U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

BROOKINGS/ICF LONG-TERM CARE FINANCING MODEL:

PROGRAMMER'S/OPERATOR'S MANUAL

February 1992

Office of the Assistant Secretary for Planning and Evaluation

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This report was prepared under contract #HHS-100-94-0016 between HHS's DALTCP and the Lewin Group. For additional information about this subject, you can visit the DALTCP home page at http://aspe.hhs.gov/_/office_specific/daltcp.cfm or contact the ASPE Project Officer, John Drabek, at HHS/ASPE/DALTCP, Room 424E, H.H. Humphrey Building, 200 Independence Avenue, S.W., Washington, D.C. 20201. His e-mail address is: John.Drabek@hhs.gov.

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TABLE OF CONTENTS

LIST OF FIGURES AND TABLES

OVERVIEW OF THE PROJECT

In September of 1988, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) contracted with Lewin-ICF and the Brookings Institution to develop a public use version of the Brookings/ICF Long Term Care Financing Model. Using microsimulation techniques, the model projects the utilization and sources of financing for nursing home and home care services among the elderly to the year 2020.

Under this contract, many of the assumptions used in the model were revised to reflect data and findings that had recently become available. As the need for alternative policy simulations arose, the capabilities of the model were expanded. Examples of the types of simulations modeled include: the purchase of new private long term care insurance products; the use of pension funds to purchase long term care insurance; and publicly sponsored programs, such as the long term care benefits proposed by the Pepper Commission.

One of the products of this project is a public use version of the model code and accompanying documentation. The documentation includes:

- **Model Assumptions**, which presents the assumptions used in developing the model.

- **Designing and Using Model Simulations**, which presents assumptions used in modeling alternative proposals and using the results of the model.

- **A User's Guide to Specifying Simulations**, which details how to specify simulations using the model's parameters.

- **A Programmer's/Operator's Manual**, which shows the code structure and operation of the model.

PREFACE

This report is one of four related to the Brookings/ICF Long Term Care Financing Model. It outlines the programming logic, input and output data sets, and running the model. The three other documents discuss: 1) the assumptions used in developing the model; 2) assumptions used in modeling alternative proposals; and 3) using the results of the model, and how to specify simulations using the model's parameters.

This documentation was prepared by Peter Robertshaw, a subcontractor to Lewin-ICF and Lisa Maria B. Alecxih of Lewin-ICF. John Drabek, serving as the project officer, and Paul Gayer of the Office of the Assistant Secretary for Planning and Evaluation provided invaluable comments.

This report was developed as part of the documentation of a public use version of the Brookings/ICF Long Term Care Financing Model for the Office of the Assistant Secretary for Planning and Evaluation. Other reports in this series include:

- Model Assumptions
- Designing and Using Model Simulations
- A User's Guide to Specifying Simulations

Copies of the reports may be obtained by writing to:

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Room 424E, Humphrey Building
200 Independence Avenue, S.W.
Washington, D.C. 20201

INTRODUCTION

This document is intended to assist programmers/operators in the use of the Brookings/ICF Long Term Financing Model. Section I of this document is a description of the model. This description presents a brief overview of the model's purpose and a brief description of the programming logic at a subroutine level.

Section II and Section III of this document describe in detail the input and output data sets used by the model. Section IV discusses the editing, compiling, linking and running of the model from an operator's viewpoint. Sample JCL and DCL batch files are included to assist in the setup of the model. Section V gives details on the job control file (LTC2.CON) which is used to control important user-variable aspects of the simulation.

Section VI describes two utility programs for use with the model. The first is a table extraction utility, which gives the user the ability to extract a specified list of tables, suitable for printing or down-loading and importing into a PC-based spreadsheet. The second utility checks two parameter files and reports any differences between them.

Finally, Section VII describes a FORTRAN program that converts an optional data set produced by the model into a person level file from which tabulations may be produced.

I. MODEL DESCRIPTION

A. Overview

The Brookings/ICF Long Term Care (LTC) simulation model simulates the utilization and financing of both institutional and noninstitutional long-term care services for elderly individuals through the year 2020. Institutional services include nursing home care provided by skilled nursing facilities and intermediate care facilities. Noninstitutional services include home health, homemaker, choremaker, personal care, and meal preparation services. The model simulates the number of individuals receiving these services and the costs of these services as financed by various public and private sources. The overall objective of the model is to simulate the effects of various financing and organizational reform options on future public and private expenditures for nursing home and home care services.

The model begins with a nationally representative sample of the adult U.S. population. Each member of this sample population is assigned a weight value which, when aggregated, will approximate the total U.S. population in terms of both number of persons and demographic (i.e. age, sex, etc.) characteristics. Each record in the sample database contains information on a person's age, sex, marital status, income, assets, and other characteristics. The model simulates changes for each individual in the sample population from 1986 to 2020, simulating changes in age, economic status, disability status, utilization of long term care, and method of paying for such care.

The model uses a Monte Carlo simulation methodology. The model simulates changes in an individual's status by drawing a random number between zero and one and comparing it to the fixed probability of that event occurring for an individual with a given set of socio-demographic characteristics. In order to produce consistent results between runs, the random numbers used are drawn from a permanent datafile so that each time the model is run, the same random number is used for each decision made.

The model can be used to simulate long-term care financing assuming changes in private payment methods (such as increased purchase of private long-term care insurance), or new public financing programs. These simulations are greatly affected by the choice of assumptions about the economy (such as the rate of growth of the overall economy and nursing home prices) and individual behavior (such as rates of nursing home utilization and insurance purchase). The model can be used to make estimates using alternative assumptions to show how sensitive the results are to the assumptions chosen. Many of the possible assumptions and options are parameterized to allow for easy model operation.

B. Code Structure

The code structure for the Brookings/ICF Long Term Care Financing model is relatively straight forward. At its simplest level, the program consists of the main line program which calls a variety of subroutines to perform specific tasks. The main line program may be broken down into three sections (see Figure 1): initialization, data processing and reporting.

The initializing step sets up many of the arrays used in the model calculations, including defining tax rates, inflation factors, and poverty levels. Arrays used for accumulating and reporting functions are initialized to zero in this step.

The next step is the data processing loop. This loop is executed once for each record in the database. Intermediate arrays are initialized and then the annual cost loop is entered. This loop is performed for each individual for every year from 1980 to 2025. Within each year the routine checks for nursing home use, sets up random numbers used in the simulation, performs any 'special case' scenarios, checks for insurance availability, calls the costs calculation routines, stores costs in appropriate arrays, and calls the table accumulation routines.

The final step in the program is the reporting step. In this step, the main line programs calls a series of subroutines which total the accumulation arrays and print out the summary tables to the output file. This step is executed after processing the last record in the database.

C. FORTRAN Subroutines

The following tables describe the main line and each of the FORTRAN subroutines in the model. The description includes a listing of which routines call, or are called by, each subroutine. The main line program description is first, followed by each of the subroutines in alphabetical order.

FIGURE 1

Brookings/ICF
Long Term Care
Simulation Model

Program logic
at the subroutine leve

KEY:

I = Initialization
D = Data processing and I/O
A = Analysis/Calculations
T = Tables (accumulation
    and reporting)

4

TABLE 1. Subroutine Descriptions		
Routine	**Description**	**Calls:**
Main (LTC2)	This routine performs data initialization, then loops over (i.e. reads) every record in the database. For each record, this routine loops over every year from 1980 to 2025. Within each year of the simulation, the routine checks for nursing home use, sets up random numbers used in the simulation, performs any 'special case' scenarios (hard coded), checks for insurance availability, calls the cost calculation routines, stores costs in appropriate arrays, and calls the table accumulation routines. After processing all the records in the database, this routine calls the table printing routines and then ends the program	Called By: - Calls: PARAIN RWJXXX SETUP ZILCH1 ZILCH3 ZIL256 DPPAX TAB38 NISPRB TAB44 RINDV FIXP FIXNI FIXS MOVR MOVRNI GETRAN GETAST TAXCLC SMI WEIGHT INSURE HAWCC SSI YRCOST TBL256 HAWACC TBLPJA W2020 WRITR ACCUM OUTER SSAC SSOUT ZILCH2 HAWTAB OOPS OUT256 TABLES TBLPJO
AARPA	Subroutine AARPA accumulates data reported in Table 30, 35 and 36.	Called By: ACCUM Calls: WEIGHT
AARPT	Subroutine AARPT prints out Tables 30, 35 and 36.	Called By: PERTAB Calls: PRUDU
ACCUM	Subroutine ACCUM accumulates data for many of the nursing home tables (i.e. Tables 1-10). Initiates calls to various other accumulation routines.	Called By: MAIN Calls: PERACC GAYACC AARPA WEIGHT OUTER BACCUM
ACCYR	Subroutine ACCYR accumulates both nursing home and non-institutionalized monthly costs into an annual data grid.	Called By: YRCOST Calls: -
BACCUM	Subroutine BACCUM accumulates data for many of the non-institutionalized tables (i.e. Tables 11-20).	Called By: ACCUM Calls: WEIGHT OUTER

