Aging and Retirement

Long-Term Care Population Research Model—User Guide

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Long-Term Care Population Research Model

User Guide

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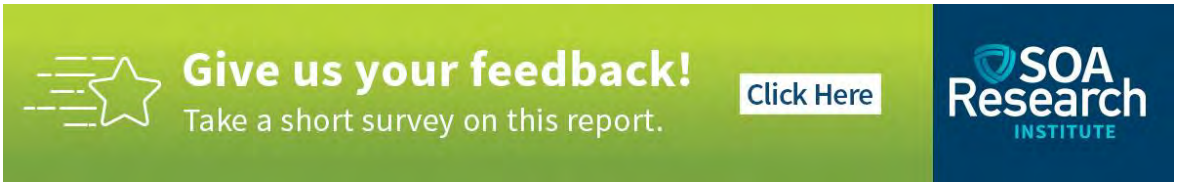

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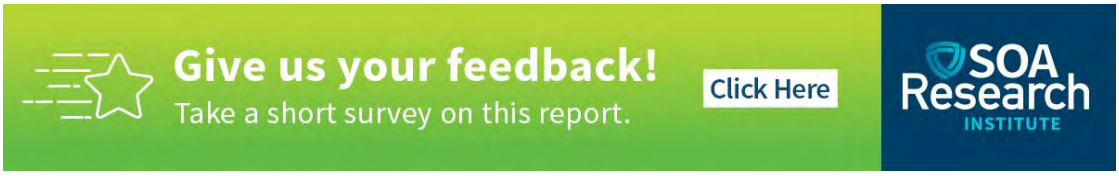
Long-Term Care Population Research Model

User Guide

This document is intended to provide users of the Long-Term Care Population Research Model (LTC Population Research Model) with the information they need to set up and run the model.



Intended Use

The LTC Population Research Model was developed in order to examine potential impacts of LTC benefits made available through public finance approaches at the federal level. The impacts include those on beneficiary finances, current LTC payors, and informal caregivers. The model estimates the impact of user-defined benefits on episodes of disability that were reported in 2018 survey data. The benefits are applied to all episodes and do not make assumptions regarding eligibility requirements. The model was developed for research purposes and should be used for educational and research purposes ONLY. It is intended as a tool for understanding the population need for LTC services and the potential impacts of providing public LTC benefits for those needing LTC services. Model output can be used to examine: (1) the relative impacts of a selection of benefits on various subsets of the national population and (2) general relationships between program inputs and model outputs.

The model should be used to gain a general understanding of concepts such as:

- Demographics of the disabled population in the United States
- How those with an LTC need receive care (formal vs. informal)
- Current sources of financing for long-term care expenditures
- Relative impacts of publicly available benefits on service utilization and individual finances for various cross-sections of the population

As part of the model development, steps have been taken to control various aspects of the data to published sources.

The intended users of this model include actuaries, researchers, and other parties interested in understanding generalized impacts of the availability of LTC benefits at a federal level. It is helpful for users of the model to have familiarity with LTC projection concepts. As stated previously, the estimates generated from the model should not be used to make public policy or financial decisions.

Caveats and Limitations

There are a number of simplifying assumptions inherent in the calculations performed by the model.

The model generates broad estimates of the payroll tax necessary to fund public LTC program benefits on a nationwide basis for those benefits specified by the user. These estimates are intended to be informative in terms of the approximate level of cost necessary to fund a given level of benefits in order to allow users to consider both costs and benefits. The estimates generated by the model should be used for research purposes only and should not be relied upon to make decisions related to any specific program funding. Payroll tax estimates are generated using a 75-year projection of benefits administered to the US population from 2023-2098. This projection contains a number of assumptions discussed in this document.

Interaction between payors of LTC services is complex, and detail on these interactions is not available in the data used to build the model. Estimates of Medicaid and out-of-pocket (OOP) expenditure reductions are calculated assuming that program benefits directly offset spending in the following order: (1) Medicaid expenditures and (2) OOP expenditures. Any additional benefit above current beneficiary Medicaid or OOP expenditures is considered an incremental benefit for an individual, assuming they are eligible for the additional amount of benefit based on the length of their LTC episode.

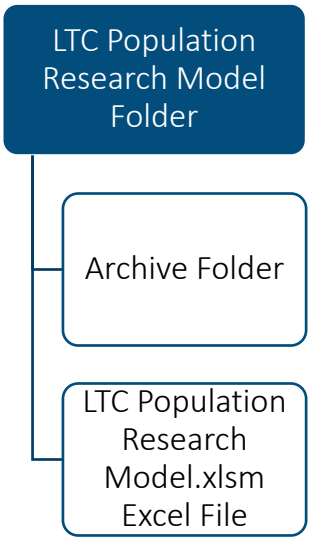
In defining episodes for the purposes of this model, community and facility episodes are considered separately, although in many cases individuals will transfer between care settings during the course of care need. The model does not account for transfers when examining the potential impacts of a program on LTC episodes.

Section 1: Model Operation

The SOA LTC Population Research Model is an Excel-based model which allows the user to define a menu of LTC benefits at the federal level financed through a payroll tax. **NOTE: The 64-bit version of Excel is required to run the model. The 32-bit version of Excel will produce an 'Out of Memory' error when attempting to run the underlying macros.**

1.1 FILE STRUCTURE

The model requires a specific file structure for operation. The files listed should not be moved or renamed and must remain in their fixed position in the file hierarchy.



The LTC Population Research Excel Model and Archive folder reside within the LTC Population Research Model Folder. The user defines programs and produces model output within the LTC Population Research Excel Model. As the model is run, output data files will be saved to the Archive subfolder.

