurers & shareholders	<ul style="list-style-type: none"> • Higher revenues • Less financial strain • Administratively burdensome 	<ul style="list-style-type: none"> • Expensive / administratively cumbersome • Premiums kept reasonable 	<ul style="list-style-type: none"> • Prefer self-sustaining business 	<ul style="list-style-type: none"> • Positive ROIs • Expensive upfront costs
Regulators	<ul style="list-style-type: none"> • Time consuming • Nationwide inconsistency • Politicization 	<ul style="list-style-type: none"> • Want legitimate claims paid • Don't want claimants overburdened with process 	<ul style="list-style-type: none"> • Prefer self-sustaining business • Multi-line insurers may be less fragile 	<ul style="list-style-type: none"> • Healthier residents • Fewer future rate increases
Taxpayers & general public	<ul style="list-style-type: none"> • Sense that insurers are not accepting the risk they wrote • (Indirectly) Higher life / health premiums upon insolvency 	<ul style="list-style-type: none"> • Generally accept claim management as needed to keep costs reasonable 	<ul style="list-style-type: none"> • Neutral 	<ul style="list-style-type: none"> • Tax-favoring is politically difficult • General benefits from healthier institutions

Thus far, only a handful of traditional LTCI carriers have engaged in extensive pre-claim health management strategies. The difficulty lies in demonstrating that such strategies are fiscally responsible, compliant with applicable laws and regulations, and that they provide overall value. Through this series of articles we will address these considerations as part of the overall business case for proactive LTC in force management.

CURRENT APPROACHES TO LTC IN-FORCE MANAGEMENT

Most LTC carriers currently manage policyholders already on claim to ensure that they are receiving appropriate benefits. After claim adjudication and determining eligibility, an insurer will assign a case manager. The case manager develops a plan of care, documenting the services that the insured will receive.

LTC insurers monitor incoming and previously approved claims for evidence of fraud, waste, and abuse. Some claims will be denied because the policyholder is not (yet) eligible for benefits. Even if a claim is appropriately denied, the process may lead to litigation or contribute to an unfavorable perception of an insurance company and reputational risk.

In addition to active claim management, LTC insurers manage in-force blocks of business through implementing premium rate increases. While rate increases are needed to maintain an insurer’s financial health and ensure that they can pay every claim

dollar promised to policyholders, these increases can garner negative reactions from policyholders and regulators.

In contrast with premium rate increases and fraud, waste, and abuse detection, some insurers are considering initiatives that help existing claimants age in place. These initiatives aim to sustain a policyholder’s health and prevent or postpone their entry to a facility. Ideally, the initiatives are beneficial for all parties: most insureds wish to age in place, and insurers hope to keep claimants in lower-cost care settings.

A PROACTIVE APPROACH

The primary goal of managing an active population—those not on claim—is to improve wellness or health, and to reduce future costs by delaying or preventing claims. Some claims, such as those for cognitive disabilities, may not be preventable, but may be delayable with an appropriate intervention. Other claims, such as those due to acute events such as falls, may be entirely preventable. This preventive approach is similar to disease management programs in traditional health insurance. Disease management programs focus on the early identification of members with chronic diseases to prevent or ameliorate the severity of a disease through interventions.

Many stakeholders stand to benefit from successfully translating this concept to LTC insurance:

- Insureds may see improvements in health and wellness, and age in place longer;
- carriers stand to reduce claims and increase net operating income;
- delayed claims may generate savings for the carrier by allowing reserves to accrue more investment income, funding other claims;
- these efforts may partially mitigate the need for future rate increases; and
- carriers may employ these interventions to manage LTC morbidity on the back-end for other products such as group life and/or annuity combination products that may have had limited opportunity to manage risk on the front-end due to limited underwriting.

In addition to these stakeholder benefits, as the goal of these programs is not only to reduce cost, but also to improve policyholder health, they can generate goodwill towards the carriers from other stakeholders including insureds and regulators. Further, if these initiatives are impactful, they may influence actual LTC morbidity.

Conducting any sort of wellness initiative is likely outside of an LTC insurer's traditional domain. These initiatives can also be costly, particularly when applied to large groups of people that have a relatively small portion at risk of claim. Insurers who focus and prioritize wellness initiatives on those policyholders who need them most, and who are the most likely to go on LTC claim in the near future, stand the greatest chance of earning a positive return on their investment. Building predictive models that focus on the near-term risk that consider current information about the individual can help carriers achieve this goal.