TABLE 1 (*continued*)		
Routine	**Description**	**Calls:**
CAPG	Subroutine CAPG calculates capital gains tax liability.	Called By: TAXCLC Calls: -
CATAVL	Subroutine CATAVL determines the amount of income and assets that is available for nursing home payments under the catastrophic coverage act of 1989.	Called By: MMCOST Calls: -
CCGRID	Subroutine CCGRID controls the monthly calculation of costs for both nursing home and non-institutionalized services. The routine loops over the months in the year, collects information on whether or not the individual is covered by insurance, checks against deductibles/maximums as applicable, adjusts assets, and calls the routines that do the actual cost calculations. The routine then assigns all costs to the appropriate data grids.	Called By: YRCOST Calls: SSI PUBLIC MMCOS2 MMCOST
CHKNUM	Subroutine CHKNUM checks input parameters that are required to be within specified ranges.	Called By: PARAIN Calls: -
COMMA	Character function COMMA is used to format output fields with embedded commas.	Called By: All tabling routines Calls: -
CRDOUT	Subroutine CRDOUT is used to dump out individual and spouse data for the credited contribution scenarios. Not currently called by the model (used for debugging purposes only).	Called By: - Calls: -
DPPAX	Subroutine DPPAX initializes, accumulates and prints out Table 37 (distribution of pension plan assets by age and family income for 1990).	Called By: Main Calls: -
ENTRY	Subroutine ENTRY parses each line of the users input parameter file. This routine is called once for every line in the file.	Called By: PARAIN Calls: IDIG
FIXNI	Subroutine FIXNI initializes the non-institutional data array for each year of the simulation.	Called By: MAIN Calls: -
FIXP	Subroutine FIXP initializes the individuals data array for each record.	Called By: MAIN Calls: -
FIXS	Subroutine FIXS initializes the spouses data array for each record.	Called By: MAIN Calls: -
GAYACC	Subroutine GAYACC accumulates data for tables G1 through G5, comparing average income and social security income between nursing home residents, non-residents and all elderly.	Called By: ACCUM Calls: WEIGHT
GAYOUT	Subroutine GAYOUT prints out Tables G1 through G5.	Called By: PERTAB Calls: -
GETAST	Subroutine GETAST uses the 1984 SIPP databases to impute financial and home equity assets to each individual and spouse. It is called once per record when the individual reaches age 65.	Called By: MAIN Calls: -
GETLOS	Subroutine GETLOS fills in the nursing home length of stay array and disability arrays used throughout the model.	Called By: RINDV Calls: -
GETRAN	Subroutine GETRAN looks up an array of pseudo-random numbers seeded by the individuals index number.	Called By: MAIN Calls: -
HAWACC	Subroutine HAWACC accumulates population counts, incomes, and health care expenditures for reporting in Tables A, B, C and D.	Called By: MAIN Calls: -
HAWCC	Subroutine HAWCC calculates credited and non-credited contribution amounts for the credited contribution universal scenario.	Called By: MAIN Calls: WEIGHT
HAWFIL	Subroutine HAWFIL constructs a replacement person from the current record.	Called By: RINDV Calls: -
HAWTAB	Subroutine HAWTAB creates totals and prints out Tables A, B, C and D.	Called By: MAIN Calls: WEIGHT
HAWYES	Subroutine HAWYES sets flags which are used to determine whether or not a replacement person is to be constructed from the current record.	Called By: RINDV Calls: -

TABLE 1 (*continued*)		
Routine	**Description**	**Calls:**
IDIG	Integer function IDIG checks to see if a character is a valid numeric. It is used in the parsing of the input parameter file.	Called By: ENTRY Calls: -
INGRID	Subroutine INGRID constructs part of the data grid used to report the annual non-institutionalized costs.	Called By: YRCOST Calls: -
INSURE	Subroutine INSURE determines the insurance status of the individual/spouse. If a person does not have insurance, the routine determines if they are eligible to buy, looks up the appropriate premium, checks for reduced premiums and tax credits, looks up the probability of buying insurance based on asset level, worker status, and percent of income of premium, adjusts the probability by any underwriting function or poor elderly assumptions, then compares this probability to a random number to determine whether insurance is purchased. After purchase, the routine defines benefits for every year from the purchase year to 2025. If a person already has insurance, the routine will determine whether they keep it by checking the current premium against the defined lapse probabilities.	Called By: MAIN Calls: -
ITABON	Integer function ITABON checks whether or not to print out a given table (depends on input parameters).	Called By: Many tabling Calls: -
ITEM	Subroutine ITEM looks up itemized deductions in the calculation of federal tax liability.	Called By: TAXCLC Calls: -
MKGRD2	Subroutine MKGRD2 completes the construction of the data grid used to report the annual non-institutionalized costs.	Called By: YRCOST Calls: -
MKGRID	Subroutine MKGRID constructs part of the data grid used to report the annual nursing home costs, including distributing the length of stay over the required number of months, and assigning days covered by Medicare to each month.	Called By: YRCOST Calls: -
MMCOS2	Subroutine MMCOS2 calculates the monthly cost of a non-institutionalized visit. The routine sets the monthly cost and then determines how that cost is divided between public policy payments, long term care insurance, Medicare, cash, assets, other payor and Medicaid. The routine is called once for every month a person is receiving non-institutionalized services.	Called By: CCGRID Calls: -
MMCOST	Subroutine MMCOST calculates the monthly cost of a nursing home stay. The routine sets the monthly costs, and then determines how that cost is divided between public policy payments, long term care insurance, Medicare, cash, assets, and Medicaid. The routine is called once for every month a person is in a nursing home.	Called By: CCGRID Calls: CATAVL
MOVR	Subroutine MOVR moves nursing home data into position before processing.	Called By: MAIN Calls: -
MOVRNI	Subroutine MOVRNI moves non-institutional data into position before processing.	Called By: MAIN Calls: -
NEWTAB	Subroutine NEWTAB prints out Tables 21, 22, and 23.	Called By: TABLEB Calls: PERTAB
NISPRB	Subroutine NISPRB determines whether or not an individual/spouse uses formal or informal non-institutionalized services. The probability of use is based on age, marital status, family income, disability status and sex of the person. The routine defines what type of non-institutionalized services are received, how long (days) they are received for, type of payments used for financing the visits, and number of visits.	Called By: MAIN Calls: -
OOPS	Subroutine OOPS initializes, accumulates, and prints Tables 51-53.	Called By: MAIN Calls: -
OUT256	Subroutine OUT256 performs calculations on the arrays containing data for Tables 25 and 26.	Called By: MAIN Calls: -
OUTER	Subroutine OUTER dumps out personal data, nursing home data and non-institutional data for an individual. It is used for debugging purposes.	Called By: MAIN PERACC Calls: ACCUM BACCUM

TABLE 1 (*continued*)		
Routine	**Description**	**Calls:**

PARAIN	Subroutine PARAIN reads in the users input parameter file. Each line of data entered is checked for validity and against pre-defined ranges. Logic checks between parameters are also performed.	Called By: MAIN
		
		Calls: ENTRY
		     CHKNUM
		     PERCENT

PERACC	Subroutine PERACC accumulates data reported in Tables 24 through 29.	Called By: ACCUM Calls: WEIGHT OUTER
PERTAB	Subroutine PERTAB prints out tables 24 through 29.	Called By: NEWTAB Calls: GAYOUT AARPT
PERCNT	Subroutine PERCNT checks input parameters that are required to add to 100%	Called By: PARAIN Calls: -
PRUDU	Subroutine PRUDU prints out Tables 31, 32, 33, and 34.	Called By: AARPT Calls: -
PUBLIC	Subroutine PUBLIC determines whether or not an individual is eligible for public programs. The routine checks against age and availability, deductibles, and maximum dollar amounts.	Called By: CCGRID Calls: -
RANSET	Subroutine RANSET reads in the random number database and stores it in two arrays which are ready for access from the model.	Called By: SETUP Calls: -
READAS	Subroutine READAS reads in the asset and home equity databases as well as the probability database used to assign assets and home equity to individuals. The assets, home equity and probability databases were created from the 1984 SIPP.	Called By: SETUP Calls: -
REAGE	Subroutine REAGE initializes the individual and spouse pension income arrays, and then calculates annual pension incomes based on information in the PRISM defined benefit and defined contribution arrays.	Called By: RINDV Calls: -