The LTC Population Research Model.xlsm contains a number of worksheets including documentation and instructions, a form for user input, and model output. The following is an outline of the tabs contained in the model:

- Intended Use
- Disclaimer
- Caveats and Limitations
- Instructions
- User Input
- Output Worksheets:
    - Table 1 – Eligible Population
    - Table 2 – Care Setting
    - Table 3 – Beneficiary Cost
    - Table 4 - Current Expenditures
    - Table 5 - Proj Expenditures
    - Table 6 - Expenditure Change
    - Table 7 – Benefit Coverage
    - Table 8 - Coverage Community
    - Table 9 - Coverage Facility

- Table 10 - OOP Impacts
- Table 11 - Informal Care

In order to run the model, the user will specify a program benefit on the "User Input" tab and click on the "Run Model" button on the same tab.

Model runtime will vary depending on computer specifications. The model may take up to a few minutes to run. Do not attempt to perform actions in Microsoft Excel while the model is processing. This could cause resource constraint issues and result in Excel closing unexpectedly.

After a run is complete, the output worksheets will update to reflect the modeled program benefit, and a copy of the output will be saved in the "Archive" folder.

1.2 DOWNLOADING THE MODEL

When downloading the zipped model folder, save in a location on a local machine in order to ensure proper functionality. It is possible that the model will not run if the files are saved to a virtual machine.

Once the file has been downloaded, the contents of the folder must be unzipped in order to run the program. To unzip the folder:

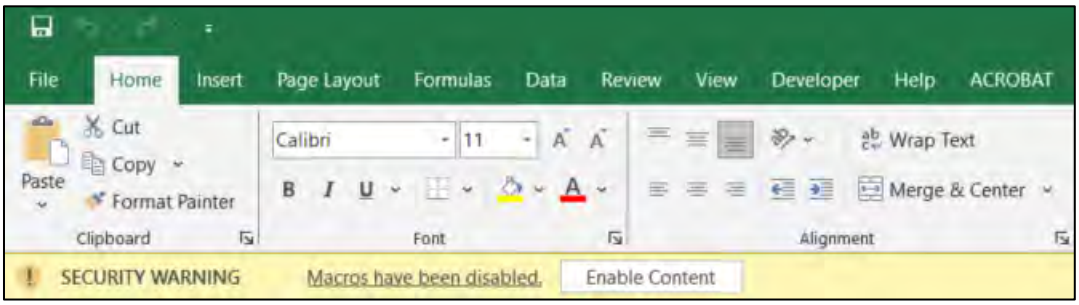
1. Right-click on the zip folder and select 'Extract All'
2. Choose the location to which you would like to extract the files (by default, this should be the same folder that contains the zip file)
3. Click on the 'Extract' button

An unzipped folder will be created that has the same name as the original zip file. This will be the working folder used to access and run the model.

Double-click the LTC Population Research Model.xlsm file to open the model. The computer may take a few moments to open and close the model file due to the size and contents of the file.

1.3 EXCEL MACROS AND TRUST SETTINGS

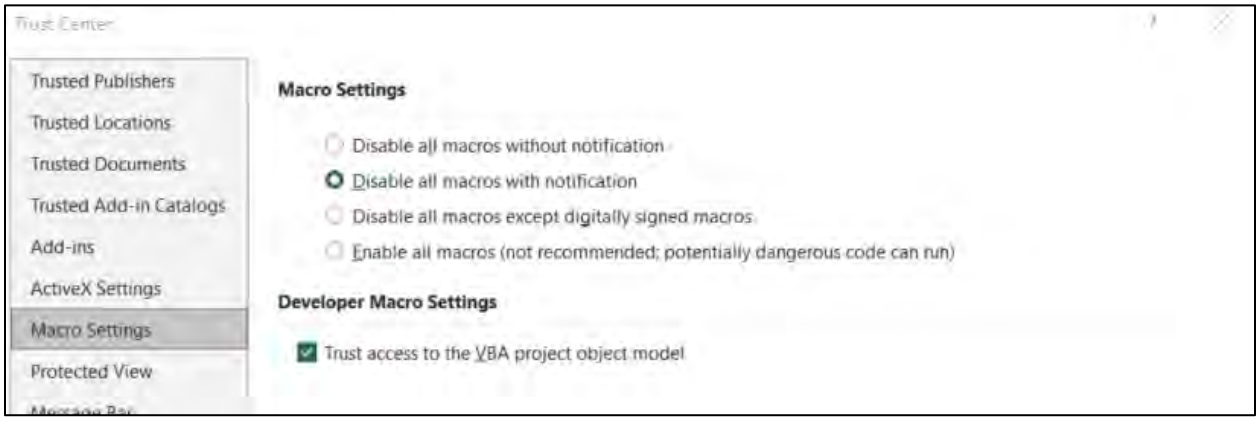
To run the model and generate output for a specified program, macros must be enabled for the LTC Population Research Model.xlsm file. When the model file is opened, there will likely be a warning message displayed in either a popup window or the Ribbon menu that contains the tabs, "File," "Home," etc. indicating that the file contains macros.



The user must click on the "Enable Content" button in order to allow the file to access the macros that are needed to run the model.

In the event that the model will not run when the user has enabled content, follow these steps to ensure that the "Trust access to the VBA project object model" option is selected:

1. Go to the "File" menu
2. Select "Options"
3. Select "Trust Center"
4. Click on the "Trust Center Settings" button
5. Select "Macro Settings"
6. Ensure that the "Trust access to VBA project object model" is selected



Once macros are enabled for the workbook, the model will be ready to use.

