



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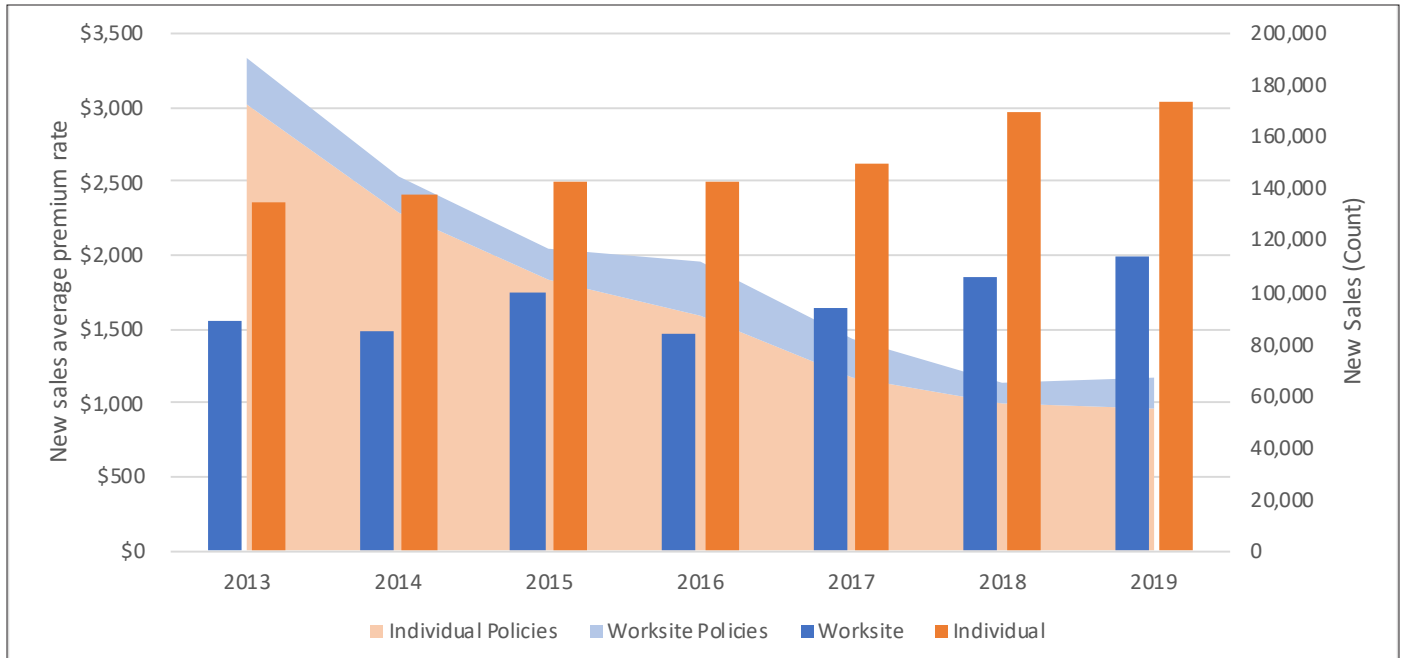
Some people prefer to receive informal care from family, but informal caregivers are not always available and informal care has plenty of indirect costs on caregivers and families. Formal care, on the other hand, can be very costly, especially when it



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

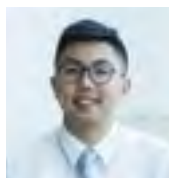
underexplored. The considerations here may generate healthy discussion as companies assess the feasibility of entering such a market in the U.S. ■



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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>
- 2 Genworth 2019 Cost of Care Survey, Retrieved September 17, 2020 from <https://www.genworth.com/aging-and-you/finances/cost-of-care.html>
- 3 LONG-TERM SERVICES AND SUPPORTS FOR OLDER AMERICANS: RISKS AND FINANCING, Table 3B, Retrieved August 26, 2020 from <https://aspe.hhs.gov/system/files/pdf/106211/ElderLTCrb-rev.pdf>.
- 4 LIMRA Individual Long-Term Care Insurance annual report, Broker World Analysis of Worksite LTCI Survey
- 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.
- 8 For example:
Alai, D. H., Chen, H., Cho, D., Hanewald, K., & Sherris, M. (2014). Developing equity release markets: Risk analysis for reverse mortgages and home reversions. *North American Actuarial Journal*, 18(1), 217-241.
Hanewald, K., Post, T., & Sherris, M. (2016). Portfolio choice in retirement—what is the optimal home equity release product? *Journal of Risk and Insurance*, 83(2), 421-446.
- 9 Hanewald, K., Bateman, H., Fang, H., & Wu, S. (2020). Is there a demand for reverse mortgages in China? Evidence from two online surveys. *Journal of Economic Behavior & Organization*, 169, 19-37.
- 10 Collins, J. M., Hembre, E., & Urban, C. (2020). Exploring the rise of mortgage borrowing among older Americans. *Regional Science and Urban Economics*, 83, 103524.
- 11 Shao, A. W., Hanewald, K., & Sherris, M. (2015). Reverse mortgage pricing and risk analysis allowing for idiosyncratic house price risk and longevity risk. *Insurance: Mathematics and Economics*, 63, 76-90.