RINDV	Subroutine RINDV reads in the input database file (i.e. the output file from the PRISM model). This routine also initiates the construction of the replacement population set (i.e. synthetic person level data for person aged less then 25 in 1979) if required by the input parameters.	Called By: MAIN
		
		Calls: REAGE
		     GETLOS
		     HAWFIL
		     HAWYES

RWJXXX	Subroutine RWJXXX initializes, accumulates and prints tables RWJ1 and RWJ4. It is used in a special case that adjusted each individuals assigned weight according to age, sex, marital status, nursing home use, disability status, and average social security benefit at age 65.	Called By: MAIN Calls: -
SETD	Subroutine SETD initializes double precision arrays to a given value (usually zero).	Called By: Many routines Calls: -

SETUP	Subroutine SETUP initializes many of the arrays used in the model calculations, including defining tax rates, inflation factors, and poverty rates. It includes the calls to read in the asset level and probability files, and set-up of the random numbers.	Called By: MAIN
		
		Calls: READAS
		     RANSET
		     TAXSET

SMI	Subroutine SMI calculates additional taxes.	Called By: MAIN Calls: -
SSAC	Subroutine SSAC initializes, accumulates and prints the income/assets of the aged tables (Table 45-48)	Called By: MAIN Calls: SETD
SSI	Subroutine SSI calculates federal and state monthly SSI income.	Called By: MAIN Calls: CCGRID
SSOUT	Subroutine SSOUT converts the model output to a special format required for use with TPL.	Called By: MAIN Calls: -
STCALL	Subroutine STCALL calculates an individuals state tax liability given a federal tax liability.	Called By: TAXCLC Calls: -

TABLE 1 (*continued*)			
Routine	**Description**	**Calls:**	
TAB38	Subroutine TAB38 initializes, accumulates and prints out Tables 38 through 43.	Called By:	MAIN
		Calls:	-
TAB44	Subroutine TAB44 initializes, accumulates and prints out Table 44.	Called By:	MAIN
		Calls:	-
TABLEB	Subroutine TABLEB prints out many of the non-institutionalized tables (i.e. tables 11 through 20).	Called By:	TABLES
		Calls:	ZILCH2 NEWTAB
TABLES	Subroutine TABLES prints out many of the nursing home tables (i.e. Tables 1-10). It initiates call to non-institutionalized table routines.	Called By:	MAIN
		Calls:	ZILCH2 TABLEB
TAXCLC	Subroutine TAXCLC begins the process of looking up the tax liability of the individual and spouse.	Called By:	MAIN
		Calls:	CAPG ITEM TAX STCALL
TAXSET	Subroutine TAXSET creates the tax tables that are used to calculate federal and state income taxes based on income level.	Called By:	SETUP
		Calls:	-
TAX	Subroutine TAX uses the tax tables created in TAXSET to look up an individuals tax liability for the current year.	Called By:	TAXCLC
		Calls:	-
TBL256	Subroutine TBL256 accumulates data for reporting in Table 25 and 26.	Called By:	MAIN
		Calls:	-
TBLPJA	Subroutine TBLPJA accumulates data for reporting in the PJE series of tables.	Called By:	MAIN
		Calls:	-
TBLPJO	Subroutine TBLPJO prints out the PJE series of tables.	Called By:	MAIN
		Calls:	-
W2020	Subroutine W2020 adjusts length of stays for persons entering nursing homes in 2019 and 2020.	Called By:	MAIN
		Calls:	-
WEIGHT	Subroutine WEIGHT multiplies an individuals PRISM weight by adjustment factors to make population totals match 1986 base year data and projected data. Includes division of weight as required by the iteration parameter.	Called By:	MAIN HAWCC PERACC GAYACC AARPA ACCUM BACCUM HAWTAB
		Calls:	-
WRITR	Subroutine WRITR writes out personal data, nursing home data and non-institutional data for an individual to the optional output data file.	Called By:	MAIN
		Calls:	-
WTBAFF	Subroutine WTBAFF dumps out specified common block data. It is not currently called in the model (it is used for debugging purposes only and produces large quantities of output).	Called By:	-
		Calls:	-
WTGRD2	Subroutine WTGRD2 dumps out information on each persons non-institutionalized stay each year. It is used only for de-bugging purposes.	Called By:	YRCOST
		Calls:	-
WTGRID	Subroutine WTGRID dumps out information on each persons nursing home stay each year. It is used only for de-bugging purposes.	Called By:	YRCOST
		Calls:	-

TABLE 1 (*continued*)		
Routine	**Description**	**Calls**

YRCOST	Subroutine YRCOST begins the process of calculating the annual cost of staying in a nursing home or receiving non-institutionalized services. It is called once per year per individual.	Called By: MAIN
		 Calls: INGRID
		     MKGRID
		     MKGRD2
		     WTGRD2
		     WTGRID
		     CCGRID
		     ACCYR

ZIL256	Subroutine ZIL256 initializes a series of output table accumulation arrays to zero.	Called By: MAIN Calls: -
ZILCH1	Subroutine ZILCH1 initializes a series of output table accumulation arrays to zero.	Called By: MAIN Calls: -
ZILCH2	Subroutine ZILCH2 initializes a series of output table accumulation arrays to zero.	Called By: MAIN Calls: TABLEB TABLES
ZILCH3	Subroutine ZILCH3 initializes a series of output table accumulation arrays to zero.	Called By: MAIN Calls: -

D. Assembler Subroutines

In addition to the FORTRAN subroutines described above, the model also makes extensive use of three assembler language subroutines described in Table 2. IBM and VAX versions of these routines currently exist.

TABLE 2. Assembler Subroutine Descriptions		
Routine	**Description**	**Calls:**
RDCH77	This routine performs a very fast, unformatted read. This routine is invoked with: CALL RDCH77 (I,A,LEN,*900), where I is the logical unit number to which the data set to be read is attached, A is an array with sufficient dimensions to hold a record of data, LEN is the length of the record read by RDCH77 (i.e. the subroutine returns this value), and 900 is the FORTRAN statement number that is executed after an end-of-file return code is received.	Called By: RINDV Calls: -
RJS201	This routine performs a byte copy operation on the specified arrays. This routine is invoked as follows: CALL RJS201 (NB,A1,NS1,A2,NS2), where NB is the number of bytes to be copied, A1 is the array from which the bytes are to be copied, NS1 is the starting byte for the copy operation, A2 is the array to which the bytes are copied, and NS2 determines the position in A2 to which to bytes are copied.	Called By: MOVR MOVRNI WRITR W2020 GETRAN Calls: -
SETX	This routine initializes an array to a specified value. The call for this routine is: CALL SETX(A,N,V), where A is the name of the array to be initialized, N is the number of words to be initialized, and V is the value to which the array is to be initialized. Note that A and V can be either real or integer.	Called By: MAIN RINDV SETUP YRCOST CCGRID FIXP FIXS FIXNI TAXSET REAGE PARAIN ENTRY ACCUM BACCUM PERACC WEIGHT AARPA RWJXXX Calls: -

II. INPUT DATA SETS

Table 3 lists the input data sets required to run the model.