Section 2: User Input

Users are able to set various parameters in order to define a hypothetical nationwide LTC benefit. These parameters can be grouped into the following categories:

- Benefit Definition
- Financing Assumptions

These inputs are used to (1) simulate the impacts of the user-defined program on finances and LTC utilization of the disabled population reported in the 2018 survey data and (2) produce an estimate of the magnitude of payroll tax rate needed to fund the specified program. This section discusses each of the parameters that can be defined through user input. The "User Input" worksheet contains the user interface for defining all parameters.

User Input: Program Parameters

Step 1: Enter Name for Model Run

Scenario Name	Front End - 2 ADL $125

Step 2: Define Program Benefit Used to Estimate Beneficiary Impacts

Covered Benefits	Facility Only
Benefit Trigger - ADL Threshold	2+ ADLs
Benefit Trigger - Severe Cognitive Impairment	Yes
Elimination Period	90 Days
Daily Benefit Amount (2024 Dollars)	$ 250
Benefit Period	1 Year
Benefit Maximum (2024 Dollars)	$ 91,250
Cash vs. Service Reimbursement Benefit	Cash
Home Care Benefit Utilization (Under Service Reimbursement)	100%
Facility Benefit Utilization (Under Service Reimbursement)	100%

Step 3: Define Assumptions Used to Estimate Required Funding[1]

Inflation Protection	3.0%
Eligibility Requirement[2]	Social Security Vesting
Tax Base	Social Security Payroll
Expenses as a % of Benefits	7.0%
Ultimate Interest Rate Assumption (2-6%)	4.7%
Ultimate Wage Growth (4.8% / 3.5% / 2.8%)	3.5%
Tax Estimate (75-Year projection using US population)	0.75%

[1] Inputs for Step 3 only impact the tax estimate. These inputs are not considered when estimating potential beneficiary impacts of the program benefit.

[2] Social Security Vesting is defined as ten years of payroll tax contributions or tax contributions in three of the most recent six years before disability. All Eligible assumes that anyone who meets the benefit trigger is eligible for benefits, regardless of contribution history.

2.1 SCENARIO NAME

The scenario name field is used as an identifier label for the specific program benefit the user is modeling. This name will be used as the file name for the output file that is created in the Archive folder each time the model is run.

NOTE: If you update parameters and run the model using the same name as a previous scenario, the output file that is currently saved to the Archive folder will be overwritten. For this reason, it is important to update the scenario name each time you simulate a program benefit.

2.2 BENEFIT DEFINITION

The benefit definition section defines the population eligible to receive the modeled LTC benefit as well as the benefit structure. The following parameters can be set to define the benefit that is applied to the disabled records:

- Covered Benefits – Community, Facility, or Both
- Benefit Trigger – Activities of Daily Living (ADL) Threshold
- Benefit Trigger – Severe Cognitive Impairment (CI)
- Elimination Period
- Daily Benefit Amount
- Benefit Period
- Cash vs. Service Reimbursement

The combination of care setting eligibility, ADL trigger, and cognitive impairment trigger define the population that the benefit will be applied to in order to examine potential beneficiary impacts. The remaining parameters specify the benefit that would be received by that population.

2.2.1 COVERED BENEFITS

The user indicates whether program benefits are paid for home and community-based services, nursing facility services, or both. The model does not account for transitions between care settings, so estimates of program impact will be specific to the population with a care need based on their care setting at a given point in time. For instance, the episode of care for an individual who is residing in the community is assumed to end in the community. This is a simplifying assumption due to the fact that the data containing reported expenditures did not account for changes in care setting. The model does not assume substitution of care if only one care setting is selected. The model assumes that individuals in the community would not choose to enter a facility setting unless it was necessary for care. Conversely, it is assumed that individuals residing in a facility would not transfer to the community in order to receive the program benefit.

2.2.2 BENEFIT TRIGGER—ADL THRESHOLD

ADL triggers are commonly used to determine eligibility for LTC benefits in the private market. These ADLs are also used in various public programs to aid in determination of benefit eligibility. HIPAA defines six ADLs that can be used to determine benefit eligibility for a tax-qualified LTC Insurance policy. These ADLs are:

- Bathing
- Dressing
- Transferring
- Toileting
- Continence
- Eating

To qualify for benefits under a tax-qualified LTCI plan, an individual must require assistance with at least two of the six HIPAA ADLs, where the condition is expected to last 90 days or more, or have severe cognitive impairment.

The user defines the number of ADLs required to receive benefits under the program being modeled. This field can be set to 1, 2, or 3+ ADLs. The lower the number of ADLs needed to qualify for benefits, the more individuals will be

eligible for the benefit. Increasing the number of individuals receiving a benefit will increase the projected cost of a given program.

2.2.3 BENEFIT TRIGGER—SEVERE COGNITIVE IMPAIRMENT

The presence of severe cognitive impairment will trigger benefit eligibility under a tax-qualified LTCI plan and is also used to determine benefit eligibility for many public programs that provide LTC benefits.

In the context of the LTC Population Research Model, severe cognitive impairment indicates the presence of Alzheimer's or dementia. The user is able to indicate whether an individual with severe cognitive impairment will qualify an individual to receive benefits. While there is often overlap in the populations who would qualify for a benefit under the ADL trigger and CI trigger, including those with a cognitive impairment in the population eligible to receive benefits will increase the number of eligible beneficiaries compared to excluding this group.

2.2.4 ELIMINATION PERIOD

The elimination period is the length of time, in calendar days, that must pass between certification of benefit eligibility and the beginning of benefit payments. Elimination periods may accompany an LTC benefit for several reasons, including limiting potential selection or moral hazard and wrapping LTC coverage around other programs that may pay benefits for a limited period of time. The user selects between the following elimination periods:

- 0 Days
- 90 Days
- 1 Year
- 2 Years
- 3 Years
- 4 Years

The elimination period can be used in combination with the benefit period in order to model front-end, catastrophic, or comprehensive coverage.