BUILDING A MODEL

Traditional LTC actuarial models project claims for 50+ years and rely on the reasonableness of long-term projected experience. These models usually use deterministic assumptions across a handful of variables, a method that is appropriate for these long-duration forecasts given the amount and quality of historical data and constraints of the projection platforms. Unfortunately, these long-term models often sacrifice short-term accuracy due to limits in the traditional variables and characteristics. For instance, long-term projections may use a policyholder's marital status at the time of issue, but this status actually changes over the life of the policyholder. A short-term model could instead use the insured's current marital status.

Recently, insurers and others in the LTC space have shifted focus on near-term experience projections for LTC policies. By developing highly predictive short-term models, insurers may be able to use these results to actively manage their in force pop-

ulation by identifying those that are most at risk and prioritizing them for intervention and preventive initiatives. These models are different from traditional models: they use predictive analytics to focus on short-term predictions using as inputs current information from alternative data fields and sources. Often the focus is on predicting the likelihood of a claim event, or assigning risk scores or tiers, rather than a full projection of experience over the insured's lifetime. Generally these types of models are initially rules-based and are then enhanced over time through a feedback loop that considers the impact of the interventions. Companies providing the wellness outreach are well-positioned to help with data collection and feedback for these models.

Because the models project short-term experience, they are based on predictive variables related to an insured's current state. This allows the models to consider several other variables that may not be viable for a long-term projection. These additional variables may come from the carrier, be available from public sources, or purchased from third-party data vendors. There are many vendors that aggregate data for consumer marketing purposes, and this information may be useful for early identification of claims. Third-party data vendors track many demographic, socio-economic, and consumer statistics that are generally not available to insurers, but may be predictive of future LTC experience. These variables can give short-term models better insight on an insured's status today versus traditional projection variables that often use an insured's status from when they purchased the policy. While some of these statistics may not be viable for a long-term projection, they could be very useful for a short-term projection where they can reasonably be assumed to remain static.

For example, we know that the death of a spouse raises mortality and morbidity of an LTC policyholder. Third-party data vendors not only track this event, but also how long it's been since a spouse has died. Several other potentially predictive data fields are also available, such as an indicator identifying whether someone lives alone or with family. This data can be attached at an individual-level or it can be aggregated/summarized and attached at a higher level, such as by geography. Additionally, pharmacy data from third-party sources may also provide predictive information: certain medications may be indicative of declines in cognitive ability (dementia or Alzheimer's) or increases in frailty (osteoporosis).

HANDLING SENSITIVE DATA

With all this new data that is available to us, it is important that we handle it securely and with care.

We should all be concerned about how third-parties use any of our personal data. Using this data for a good cause is a start, but that alone will not place LTC predictive modelers in compliance. We hear regular reports of data breaches from major companies with millions of people impacted. It is critical when using

personal data that all parties involved handle the data carefully and securely, following all regulations and company standards.

Actuaries are held to high professional standards. Our profession has earned the trust of the public through continued delivery of reliable products for over a century. Business partners and the general public trust that we will do the right thing with data and only use it as permitted. Breaching that trust, from negligence or intentional misuse, would injure the entire profession.

In addition to complying with all applicable laws and regulations (for example, Health Insurance Portability and Accountability Act—HIPAA), all company standards should be followed, such as enacting a business associates agreement (BAA) each time personal health information (PHI) is transferred. Some companies may also require additional agreements around data handling and storage when dealing with sensitive data such as PHI or personally identifiable information (PII).

Users can protect PHI and PII through encryption, and keep them separate by using a tokenization process. This tokenization process is already used in the insurance industry for multiple purposes such as group-level underwriting for group health insurance plans, and market segmentation for life insurance marketing.

Standardized data security protocols are a key feature in a secure data transfer process. SOC 2 Type 2 or HITRUST certifications can provide additional comfort that the data is secure and handled with care. These certifications are performed by an independent party that has audited a company's data security

protocols and found them to be compliant with the highest standards. These are annual certifications and can require a significant amount of effort to ensure all procedures meet the exacting standards.

WHAT COMES NEXT

LTC in force population management is shifting to a new, proactive paradigm. This is even more relevant in today's pandemic environment where policyholders may be increasingly receptive to healthful intervention programs provided by insurers to avoid the risks associated with staying in nursing facilities. In a subsequent article we will share results of a case study illustrating how these models work in an actual LTC in force population. We believe these efforts will couple deep data analytics with smart and targeted interventions to produce financial and social returns on investment. ■



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