TABLE 3. Model Input Data Sets			
Dataset Name	**Unit Number**	**Description**	**Size (kBytes)**
NATADJ.DAT[2]	3	This data set is used to calibrate model weights to in order to approximate U.S. population aggregates. It is used only when replacement population is created.	13
NIHPROB4.PRN[1]	4	These probability factors are used to calculate nursing home induced demand. Factors are determined by age, marital status, disability status and prior nursing home use.	14
TAXR.DAT[1]	8	This is the table of tax rates by income bracket and filing status.	18
FAMLIFE.DATA[1] (generally on tape or cartridge)	9	This is the input data file containing approximately 44,000 person records. It is the output file from the PRISM run.	156,640
FAMSUB.DATA[1]	9	This is the input data file containing the first 500 person records. It is used for testing purposes.	1,780
RANDOM.NUM[1]	11	This is the random number database used to make all 'random' decisions in the model.	426
LTC2.CON[1]	12	This is the job control file, used to control user-variable aspects of the simulation. See Section 6 for more details	1
DISLIFE.NEW[2]	17	These are purchase probability tables. Probabilities are presented by age, premium to income ratio, and disabled/non-disabled.	8
DB.NEW[2]	40	These are death benefit tables by issue age, attained age and 12 options.	68
RPU.NEW[2]	41	These are reduced paid-up options tables by issue age, duration and indexing.	9
PRE.NEW[2]	42	These are monthly premium rates by option, issue age and employment status.	9
LAPSE.NEW[2]	43	These are pension lapse rates by policy year, age group, and type of pension.	8
BASE.PRB[1]	67	This is the parameter file in which the user can define insurance, public policy, deductibles, and many other options. If altered, it should be saved under a different name.	84
ASSET1A.DAT[1]	80	This is the first of three asset databases. Assets are stored by age, marital status, and pension status, and are assigned by income level. These asset tables were created from the 1984 Survey of Income and Program Participation. This file contains assets for age group 65-67.	85
ASSET2A.DAT[1]	81	This is the asset database for age group 68-74.	85
ASSET3A.DAT[1]	82	This is the asset database for age group 75+.	85
HOME1A.DAT[1]	83	This is the first of three home equity databases. Data are stored in the same format as asset database above. These tables were created from the 1984 SIPP. This file contains home equities for the 65-67 age group.	85
HOME2A.DAT[1]	84	This is the home equity database for age group 68-74.	85
HOME3A.DAT[1]	85	This is the home equity database for age group 75+.	85
PROB1A.DAT[1]	86	This is the first of three probability databases. These probability tables are stored by age, marital status, pension status and income level. These tables are used to assign the financial and home equity assets described above. This file contains probabilities for age group 65-67.	85
PROB2A.DAT[1]	87	This is the probability database for age group 68-74.	85
PROB3A.DAT[1]	88	This is the probability database for age group 75+.	85
(1) = Required dataset (2) = Optional dataset (depends on input parameters)			

III. OUTPUT DATAFILES

Table 4 contains a listing and description of each output datafile the model creates.

Dataset Name	Unit Number	Description	Size (kBytes)
BASE.PRT	6	This file contains various information about the run including dumps of setup variables.	292
BASE.OUT	10	This is an optional output datafile which contains annual information for each person in the database.	60,000
BASE.TAB	20	This file contains the output tables from the run.	2,550
BASE.DMP	21	This is a dump of annual person, nursing home, and non-institutional data for the first 100 persons who receive services.	292
(1) = Dataset names used here are examples only.			

TABLE 4. Summary of Model Output Files[1]

IV. RUNNING THE MODEL

A. Preparing to Run the Model

The Brookings/ICF Long Term Financing Model is composed of 80 subroutines. In order to run the model, each subroutine must be compiled and linked into an executable module. This can either be done by 1) compiling each subroutine separately and then link-editing all the routines together, 2) or by combining all the subroutines into one file and compiling and linking that one file.

All the input datasets indicated as required [(1) = required dataset] in Table 2 must be available to the model when it begins running. In addition, any of the optional datasets called for in the parameter file must also be available. The output files from the model require approximately three megabytes of disk space, excluding the optional output datafile (see unit number 10 in Table 4). Approximately six megabytes of disk space are required to store both the input data bases and the output table file.

Finally, one tape drive is needed to read the input data base. See Attachment Six for a discussion of the cost of running the model at the National Institute on Health Computer Center.

B. Running the Model

Link-editing and executing this model requires approximately five megabytes of memory. Required run-time of the model depends on the type of computer being used. For example, cpu time on a VAX 8650 is approximately 95 minutes, and on an IBM 3090E cpu time is approximately 15 minutes. If the replacement population option is specified, these run times are approximately doubled.

Table 5 shows an example JCL batch file to execute the model on an IBM 3090E. Table 6 shows the equivalent DCL code to run the model on a VAX system.

TABLE 5. Example JCL for Model Execution
//IIILTC JOB (AAAA,406,C,40000,2000),YOURNAME
/*KEYWORD=ZZZ
/*ROUTE PRINT HOLD
/*NOTIFY III
/*ROUTE XEQ TAPE
/*ROUTE XEQ VECTOR
/*MESSAGE 012345,R;
/*DISCOUNT
//S1 EXEC FORVCOMP, CORE=4500K,
// OPTIONS='OPT(3),VECTOR,NOMAP,NOXREF,NOSOURCE'
//COMP.SYSIN DD DSN=AAAAIII.LTC2N.FORT,DISP=SHR,
//UNIT=FILE,FOL=SER=FILE37

TABLE 5 (*continued*)

```
//S2 EXEC FORVLKGO
//LOAD.SYSLIN DD
//DD DSN=AAAAIII.OBJLIB(RDCH77),DISP=SHR,UNIT=FILE,VOL=SER=FILE37
//DD DSN=AAAAIII.OBJLIB(RJS201),DISP=SHR,UNIT=FILE,VOL=SER=FILE37
//DD DSN=AAAAIII.OBJLIB(SETX),DISP=SHR,UNIT=FILE,VOL=SER=FILE37
//GO.FT08F001 DD DSN=AAAAIII.TAXR.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//GO.FT09F001 DD DSN=AAAAIII.FAMILIFE1.DATA,DISP=(OLD,KEEP),
// UNIT=3480,VOL=SER=012345,LABEL=(1,SL,,IN),
// DCB=(RECFM=VB,LRECL=30404,BLKSIZE=30408)
//GO.FT12F001 DD DSN=AAAAIII.LTC2.CON,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//GO.FT20F001 DD DSN=AAAAIII.BASE.TAB,DISP=(NEW,KEEP),
// UNIT=FILE,VOL=SER=FILE37,SPACE=(TRK,(80,2),RLSE),
// DCB=(LRECL=133,RECFM=FB,BLKSIZE=13300)
//GO.FT21F001 DD DSN=AAAAIII.BASE.DMP,DISP=(NEW,KEEP),
// UNIT=FILE,VOL=SER=FILE37,SPACE=(TRK,(80,2),RLSE),
// DCB=(LRECL=80,RECFM=FB,BLKSIZE=8000)
//GO.FT67F001 DD DSN=AAAAIII.BASE.PRB,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//GO.FT80F001 DD DSN=AAAAIII.ASSET1A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT81F001 DD DSN=AAAAIII.ASSET2A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT82F001 DD DSN=AAAAIII.ASSET3A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT83F001 DD DSN=AAAAIII.HOME1A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT84F001 DD DSN=AAAAIII.HOME2A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT85F001 DD DSN=AAAAIII.HOME3A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT86F001 DD DSN=AAAAIII.PROB1A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT87F001 DD DSN=AAAAIII.PROB2A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT88F001 DD DSN=AAAAIII.PROB3A.DAT,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT11F001 DD DSN=AAAAIII.RANDOM.NUM,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT03F001 DD DSN=AAAAIII.NATADJ.DAT,DIS=SHR,
// UNIT=FILE,VOL=SER-FILE37
//GO.FT04F001 DD DSN=AAAAIII.NIHPROB4.PRN,DISP=SHR,
// UNIT=FILE,VOL=SER-FILE37
```

TABLE 6. Example DCL for Model Execution

```
$PMOUNT PAC1
$@LTCLINK
$PURGE
$ON ERROR THEN GOTO FIXUP
$ON CONTROL_C THEN GOTO FIXUP
$ASSIGN NATADJ.DAT FOR003
$ASSIGN NIHPROB4.PRN FOR004
$ASSIGN BASE.PRT FOR006
$ASSIGN SYS$OUTPUT FOR007
$ASSIGN TAXR.DAT FOR008
$ASSIGN PAC1:BLOCK1.DAT FOR009
$!ASSIGN BASE.OUT FOR010
$ASSIGN LTC2.CON FOR012
$ASSIGN BASE.TAB FOR020
$ASSIGN BASE.DMP FOR021
$ASSIGN BASE.PRB FOR067
$ASSIGN ASSET1A.DAT FOR080
$ASSIGN ASSET2A.DAT FOR081
$ASSIGN ASSET3A.DAT FOR082
$ASSIGN HOME1A.DAT FOR083
$ASSIGN HOME2A.DAT FOR084
$ASSIGN HOME3A.DAT FOR085
$ASSIGN PROB1A.DAT FOR086
$ASSIGN PROB2A.DAT FOR087
$ASSIGN PROB3A.DAT FOR088
$ASSIGN RANDOM.NUM FOR011
$RUN LTC2
$FIXUP:
$ON ERROR THEN GOTO END
$DEASSIGN ALL
$END:
$PURGE
$PRINT BASE.TAB
$PRINT BASE.DMP
```

V. JOB CONTROL FILE

The job control file is a small ASCII file that contains important parameters used to control the simulation. Table 7 shows an example job control file, and each of the 11 parameters in the file are described below.