2.2.5 DAILY BENEFIT AMOUNT

The daily benefit amount defines the dollar amount of benefit that will be received per day after completion of the elimination period, so long as the beneficiary continues to satisfy the selected benefit trigger (e.g., 2 of 6 ADLs). This amount may be set to any value greater than $0.

2.2.6 BENEFIT PERIOD

The benefit period represents the length of time (in years) that an individual is eligible to receive benefits under a program. The daily benefit amount multiplied by the number of days in the benefit period is equal to the total value of the benefit pool (for instance, a $100 per day benefit for one year would equal a $36,500 total benefit). The individual is eligible to receive benefits under the program until the total value of the benefit pool is exhausted. The user is able to select from the following Benefit Periods:

- 1 Year
- 2 Years
- 3 Years
- 4 Years
- 5 Years
- Unlimited

The "Unlimited" selection models the impact of a 15-year benefit period. Because very few LTC episodes last longer than 15 years, the model uses the 15-year benefit period to estimate the impacts of catastrophic LTC benefits. Suppose a user would like to model impacts of catastrophic coverage with a two-year waiting period. In this case, an elimination period of 730 days (2 Years) would be selected with the Unlimited benefit period.

2.2.7 BENEFIT MAXIMUM

The benefit maximum is the maximum dollar amount of benefits that an individual can receive under the program. The benefit maximum is calculated as the product of benefit dollars and benefit period. While this value is not a direct user input, it is displayed in the input sheet for informational purposes.

2.2.8 CASH VS. SERVICE REIMBURSEMENT

The user defines whether benefits paid by the program are in the form of cash payments or reimbursement for formal services. Cash benefits would likely require less administrative expense by eliminating the need to verify service use and track what was spent on care. However, cash benefits are typically paid out in full for each day the beneficiary meets the benefit trigger whereas beneficiaries may not utilize covered services as frequently. If services are not used each day of benefit eligibility or the value of services used is less than the daily benefit amount, reimbursement benefits will likely be less than cash benefits. This dynamic results in a lower projected tax rate necessary to fund a service reimbursement benefit than a cash benefit, all else being equal.

The model assumes that under a cash benefit, individuals will elect to receive the full benefit amount as soon as it is available. If the benefit is paid in cash, the model assumes the full amount of the benefit will be paid each day of benefit eligibility. However, for reimbursement benefits, the model assumes that the full amount of the benefit will not be paid each day due to differences in the value of the daily benefit and cost of care or care rationing.

2.2.9 HOME CARE BENEFIT UTILIZATION

For service reimbursement benefits in the community, the model assumes that the average cost of home care is $200 per day. This is in line with national Genworth cost of care statistics for 2023.[1] Genworth estimates the national median cost of home maker services as $189 and home health aide as $207 in 2023, assuming 44 hours per week of home care. For benefits less than $200 per day, the model assumes that the full benefit is used. If daily benefits are greater than $200 per day, the model assumes that $200 of benefit is used per day, and the remaining benefit is deferred until a later time.

2.2.10 FACILITY BENEFIT UTILIZATION

For service reimbursement in a facility, the model assumes that the average cost of facility care is $320 per day. This is the median cost of a private room according to the national Genworth cost of care statistics for 2023. The model assumes 100% utilization of daily benefits under this threshold.

2.3 FINANCING ASSUMPTIONS

The financing assumptions section allows the user to specify parameters that impact the model's estimate of the tax rate needed for program funding and beneficiary cost output. **Note, these parameters do not affect the estimated beneficiary impacts of the LTC benefit on 2018 episodes of disability.**

[1] Genworth. Cost of Long Term Care by State | Cost of Care Survey. *Genworth*, 2023. https://www.genworth.com/aging-and-you/finances/cost-of-care.

The cost of the modeled program is expressed as a payroll tax applied to either the Social Security payroll tax base (tax applies to earnings below the taxable maximum, $160,200 in 2023) or Medicare payroll tax base (payroll tax on all earnings). Based on the user input entered in this section as well as the Benefit Definition section, the LTC Population Research Model will produce an approximation of the payroll tax needed to finance the program, assuming the program is implemented nationwide. The user can define the following parameters that impact program financing:

- Vesting Requirement
- Tax Base
- Program Expenses as a Percent of Benefits
- Inflation Protection

While inflation protection is technically part of benefit definition, it is not considered in the application of the benefit to 2018 episodes. This benefit parameter has a large impact on the projected value of future benefits and is defined for purposes of estimating program financing requirements.

2.3.1 VESTING REQUIREMENT

The vesting requirement denotes the requirements for an individual to be covered by the program. The model allows the user to choose one of two options:

- All individuals with an LTC need are eligible for benefits from program start.
- Individuals must complete a vesting requirement similar to the requirement for Social Security eligibility. This option would require ten years of payroll tax contributions, or tax contributions for three of the most recent six years.

Allowing all individuals to receive benefits immediately would maximize program coverage for the population but would require a larger payroll tax to finance the program. This method also does not tie program contributions to benefit payments as individuals who have retired when the program is implemented would be eligible to receive benefits although they have not made payroll tax contributions. This option is provided given that the Baby Boom generation is at or near retirement age.

The vesting requirement that is similar to Social Security would tie program contributions to benefit eligibility. This option reduces the cost of the program over the 75-year period and delays the start of program benefit payments as there is an initial period in which taxes are collected but benefits are not paid because individuals have not yet completed the vesting requirement.

The vesting criteria input is used in the estimate of the payroll tax necessary to fund the program. However, when beneficiary impacts are estimated, the model does not limit the eligible population based on assumed lifetime contribution to the program. Estimates of changes to expenditures are modeled on the entire disabled population, without adjustment for vesting criteria.