TABLE 7. Sample Job Control File	
1	IPART: SAMPLE RUN (1 = RUN WHOLE DBASE, 4=RUN 25%)
0	IWRITE: WRITE OUT THE OUTPUT FILE (0=NO, 1=YES)
0	ICASE: SPECIAL CASE FLAG (0 = NO SPECIAL CASE)
0	IHMTOS: COVERT HOME EQUITY (0=NO, 1 = YES)
1.0	SSILEV: SSI LEVEL MULTIPLIER FOR TRANSFER OF INCOME
2	IBASE: BASE CASE (0=PRE 1989, 1 = 1989, 2=POST 1989)
0	IPDMP: RECORD DUMP (0=NO, 1= DUMP 150 RECORDS)
999999	IMAX: NUMBER OF RECORDS TO PROCESS
0	LVLTST: LEVEL OF TESTING (LEAVE AT 0)
0	IHAW: <25 REPLACE POP (0=NO, 1 =HAWAII, 2=NATIONAL)
2	IIT: NUMBER OF ITERATIONS (2 = STANDARD RUN)

IPART: This parameter controls what proportion of the database will actually be run through the simulation. Entering a 1 indicates that the entire database will be used. (For example, entering a 2 will instruct the program to perform the simulation on every second record, and multiply each persons weight by 2. Entering a 3 will instruct the program to perform the simulation on every third record, and multiply each persons weight by 3, etc.). This parameter is normally set equal to 1.

IWRITE: This parameter is an on/off switch for the output datafile attached to unit number 10 (see Table 4). Entering 0 will prevent file creation, 1 will enable it. This parameter is normally set to 0.

ICASE: This parameter is used for programs that can not be simulated using the available input parameters and requires "hard-coding" into the model. Currently, cases 1 through 18 are defined in the model and should not be re-used. For simulations defined using parameters only, this parameter should be set to 0.

IHMTOS: This parameter was included for a special case scenario that involved conversion of home equity to financial assets. Should be set to 0.

SSILEV: This parameter is a multiplier that is applied to the SSI level for transfer of income from nursing home residents to their spouses. (For example, 1.0

means transfer income at SSI income level, while 2.0 means transfer at 2.0 times the SSI income level). This parameter only applies to simulations using the pre-1989 (catastrophic coverage act) scenario, and should therefore be set to 1.0 when the parameter [BASE is greater than 0 (see below).

IBASE: This parameter determines how the model deals with spousal impoverishment scenarios. Entering 0 will cause the model to use the pre-1989 conditions for the entire simulation period. Entering a 1 will cause the model to use the spousal impoverishment conditions in the 1989 Catastrophic Coverage Act for years 1989 through 2020. Entering a 2 will cause the model to use the Catastrophic Coverage Act for 1989, and then to use only the non-repealed portions of the Act for years 1990 through 2020. All future simulations should be run with this parameter set to 2.

IPDMP: This parameter is used to dump out 150 records into the file attached to unit 21 (see Table 4). These records are used for debugging purposes only, and therefore this parameter should be set to 0 for all runs.

IMAX: This parameter sets the maximum number of input records to process through the simulation. To process the entire database, enter a large number (e.g. 999999). IMAX should be set to a smaller number for test cases.

LVLTST: This parameter is used for model debugging. Setting it to any number above 0 will cause large amount of intermediate data to be dumped to files attached to unit 6 and 21. LVILTST should be set to 0.

IHAW: This parameter determines whether or not a synthetic replacement population is generated for persons under the age of 25 in 1979. These persons are not included in the original database, as they would not reach age 65 before the end of the simulation. However, some insurance scenarios may require this population to be available for premium payment. Entering 0 will cause no population replacement. Entering 1 will invoke population replacement and a reweighting of the database to simulation Hawaii's population and demographics. Entering a 2 will invoke population replacement at a national level.

IIT: This parameter determines the number of iterations of the model (i.e. how many times each input record is passed through the simulation). During each iteration, the input record is processed with a different set of "random" numbers, effectively increasing the size of the sample population and reducing problems with small cell sizes in some of the output tables, but at the expense of increase CPU requirements for running the model. A standard run uses 2 iterations on each record.

VI. UTILITY PROGRAMS

Two utility programs, CHEKFL and TABLE2, are available to assist the user in the parameter setup and analysis of the model output. These utilities are described below.

A. CHEKFL

The CHEKFL program is a utility that allows the user to compare two input parameter files and report on any differences between them. The input parameter file is a fairly large file and when running multiple scenarios it sometimes may become difficult to check that only the desired parameters have been changed between two runs. CHEKFL can be used to compare the parameters for a new simulation against the base case or against a previous simulation scenario.

In addition, CHEKFL performs all logic, total, and data range checks on the input parameters that are required for a full model run. Sample JCL and DCL files to setup and run CHEKFL are shown in Table 8.

TABLE 8. Sample Command Files for CHEKFL	
Sample JCL	Sample DCL

//PR4LTC JOB (VWA1,406,A),YOURNAME
/*KEYWORD=ZZZ
/*ROUTE PRINT HOLD
/*NOTIFY III
//S1 EXEC
FORVCOMP,OPTIONS='NOMAP,NOXREF,NOSOURCE'
//COMP.SYSIN DD DSN=AAAAIII.CHEKFL.FOR,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//S2 EXEC FORVLKGO
//GO.FT04F001 DD DSN=AAAAIII.NIHPROB4.PRN,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//GO.FT67F001 DD DSN=AAAAIII.BASE1.PRB,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//GO.FT68F001 DD DSN=AAASZ4.BASE2.PRB,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//GO.FT20F001 DD DSN=AAAAIII.OUTPUTA.DAT,DISP=(NEW,KEEP),
// UNIT=FILE,VOL=SER=FILE37,SPACE=(TRK,(80,2),RLSE),
// DCB=(LRECL=133,RECFM=FB,BLKSIZE=13300)
//GO.FT21F001 DD DSN=AAAAIII.OUTPUT2.DAT,DISP=(NEW,KEEP),
// UNIT=FILE,VOL=SER=FILE37,SPACE=(TRK,(80,2),RLSE),
// DCB=(LRECL=80,RECFM=FB,BLKSIZE=8000)
	$ ASSIGN BASE1.PRB FOR067
	$ ASSIGN BASE2.PRB FOR068
	$ ASSIGN OUTPUT1.DAT FOR020
	$ ASSIGN OUTPUT2.DAT FOR021
	$ ASSIGN NIHPROB4.PRN FOR004
	$ RUN CHEKFL
	$ PUR OUTPUT*.DAT

B. TABLE2

The TABLE2 utility program allows the user to define and extract a set of tables from the large table output file. The extracted file can be printed on the host computer, or download to a PC and printed locally. There is also an option to create a file that can be imported directly into a PC spreadsheet program.

A sample input control file for TABLE2 is shown in Table 9. The first line determines whether or not the optional Lotus readable output file is created (0=no, 1 =yes). The next lines are a list of the tables which are to be extracted (a maximum of 10 lines). The program reads in these lines and searches the table file for exact character string matches, and then copies the following records until the end of the current page is reached.

For example, entering TABLE 1 in the input file would cause the output of tables 1, 10, 11, 12, 13, ...,19. If you wanted table 1 only, you would enter TABLE 1# (the # identifier only works for tables 1-9). Table 10 shows example JCL and DCL files for compiling, linking, and executing the program.

TABLE 9. Input Parameters for the TABLE2 Utility
0 TABLE 1# TABLE 2# TABLE 11 TABLE 12 TABLE 41.1.3 TABLE PJE4

TABLE 10. Sample JCL and DCL for TABLE2	
JCL	**DCL**

//PR4LTC JOB (VWA1,406,A),YOURNAME
/*KEYWORD=ZZZ
/*ROUTE PRINT HOLD
/*NOTIFY III
//S1 EXEC FORVCOMP,OPTIONS='NOMAP,NOXREF,NOSOURCE'
//COMP.SYSIN DD DSN=AAAAIII.TABLE2.FOR,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//S2 EXEC FORVLKGO
//GO.FT08F001 DD DSN=AAAAIII.BASE.TAB,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//GO.FT11F001 DD DSN=AAAAIII.TABLE2.INP,DISP=SHR,
// UNIT=FILE,VOL=SER=FILE37
//GO.FT09F001 DD DSN=AAAAIII.BASE.TB1,DISP=(NEW,KEEP),
// UNIT=FILE,VOL=SER=FILE37,SPACE=(TRK,(80,2),RLSE),
// DCB=(LRECL=133,RECFM=FB,BLKSIZE=13300)
//GO.FT10F001 DD DSN=AAAAIII.BASE.WK0,DISP=(NEW,KEEP),
// UNIT=FILE,VOL=SER=FILE37,SPACE=(TRK,(80,2),RLSE),
// DCB=(LRECL=80,RECFM=FB,BLKSIZE=8000)
	$LINK TABLE2,IOUTIL/LIB
	$ASSIGN BASE.TAB FOR008
	$ASSIGN BASE.TB1 FOR009
	$ASSIGN BASE.WK0 FOR010
	$ASSIGN TABLE2.INP FOR011
	$ASSIGN SYS$OUTPUT FOR007
	$RUN TABLE2
	$ DEASSIGN FOR007
	$ DEASSIGN FOR008
	$ DEASSIGN FOR009
	$ DEASSIGN FOR010
	$ DEASSIGN FOR011

VII. GENERATING A PERSON LEVEL FILE FOR TABULATIONS

The output dataset BASE.OUT may be converted into an ASCII/EBCIDIC person level file which can be used to produce additional tabulations. BASEOUT is written by the subroutine WRITR and is only produced when specified in the Job Control File through the parameter IWRITE. LTCCONV.FOR is a FORTRAN program that transforms arrays from BASE.OUT into a single record for every year after a person turns age 65 with demographic, economic, and long term care use information. The record layout for the converted database is shown in Table 11.

TABLE 11. Record Layout for Output Data File			
Variable	Length	Field	Variable Definitions
Demographic Variables			

1	1	1	RACE
			    1 = White
			    2 = Nonwhite

2	1	2	SEX
			    1 = Male
			    2 = Female

3	3	3-5	AGEDTH Age in last year alive (65: 108)
4	10	6-15	WEIGHT Sample weight to be used in all tabulations
5	3	16-18	AGE Age of individual in simulation year (65: 108)

6	1	19	MARIT
			    Marital Status
			    1 = Married
			    2 = Unmarried

7	1	20	DISAB
			    Disability status in year
			    1 = Disabled
			    2 = Not Disabled

8	4	21-24	YEAR Year of simulation (1986: 2020)
Family Income Variables (in 1989 $s)			
9	5	25-29	POV Total family income as a percent of the poverty threshold in year
10	10	30-39	FEARN Family earnings income in year
11	10	40-49	FPEN Family pension income in year
12	10	50-59	FIRA Family IRA income in year
13	10	60-69	FSOC Family social security income in year

TABLE 11 (*continued*)			
Variable	Length	Field	Variable Definition
14	10	70-79	FASSINC Family income from financial assets in year
15	10	80-89	FSSI Family income from SSI and state supplements in year
Individual Income Variables (in 1989 $s)			
16	10	90-99	IEARN Individual earnings income in year
17	10	100-109	IPEN Individual pension income in year
18	10	110-119	IIRA Individual IRA income in year
19	10	120-129	ISOC Individual social security income in year
20	10	130-139	IASSET Individual income from assets in year
21	10	140-149	ISSI Individual income from SSI and state supplements in year
Family Assets Variables (in 1989 $s) ***** Family assets at end of year *****			
22	10	150-159	FASSET Value of family financial assets in year (non-housing assets)
23	10	160-169	HASSET Value of family equity in home 0 = Non-homeowner $\geq$ = Homeowner
Utilization of Institutional Care			
24	3	170-172	IDAYS Days of institutional care in year
25	1	173	ISTART 0 = Not in institution 1 = Admitted to institution in year 2 = Discharged during year 3 = Both admitted and discharged during year 4 = Other institutionalized
26	1	174	ITERM Nursing home visit will terminate as: 0 = Not in institution 1 = Death termination 2 = Live termination
27	4	175-178	TENURE Days in institution from date of admissions through end of year
28	4	179-182	LENGTH Total length of stay: i.e., days in institution from date admitted through day of discharge
Insitutional Expenses During Year (in 1989 ($s) ***** Includes institutional expenses from start of year through end of year *****			
29	5	183-87	IMCRYR Amount paid by Medicare in year
30	5	188-192	IMCDYR Amount paid by Medicaid in year

TABLE 11 (*continued*)			
Variable	**Length**	**Field**	**Variable Definition**
31	5	193-197	IOPCYR Amount paid out-of-pocket from cash resources <u>in year</u>
32	5	198-202	IOPAYR Amount paid out-of-pocket from asset resources <u>in year</u>
33	5	203-207	ILTCYR Amount paid by long-term care insurance <u>in year</u> (this will always be zero in the base case)
Institutional Expenses Through End of Year (in 1989 $s) *** Includes institutional expenses from date of admission through end of year ***			
34	6	208-213	IMCRTD Amount paid by Medicare through <u>end of year</u>
35	6	214-219	IMCDTD Amount paid by Medicaid through <u>end of year</u>
36	6	220-225	IOPCTD Amount paid out-of-pocket from cash resources through <u>end of year</u>
37	6	226-231	IOPATD Amount paid out-of-pocket from assets through <u>end of year</u>
38	6	232-237	ILTCTD Amount paid by long-term care insurance through <u>end of year</u> (this will always be zero in the base case)
Institutional Expenses from Duration of Visit (in 1989 $s) **Includes expenses for instituional care from date of admission through date of discharge**			
39	6	238-243	IMCR Amount paid by Medicare for <u>entire visit</u>
40	6	244-249	IMCD Amount paid by Medicaid for <u>entire visit</u>
41	6	250-255	IOPC Amount paid out-of-pocket from cash resources for <u>entire visit</u>
42	6	256-261	IOPA Amount paid out-of-pocket from asset resources for <u>entire visit</u>
43	6	262-267	ILTC Amount paid by long-term care insurance for <u>entire visit</u> (this will always be zero in the base case)
Utilization of Non-Institutional Care			
44	3	268-270	FDAYS Days of formal care <u>in year</u>
45	3	271-273	INDAYS Days of informal care <u>in year</u>
46	3	274-276	FVISITS Number of formal visits <u>in year</u>
47	3	277-279	INVISITS Number of informal visits <u>in year</u>
48	1	280	NSTART 0 = Not receiving non-institutional care 1 = Started receiving care in year 2 = Care terminates in year 3 = Care both starts and terminates during year 4 = Other recipients of non-institutional care

TABLE 11 (*continued*)			
Variable	Length	Field	Variable Definition
49	1	281	NTERM Non-institutional care will terminate as: 0 = Not receiving non-institutional services 1 = Death termination 2 = Live termination 3 = Enters nursing home
50	4	282-285	FTEN Days receiving formal non-institutional care from date care starts through <u>end of year</u>
51	4	286-289	INTEN Days receiving informal non-institutional care from date care starts through <u>end of year</u>
52	5	290-294	FVTEN Formal care visits from date care starts through <u>end of year</u>
53	5	295-299	INVTEN Informal care visits from date care starts through <u>end of year</u>
54	5	300-304	FLEN Duration of formal care: i.e., days receiving formal care from date care starts through date care terminates
55	5	305-309	INLEN Duration of informal care: i.e., days receiving informal care from date care starts through date care terminates
56	5	310-314	FVTOT Total formal care visits from the date formal care starts through the date care terminates
57	5	315-319	INVTOT Total informal care visits from the date informal care starts through the date care terminates
Non-institutional Expenses During Year (in 1989 $s) *** Includes non-institutional expenses from start of year through end of year ***			
58	5	320-324	NMCRYR Amount paid by Medicare <u>in year</u>
59	5	325-329	NMCDYR Amount paid by Medicaid <u>in year</u>
60	5	330-33	NOPCYR Amount paid out-of-pocket from cash resources <u>in year</u>
61	5	335-339	NOPAYR Amount paid out-of-pocket from asset resources <u>in year</u>
62	5	340-344	NLTCYR Amount paid by long-term care insurance <u>in year</u> (zero in base case)
63	5	345-349	NOTHYR Amount paid by other sources <u>in year</u>
Non-Institutional Expenses Through End of Year (in 1989 $s) *** Includes non-institutional expenses from the date care started through the end of year ***			
64	6	350-355	NMCRTD Amount paid by Medicare through <u>end of year</u>
65	6	356-361	NMCDTD Amount paid by Medicaid through <u>end of year</u>
66	6	362-367	NOPCTD Amount paid out-of-pocket from cash resources through <u>end of year</u>