2.3.2 TAX BASE

The tax base option allows the user to choose the tax base to which the payroll tax is applied for program funding. The user can select either the Social Security payroll tax base or the Medicare payroll tax base. The Social Security payroll tax base consists of all earnings up to a statutory maximum that is updated annually. In 2023, the maximum earnings subject to the payroll tax is $160,200. This means that any earnings above this amount are not taxed. The Medicare payroll tax base includes all earnings and does not have a statutory cap on earnings subject to the payroll tax. This amount is indexed through time consistent with the Social Security Trustees Report projections.

A program financed using the Social Security payroll tax base will result in a higher tax rate because the aggregate amount of earnings subject to the tax is less than the Medicare payroll tax base. This will result in a higher amount of tax paid for individuals with earnings below the statutory maximum compared to a Medicare payroll tax. However, a tax applied to the Social Security payroll tax base results in a more even distribution of contributions throughout the population whereas a Medicare payroll tax would result in a higher proportion of tax contributions coming from high wage earners.

2.3.3 PROGRAM EXPENSES

In addition to the cost of benefits, any program must pay the costs incurred for program administration. These costs include activities such as tax collection, eligibility determinations, claims adjudication, and benefit disbursements. The user sets the level of administrative expense as a percentage of benefit payments to be used by the model.

2.3.4 INFLATION PROTECTION

Inflation protection represents the annual increase in the value of benefits paid under a program. Inflation protection is applied to both the daily benefit amount as well as the total benefit pool (daily benefit amount multiplied by benefit period, in days). The original total benefit pool is inflated to the date of disability. Due to annual increases in cost of care, inflation protection is included with many LTC benefits so that the value of the benefit is preserved over time. However, higher values of inflation protection will increase benefit payments in future years and increase program costs. Inflation protection is applied as compound inflation. The user is able to select the following levels of annual inflation protection:

- 0%
- 3%
- 5%

Note: The relationship between inflation protection and projected wage growth can have a large impact over the estimated tax rate needed to finance the program.

2.3.5 INTEREST RATE AND WAGE GROWTH RATE

The user does not have the ability to adjust the interest and wage growth assumptions, but these assumptions are important factors in projecting potential costs over an extended period of time. Projections of interest rate and US average earnings are from the 2022 OASDI Trustees Report.[2] The Trustees Report provides three growth scenarios for wages eligible for the Social Security and Medicare payroll taxes. The model uses the baseline scenario to calculate funding requirements. This scenario assumes an ultimate annual interest rate of 4.7% and an ultimate annual wage growth rate of 3.5%. These assumptions are displayed on the User Input tab.

Estimates of the tax necessary to fund a program are highly sensitive to the relationship between benefit inflation protection and the wage growth assumption. Benefit inflation protection impacts the growth in benefits that are paid out over the 75-year period considered in this analysis, and wage growth impacts the growth in program income. In cases where benefit inflation is greater than anticipated wage growth (benefit payments are growing faster than income source), estimated program funding rates will be higher. In cases where benefit inflation is less than anticipated wage growth (benefit payments are growing slower than income source), estimated program funding rates will be lower.

[2] Social Security Administration. The 2022 OASDI Trustees report. *SSA*, 2022. https://www.ssa.gov/OACT/TR/2022/.

Section 3: Model Output

After an LTC benefit is defined, the LTC Population Research Model provides an illustrative estimate of the tax rate necessary to fund the benefit and adjudicates the benefit for each record in the LTC Episode dataset. This process employs multiple simplifying assumptions to estimate potential high-level impacts of the program. For more detail on the model calculations, see Section 4 of the document, *LTC Population Research Model Methodology*.

The model aggregates the record-level impacts of the user-defined program and provides summary output to describe potential program impacts. This section discusses the output provided by the model.

3.1 TABLE 1 – ELIGIBLE POPULATION

The "Table 1 - Eligible Population" worksheet displays portions of the 2018 population expected to (1) meet the benefit trigger for the modeled program and (2) the population expected to both meet the benefit trigger and have an episode that lasts longer than the elimination period, by age group. This tab applies the benefit trigger and elimination period to each person-level record present in 2018 to see if an individual would qualify for the benefit and meet the elimination period.

Table 1: Population Eligible for Program Benefit

ADL Trigger	2+
Cognitive Trigger	Yes

		Population Meeting Benefit Trigger		Benefit Trigger and Episode Exceeds EP	
Age Group	US Population	N	%	N	%
All Ages	253,000,000	5,979,500	2.4%	5,640,000	2.2%
18-34	74,000,000	424,500	0.6%	387,500	0.5%
35-44	41,000,000	298,500	0.7%	278,500	0.7%
45-54	41,000,000	375,000	0.9%	359,000	0.9%
55-64	42,000,000	739,000	1.8%	689,500	1.6%
65-74	32,000,000	709,000	2.2%	704,000	2.2%
75-84	16,000,000	1,285,000	8.0%	1,189,500	7.4%
85+	7,000,000	2,149,000	30.7%	2,032,500	29.0%

Note: This table displays tabulations based one the following program parameters-

Benefit Eligibility: Community Residents with 2+ ADLs or severe cognitive impairment and all facility residents.

Elimination Period: 90 Days | Daily Benefit Amount: $125 | Benefit Period: 1 Year

This program is assumed to be funded through a 1.00% payroll tax applied to the Social Security tax base.

Impacts are modeled on the entire disabled population reported in 2018 survey data. No considerations are made for vesting criteria.

In defining episode expenditures, community and facility episodes are considered separately.

Net worth values exclude primary residence.

Values may not add to totals due to rounding.

3.2 TABLE 2 – CARE SETTING

The "Table 2 - Care Setting" worksheet displays the 2018 population who meets the benefit trigger for the modeled program, by care setting. Care setting is defined for all combinations of informal and formal care in the community as well as facility care. In addition, this sheet displays the average LTC expenditure for each group in 2024 dollars as well as the average total benefit received by each group under the program. This output is intended to illustrate the average value of the program benefit for various groups of those with an LTC need.

Table 2: Population Eligible for Program Benefit, by Care Setting (2024 Dollars)

ADL Trigger	2+
Cognitive Trigger	Yes

Care Setting	Population Meeting Benefit Trigger	% of Population Meeting Benefit Trigger	Average LTC Expenditure (2024 Dollars)	Average Program Benefit	Program Benefit as Percentage of Expenditure
Community					
No Formal or Informal Care	505,500	8%	$ -	$ 37,500	NA
Informal Care Only	1,203,000	20%	$ -	$ 37,000	NA
Formal and Informal Care	1,532,500	26%	$ 74,500	$ 39,500	53%
Formal Care Only	630,500	11%	$ 90,500	$ 33,500	37%
Facility	2,107,500	35%	$ 236,500	$ 36,500	15%
Total	5,979,000	100%	$ 112,000	$ 37,100	33%

Note: This table displays tabulations based one the following program parameters-

Benefit Eligibility: Community Residents with 2+ ADLs or severe cognitive impairment and all facility residents.

Elimination Period: 90 Days | Daily Benefit Amount: $125 | Benefit Period: 1 Year

This program is assumed to be funded through a 1.00% payroll tax applied to the Social Security tax base.

Impacts are modeled on the entire disabled population reported in 2018 survey data. No considerations are made for vesting criteria.

In defining episode expenditures, community and facility episodes are considered separately.

Net worth values exclude primary residence.

Values may not add to totals due to rounding.

3.3 TABLE 3 – BENEFICIARY COST

The "Table 3 Beneficiary Cost" worksheet displays annual tax contributions made by the families of each eligible beneficiary in 2018. The tax contribution is displayed in both annual and monthly terms. Family income is used to calculate cost metrics because family members are typically involved in providing care for those with an LTC need.

Table 3: Beneficiary Contributions to the Program (2024 Dollars)

Tax Base	Social Security Payroll
Tax Rate	1.00%

Family Income Group	Population	% of Population Meeting Benefit Trigger	Annual Tax Contribution (2024 Dollars)	Monthly Premium Equivalent
All Family Incomes	252,569,537	100%	$ 855	$71
<$10,000	14,331,895	6%	$ 35	$3
$10,000-24,999	30,398,745	12%	$ 176	$15
$25,000-49,999	50,323,121	20%	$ 368	$31
$50,000-74,999	44,025,619	17%	$ 615	$51
$75,000-124,999	56,540,828	22%	$ 975	$81
$125,000+	56,949,329	23%	$ 1,921	$160

Note: This table displays tabulations based one the following program parameters-

Benefit Eligibility: Community Residents with 2+ ADLs or severe cognitive impairment and all facility residents.

Elimination Period: 90 Days | Daily Benefit Amount: $125 | Benefit Period: 1 Year

This program is assumed to be funded through a 1.00% payroll tax applied to the Social Security tax base.

Impacts are modeled on the entire disabled population reported in 2018 survey data. No considerations are made for vesting criteria.

In defining episode expenditures, community and facility episodes are considered separately.

Net worth values exclude primary residence.

Values may not add to totals due to rounding.

3.4 TABLE 4 – CURRENT EXPENDITURES

The "Table 4 - Current Expenditures" worksheet displays estimates of the average LTC episode expenditures by channel of payment for various population cohorts. The following channels of payment are reflected:

- Medicare
- Medicaid (Survey-reported Medicaid coverage in 2018)
- Private (Any insurance product that provides coverage for LTC benefits)
- OOP
- Other (This category includes VA, TRICARE, workers compensation, and other state and local sources of funding)

This table reflects all community and facility episodes that reported non-zero LTC expenditures in 2018, and episodes that did not report LTC expenditures are not included. All dollar amounts are trended to 2024 dollars. Impacts are displayed for various cross-sections of the population including age group, sex, region, family income group, net worth group, informal care status, care setting, Medicaid status, and private LTCI coverage status. The user can open and close the "grouped" cells using the "+" button at the top of column Q to display the expenditure distribution for each subgroup.

Table 4: Estimated LTC Episode Expenditures, by Channel of Payment (2024 Dollars)
Episodes of Disability Active in 2018 with Reported LTC Expenditures

	Eligible Population	% Eligible Population	Average Episode Expenditure (2024 Dollars)					
			Total	Medicare	Medicaid	Private	OOP	Other
All Ages	4,206,500	100%	159,000	10,000	79,500	9,500	53,000	7,000
18-34	156,500	4%	99,000	500	91,500	2,500	3,000	1,500
35-44	107,000	3%	105,500	3,000	80,000	-	8,000	14,500
45-54	157,500	4%	141,000	22,500	88,500	3,000	19,500	7,500
55-64	426,500	10%	201,000	9,000	125,500	16,500	34,000	16,000
65-74	566,500	13%	148,500	10,500	103,000	5,000	24,000	6,000
75-84	967,000	23%	159,500	10,000	86,500	6,500	48,500	8,000
85+	1,826,000	43%	163,000	11,000	55,500	13,000	78,500	5,000

3.5 TABLE 5 – PROJ EXPENDITURES

The "Table 5 - Proj Expenditures" worksheet displays estimates of the average LTC episode expenditures by channel of payment for various population cohorts **assuming the modeled program benefit is in place**. This table reflects all community and facility episodes that reported non-zero LTC expenditures in 2018, and episodes that did not report LTC expenditures are not included. All dollar amounts are trended to 2024 dollars. Impacts are displayed for various cross-sections of the population including age group, sex, region, family income group, net worth group, informal care status, care setting, Medicaid status, and private LTCI coverage status.