Variable	Length	Field	Variable Definition
			TABLE 11 (*continued*)
67	6	368-373	NOPATD Amount paid out-of-pocket from asset resources through <u>end of year</u>
68	6	374-379	NLTCTD Amount paid by long-term care insurance through <u>end of year</u> (zero in base case)
69	6	380-385	NOTHTD Amount paid by other sources through <u>end of year</u>
			Non-institutional Expenses for Duration of Visit (in 1989 $s) ***** Includes non-institutional expenses from the date care started through the date care terminated *****
70	6	386-391	NMCR Amount paid by Medicare for entire visit
71	6	392-397	NMCD Amount paid by Medicaid for entire visit
72	6	398-403	NOPC Amount paid out-of-pocket from cash resources for <u>entire visit</u>
73	6	404-409	NOPA Amount paid out-of-pocket from asset resources for <u>entire visit</u>
74	6	410-415	NLTC Amount paid by long-term care insurance for <u>entire visit</u> (zero in base case)
75	6	416-421	NOTH Amount paid by other sources for <u>entire visit</u>
			Family Tax Payments in Year (in 1989 $s)
76	10	422-431	FEDTAX Federal income tax payments
77	10	432-441	STATETAX State income tax payments
78	10	442-451	LTCAMT Amount of LTC funding specific
			Additional Income and Asset Variables (in 1989 $s) ***** Values at entry to LTC *****
79	10	452-461	BNHINC Family income at entry to nursing home
80	10	462-471	BNHAST Family financial assets at entry to nursing home
81	10	472-481	BHHAST Family income at entry to home health
82	10	482-491	BHHAST Family financial assets at entry to home health
83	3	492-494	SPAGE Age of spouse

ATTACHMENT 1. DISLIFE.NEW

Purchase probability tables. Probabilities by age and premium to income ratio, for disability based products and life insurance based products.

Premium to Income Ratio	Age Bracket										
TABLE 1.1. Purchase Probabilities: Disability Based Probability of Purchase											
	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-80
0 to .01	0.00288	0.00627	0.01141	0.01809	0.02676	0.03838	0.05374	0.07220	0.09766	0.13143	0.18268
.01 to .02	0.00067	0.00179	0.00500	0.01108	0.01838	0.02654	0.04032	0.04954	0.07021	0.10230	0.13607
.02 to .03	0.00019	0.00064	0.00171	0.00173	0.00488	0.01117	0.02573	0.04238	0.03480	0.07336	0.09830
.03 to .04	0.00002	0.00001	0.00025	0.00057	0.00377	0.00287	0.00417	0.00691	0.01577	0.02575	0.02950
.04 to .05	0.00001	0.00001	0.00000	0.00003	0.00000	0.00038	0.00136	0.00103	0.00243	0.00855	0.00642
.05 to .06	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00012	0.00000	0.00016	0.00000	0.00000
.06 to .07	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00012	0.00000	0.00016	0.00000	0.00000
.07 to .08	0.00000	0.00000	0.00000	0.00000	0.00002	0.00000	0.00000	0.00000	0.00001	0.00011	0.00000
.08 to .09	0.00000	0.00000	0.00000	0.00000	0.00009	0.00000	0.00000	0.00000	0.00000	0.00033	0.00026
.09 to .10	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
.10 to .11	0.00000	0.00000	0.00001	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
.11 to .12	0.00000	0.00000	0.00000	0.00003	0.00010	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
.12 to .13	0.00000	0.00000	0.00000	0.00002	0.00029	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000
.13 to .14	0.00000	0.00000	0.00000	0.00001	0.00022	0.00024	0.00000	0.00000	0.00000	0.00000	0.00000
.14 to .15	0.00000	0.00000	0.00000	0.00000	0.00004	0.00014	0.00002	0.00000	0.00000	0.00000	0.00002
.15 to .16	0.00000	0.00000	0.00000	0.00000	0.00004	0.00014	0.00002	0.00000	0.00000	0.00000	0.00002
.16 to .17	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00003	0.00005	0.00001	0.00000
.17 to .18	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00005	0.00002	0.00000	0.00000
.18 to .19	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00010	0.00001	0.00000	0.00000
.19 to .20	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00012	0.00000	0.00000	0.00000
.20 to .21	0.00002	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00011	0.00002	0.00000	0.00000
.21 to .22	0.00003	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00005	0.00004	0.00000	0.00000
.22 to .23	0.00002	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000
.23 to .24	0.00002	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00002	0.00000	0.00000
.24 to .25	0.00002	0.00002	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00003	0.00004	0.00000
.25 to .26	0.00002	0.00002	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00005	0.00043	0.00050
.26 to .27	0.00001	0.00002	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00005	0.00072	0.00129
.27 to .28	0.00001	0.00002	0.00001	0.00001	0.00000	0.00000	0.00000	0.00000	0.00005	0.00090	0.00189
.28 to .29	0.00000	0.00001	0.00001	0.00001	0.00000	0.00000	0.00000	0.00000	0.00005	0.00103	0.00230
.29 or more	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00007	0.00138	0.00326

Premium to Income Ratio	Age Bracket										
	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-80
0 to .01	0.00001	0.00014	0.00061	0.00149	0.00259	0.00362	0.00418	0.00393	0.00250	0.00026	0.00000
.01 to .02	0.00002	0.00002	0.00002	0.00004	0.00004	0.00007	0.00007	0.00020	0.00044	0.00015	0.00011
.02 to .03	0.00029	0.00031	0.00027	0.00016	0.00014	0.00006	0.00013	0.00014	0.00023	0.00023	0.00023
.03 to .04	0.00021	0.00074	0.00098	0.00119	0.00060	0.00030	0.00038	0.00087	0.00125	0.00019	0.00025
.04 to .05	0.00009	0.00043	0.00144	0.00181	0.00224	0.00174	0.00251	0.00476	0.00563	0.00160	0.00410
.05 to .06	0.00008	0.00021	0.00160	0.00218	0.00244	0.00145	0.00372	0.00170	0.00164	0.00895	0.01068
.06 to .07	0.00008	0.00021	0.00160	0.00218	0.00244	0.00145	0.00372	0.00170	0.00164	0.00895	0.01068
.07 to .08	0.00011	0.00017	0.00134	0.00195	0.00146	0.00191	0.00496	0.00264	0.00162	0.00435	0.00820
.08 to .09	0.00011	0.00015	0.00086	0.00128	0.00065	0.00201	0.00548	0.00314	0.00222	0.00141	0.00207
.09 to .10	0.00009	0.00012	0.00043	0.00061	0.00037	0.00159	0.00530	0.00321	0.00255	0.00093	0.00099
.10 to .11	0.00007	0.00007	0.00015	0.00024	0.00014	0.00100	0.00452	0.00292	0.00246	0.00068	0.00054
.11 to .12	0.00005	0.00002	0.00001	0.00000	0.00000	0.00055	0.00339	0.00239	0.00207	0.00070	0.00079
.12 to .13	0.00004	0.00001	0.00000	0.00000	0.00000	0.00031	0.00222	0.00176	0.00161	0.00087	0.00129
.13 to .14	0.00004	0.00001	0.00000	0.00000	0.00000	0.00022	0.00130	0.00119	0.00128	0.00107	0.00149
.14 to .15	0.00005	0.00001	0.00000	0.00000	0.00000	0.00011	0.00078	0.00086	0.00108	0.00118	0.00130
.15 to .16	0.00005	0.00001	0.00000	0.00000	0.00000	0.00011	0.00078	0.00086	0.00108	0.00118	0.00130
.16 to .17	0.00005	0.00002	0.00000	0.00000	0.00000	0.00006	0.00056	0.00077	0.00098	0.00119	0.00103
.17 to .18	0.00004	0.00003	0.00001	0.00000	0.00000	0.00006	0.00046	0.00074	0.00096	0.00106	0.00089
.18 to .19	0.00001	0.00007	0.00003	0.00000	0.00000	0.00008	0.00045	0.00073	0.00095	0.00093	0.00099
.19 to .20	0.00000	0.00008	0.00009	0.00001	0.00000	0.00015	0.00050	0.00073	0.00094	0.00093	0.00117
.20 to .21	0.00000	0.00008	0.00014	0.00008	0.00006	0.00026	0.00056	0.00076	0.00095	0.00105	0.00138
.21 to .22	0.00000	0.00006	0.00015	0.00014	0.00015	0.00035	0.00063	0.00080	0.00096	0.00119	0.00159
.22 to .23	0.00000	0.00004	0.00014	0.00018	0.00023	0.00044	0.00067	0.00081	0.00098	0.00131	0.00178
.23 to .24	0.00000	0.00004	0.00014	0.00018	0.00023	0.00044	0.00067	0.00081	0.00098	0.00131	0.00178
.24 to .25	0.00000	0.00002	0.00012	0.00021	0.00028	0.00049	0.00068	0.00080	0.00098	0.00139	0.00192
.25 to .26	0.00000	0.00001	0.00010	0.00022	0.00032	0.00053	0.00067	0.00075	0.00097	0.00144	0.00203
.26 to .27	0.00000	0.00001	0.00009	0.00022	0.00034	0.00053	0.00062	0.00069	0.00094	0.00147	0.00210
.27 to .28	0.00000	0.00001	0.00010	0.00022	0.00035	0.00052	0.00057	0.00063	0.00092	0.00150	0.00216
.28 to .29	0.00000	0.00001	0.00011	0.00023	0.00036	0.00049	0.00050	0.00058	0.00089	0.00151	0.00221
.29 or more	0.00007	0.00009	0.00016	0.00025	0.00036	0.00041	0.00043	0.00052	0.00085	0.00154	0.00235