The program benefit that is paid for each episode is assumed to offset Medicaid expenditures first and then OOP expenditures. Any remaining program benefit is assumed to be spent in excess of current expenditures. The model does not make any assumption as to how this benefit will be used. Table 5 displays the updated expenditure by original channel of payment, the estimated reduction in expenditure for the original channels of payment and the remaining benefit.

The user can open and close the "grouped" cells using the "+" button at the top of column S to display the expenditure distribution for each subgroup.

Table 5: Estimated LTC Episode Expenditures with Program Benefit, by Channel of Payment (2024 Dollars)
Episodes of Disability Active in 2018 with Reported LTC Expenditures

	Eligible Population	% Eligible Population	Average Episode Expenditure (2024 Dollars)						
			Total	Medicare	Medicaid	Private	OOP	Other	Program Benefit
All Ages	4,206,500	100%	173,000	10,000	66,000	9,500	43,500	7,000	37,000
18-34	156,500	4%	109,500	500	68,500	2,500	2,000	1,500	34,500
35-44	107,000	3%	123,500	3,000	58,000	-	5,500	14,500	42,500
45-54	157,500	4%	164,000	22,500	70,500	3,000	16,000	7,500	44,500
55-64	426,500	10%	216,000	9,000	104,500	16,500	32,000	16,000	38,000
65-74	566,500	13%	169,000	10,500	88,500	5,000	21,500	6,000	37,500
75-84	967,000	23%	171,500	10,000	74,000	6,500	39,000	8,000	34,000
85+	1,826,000	43%	176,500	11,000	46,000	13,000	63,500	5,000	38,000

3.6 TABLE 6 – EXPENDITURE CHANGE

The "Table 6 – Expenditure Change" worksheet displays estimates of the average change in LTC episode expenditures by channel of payment for various population cohorts **assuming the modeled program benefit is in place**. This table reflects all community and facility episodes that reported non-zero LTC expenditures in 2018, and episodes that did not report LTC expenditures are not included. All dollar amounts are trended to 2024 dollars. Impacts are displayed for various cross-sections of the population including age group, sex, region, family income group, net worth group, informal care status, care setting, Medicaid status, and private LTCI coverage status.

This sheet displays estimates of the average total benefit paid, broken out by the portion attributed to Medicaid reductions, difference in reimbursement between Medicaid and private pay, OOP reductions, and remaining benefit. The user can open and close the "grouped" cells using the "+" button at the top of column R to display the distribution of benefit components for each subgroup.

Table 6: Changes to Estimated LTC Episode Expenditures with Program Benefit, by Channel of Payment (2024 Dollars)
Episodes of Disability Active in 2018 with Reported LTC Expenditures

						Program Benefit				
	Eligible Population	% Eligible Population	Current Total Expenditures	Projected Total Expenditures	Change in LTC Expenditure	Total Benefit	Medicaid Reduction	Difference in Medicaid and Private Pay	OOP Reduction	Remaining Benefit
All Ages 18+	4,206,500	100%	159,000	173,000	14,000	37,000	13,500	3,000	9,500	11,000
18-34	156,500	4%	99,000	109,500	10,500	34,500	23,000	6,000	1,000	4,500
35-44	107,000	3%	105,500	123,500	18,000	42,500	22,000	6,000	2,500	12,000
45-54	157,500	4%	141,000	164,000	23,000	44,500	18,000	5,000	3,500	18,000
55-64	426,500	10%	201,000	216,000	15,000	38,000	21,000	5,000	2,000	10,000
65-74	566,500	13%	148,500	169,000	20,500	37,500	14,500	4,000	2,500	16,500
75-84	967,000	23%	159,500	171,500	12,000	34,000	12,500	3,000	9,500	9,000
85+	1,826,000	43%	163,000	176,500	13,500	38,000	9,500	2,000	15,000	11,500

3.7 TABLE 7 – BENEFIT COVERAGE

The "Table 7 – Benefit Coverage" worksheet displays the average LTC episode expenditure and average benefit received under the modeled program, by length of episode. This table reflects all community and facility episodes that reported non-zero LTC expenditures in 2018, and episodes that did not report LTC expenditures are not included. All dollar amounts are trended to 2024 dollars.

This sheet is intended to illustrate the value of the benefit compared to historical LTC episode expenditures. Length of episode is directly related to an individual's LTC expenditure, and episode length varies greatly among those with a care need. The data is displayed by length of episode to provide context to the relative impacts of the modeled program on various cohorts of individuals.

Table 7: Percentage of LTSS Expenditure Covered by Benefit, by Length of Episode (2024 Dollars)
Episodes of Disability Active in 2018 with Reported LTC Expenditures

Length of Episode	Population Meeting Benefit Trigger	% Meeting Benefit Trigger	Average Reported LTC Expenditure	Avgerage Program Benefit	Program Benefit as Percentage of Expenditure
All LOE	4,206,500	100%	159,000	37,000	23%
<1 Year	1,050,500	25%	36,000	13,000	36%
1-2 Years	1,232,500	29%	97,000	44,500	46%
2-3 Years	403,500	10%	136,500	45,500	33%
3-4 Years	438,000	10%	197,500	45,500	23%
4-5 Years	271,000	6%	240,500	45,500	19%
5+ Years	811,000	19%	377,500	45,500	12%

Note: This table displays tabulations based one the following program parameters-

Benefit Eligibility: Community Residents with 2+ ADLs or severe cognitive impairment and all facility residents.

Elimination Period: 90 Days | Daily Benefit Amount: $125 | Benefit Period: 1 Year

This program is assumed to be funded through a 1.00% payroll tax applied to the Social Security tax base.

This table displays values for individuals reporting a non-zero LTC expenditure in 2018. Those not reporting expenditures are excluded.

Impacts are modeled on the entire disabled population reported in 2018 survey data. No considerations are made for vesting criteria.

In defining episode expenditures, community and facility episodes are considered separately.

Values may not add to totals due to rounding.

3.8 TABLE 8 – COVERAGE COMMUNITY

The "Table 8 – Coverage Community" worksheet displays the average LTC episode expenditure and average benefit received under the program *for community episodes only*, by length of episode. This table reflects all community and facility episodes that reported non-zero LTC expenditures in 2018, and episodes that did not report LTC expenditures are not included. All dollar amounts are trended to 2024 dollars.

This table is a subset of Table 7 that excludes facility records in order to isolate the program impact on the community population. The cost of care is much higher in facility settings, so it is useful to examine the impact of a given benefit by care setting.

3.9 TABLE 9 – COVERAGE FACILITY

The "Table 9 – Coverage Facility" worksheet displays the average LTC episode expenditure and average benefit received under the program *for facility episodes only*, by length of episode. This table reflects all community and facility episodes that reported non-zero LTC expenditures in 2018, and episodes that did not report LTC expenditures are not included. All dollar amounts are trended to 2024 dollars.

This table is a subset of Table 7 that excludes community records in order to isolate the program impact on the facility population. The cost of care is much higher in facility settings, so it is useful to examine the impact of a given benefit by care setting.

3.10 TABLE 10 – OOP IMPACTS

The "Table 10 – OOP Impacts" worksheet examines the potential impact of modeled program benefits on current OOP spending on LTC services. This table reflects all community and facility episodes that reported non-zero LTC expenditures in 2018, and episodes that did not report LTC expenditures are not included. All dollar amounts are trended to 2024 dollars. Impacts are displayed for various cross-sections of the population including, age group, sex, region, family income group, net worth group, informal care status, care setting, Medicaid status, and private LTCI coverage status.

Episode OOP savings are defined as the estimated reduction in current episode OOP spending. This amount is compared to family income and household net worth, excluding primary residence, by group, in order to quantify the program's potential impact on household finances.

Table 10: Impacts to Out-of-Pocket Expenditures for Individuals (2024 Dollars)
Episodes of Disability Active in 2018 with Reported LTC Expenditures

	Eligible Population	% Eligible Population	Reduction in Episode OOP Expenditure	Average Family Income	Household Net Worth (Excl. Residence)	OOP Reduction as % of Income	OOP Reduction as % of Net Worth
All Ages	4,206,500	100%	9,500	45,500	272,000	21%	3%
18-34	156,500	4%	1,000	86,000	85,500	1%	1%
35-44	107,000	3%	2,500	42,000	25,000	6%	10%
45-54	157,500	4%	3,500	33,000	192,000	11%	2%
55-64	426,500	10%	2,000	39,500	264,500	5%	1%
65-74	566,500	13%	3,000	38,000	184,500	8%	2%
75-84	967,000	23%	9,500	49,500	296,500	19%	3%
85+	1,826,000	43%	15,000	44,500	325,500	34%	5%

3.11 TABLE 11 – INFORMAL CARE

The "Table 11 – Informal Care" worksheet examines the potential impact of program benefits on current informal care. Because the model assumes that informal care is only provided in the community, this table reflects data for the eligible community population, including those with and without reported LTC expenditures. Informal care

information is displayed for various cross-sections of the population including age group, sex, region, family income group, asset group, informal care status, care setting, Medicaid status, and private LTCI coverage status.

The table identifies the proportion of eligibles in each population group who reported informal care utilization in 2018. Additionally, the amount of benefit remaining after offsets to current expenditures is reported for each subgroup. This amount represents the benefit that an individual is expected to receive after reductions in current Medicaid and OOP spending. This benefit could potentially be used to offset informal care and provide additional support to informal caregivers.

The benefit in excess of current expenditures is also represented as a number of days of formal care that could be provided under the program, assuming that one day of formal community care is defined as four hours per day at a rate of $25 per hour.

Table 11: Potential Impacts to Informal Caregiving (2024 Dollars)
Episodes of Disability Active in 2018

	Community Population		Reported Informal Care		Informal Care Only				Informal and Formal Care			
	N	%	N	%	N	%	Average Benefit Over Current Exp	Days of Formal Care from Benefit	N	%	Average Benefit Over Current Exp	Days of Formal Care from Benefit
All Ages	3,872,000	100%	2,736,000	100%	1,203,000	100%	37,000	370	1,532,500	100%	21,500	220
18-34	412,000	11%	308,000	11%	176,000	15%	33,500	340	132,500	9%	3,500	40
35-44	277,000	7%	214,500	8%	154,000	13%	37,000	370	60,500	4%	16,500	170
45-54	319,000	8%	228,000	8%	148,500	12%	35,000	350	79,500	5%	26,000	260
55-64	607,500	16%	433,000	16%	230,500	19%	38,500	390	202,500	13%	16,000	160
65-74	451,500	12%	303,500	11%	115,000	10%	42,000	420	189,000	12%	24,500	250
75-84	735,500	19%	435,000	16%	181,000	15%	39,500	400	254,000	17%	22,500	230
85+	1,069,500	28%	813,500	30%	198,500	17%	33,500	340	615,000	40%	26,500	270

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