TABLE 1.2. Life Based Purchase Probabilities

ATTACHMENT 2. DB.NEW

Death benefit tables by issue age, attained age and 12 options.

TABLE 2.1. Death Benefits: Individual Policies, 365-day Lifetime Maximum, and No Indexing								
Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	827	0	0	0	0	0	0	0
26	827	0	0	0	0	0	0	0
27	827	0	0	0	0	0	0	0
28	827	0	0	0	0	0	0	0
29	827	0	0	0	0	0	0	0
30	1,655	0	0	0	0	0	0	0
31	1,655	0	0	0	0	0	0	0
32	1,655	0	0	0	0	0	0	0
33	1,655	0	0	0	0	0	0	0
34	1,655	0	0	0	0	0	0	0
35	2,482	1,019	0	0	0	0	0	0
36	2,482	1,019	0	0	0	0	0	0
37	2,482	1,019	0	0	0	0	0	0
38	2,482	1,019	0	0	0	0	0	0
39	2,482	1,019	0	0	0	0	0	0
40	3,310	2,039	0	0	0	0	0	0
41	3,475	2,243	279	0	0	0	0	0
42	3,641	2,447	558	0	0	0	0	0
43	3,806	2,650	838	0	0	0	0	0
44	3,972	2,854	1,117	0	0	0	0	0
45	4,137	3,058	1,396	0	0	0	0	0
46	4,302	3,262	1,675	0	0	0	0	0
47	4,468	3,466	1,955	0	0	0	0	0
48	4,633	3,670	2,234	0	0	0	0	0
49	4,799	3,874	2,513	0	0	0	0	0
50	4,964	4,078	2,792	0	0	0	0	0
51	5,130	4,281	3,072	426	0	0	0	0
52	5,295	4,485	3,351	852	0	0	0	0
53	5,461	4,689	3,630	1,278	0	0	0	0
54	5,626	4,893	3,909	1,704	0	0	0	0
55	5,792	5,097	4,189	2,131	0	0	0	0
56	5,957	5,301	4,468	2,557	549	0	0	0
57	6,123	5,505	4,747	2,983	1,099	0	0	0

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
58	6,288	5,709	5,026	3,409	1,648	0	0	0
59	6,454	5,913	5,306	3,835	2,197	0	0	0
60	6,619	6,116	5,585	4,261	2,747	0	0	0
61	6,785	6,320	5,864	4,687	3,296	731	0	0
62	6,950	6,524	6,143	5,113	3,846	1,461	0	0
63	7,116	6,728	6,423	5,540	4,395	2,192	0	0
64	7,281	6,932	6,702	5,966	4,944	2,923	0	0
65	7,447	7,136	6,981	6,392	5,494	3,653	0	0
66	6,851	6,606	6,534	6,136	5,439	3,946	909	0
67	6,222	6,035	6,032	5,795	5,274	4,092	1,616	0
68	5,560	5,423	5,473	5,369	4,999	4,092	2,122	0
69	4,865	4,771	4,859	4,858	4,615	3,946	2,425	0
70	4,137	4,078	4,189	4,261	4,120	3,653	2,526	0
71	3,376	3,344	3,463	3,579	3,516	3,215	2,425	565
72	2,581	2,569	2,681	2,812	2,802	2,630	2,122	847
73	1,754	1,753	1,843	1,960	1,978	1,900	1,616	847
74	894	897	949	1,023	1,044	1,023	909	565
75	0	0	0	0	0	0	0	0

TABLE 2.1 (*continued*)

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	938	0	0	0	0	0	0	0
26	938	0	0	0	0	0	0	0
27	938	0	0	0	0	0	0	0
28	938	0	0	0	0	0	0	0
29	938	0	0	0	0	0	0	0
30	1,877	0	0	0	0	0	0	0
31	1,877	0	0	0	0	0	0	0
32	1,877	0	0	0	0	0	0	0
33	1,877	0	0	0	0	0	0	0
34	1,877	0	0	0	0	0	0	0
35	2,815	1,229	0	0	0	0	0	0
36	2,815	1,229	0	0	0	0	0	0
37	2,815	1,229	0	0	0	0	0	0
38	2,815	1,229	0	0	0	0	0	0
39	2,815	1,229	0	0	0	0	0	0
40	3,754	2,459	0	0	0	0	0	0
41	3,941	2,705	361	0	0	0	0	0
42	4,129	2,951	722	0	0	0	0	0
43	4,317	3,196	1,083	0	0	0	0	0
44	4,504	3,442	1,444	0	0	0	0	0
45	4,692	3,688	1,805	0	0	0	0	0
46	4,880	3,934	2,166	0	0	0	0	0
47	5,067	4,180	2,528	0	0	0	0	0
48	5,255	4,426	2,889	0	0	0	0	0
49	5,443	4,672	3,250	0	0	0	0	0
50	5,630	4,918	3,611	0	0	0	0	0
51	5,818	5,163	3,972	586	0	0	0	0
52	6,006	5,409	4,333	1,172	0	0	0	0
53	6,193	5,655	4,694	1,758	0	0	0	0
54	6,381	5,901	5,055	2,344	0	0	0	0
55	6,569	6,147	5,416	2,930	0	0	0	0
56	6,756	6,393	5,777	3,516	778	0	0	0
57	6,944	6,639	6,138	4,103	1,556	0	0	0
58	7,132	6,885	6,499	4,689	2,334	0	0	0
59	7,320	7,131	6,861	5,275	3,112	0	0	0
60	7,507	7,376	7,222	5,861	3,890	0	0	0
61	7,695	7,622	7,583	6,447	4,668	1,058	0	0

TABLE 2.2. Death Benefits: Individual Policies, 730-Day Lifetime Maximum, and No Indexing

Attained	Issue Age							
Age	20	30	40	50	55	60	65	70
62	7,883	7,868	7,944	7,033	5,446	2,116	0	0
63	8,070	8,114	8,305	7,619	6,224	3,174	0	0
64	8,258	8,360	8,666	8,205	7,002	4,233	0	0
65	8,446	8,606	9,027	8,791	7,780	5,291	0	0
66	7,770	7,967	8,449	8,440	7,702	5,714	1,344	0
67	7,057	7,278	7,799	7,971	7,468	5,926	2,388	0
68	6,306	6,540	7,077	7,385	7,079	5,926	3,135	0
69	5,518	5,754	6,283	6,681	6,535	5,714	3,583	0
70	4,692	4,918	5,416	5,861	5,835	5,291	3,732	0
71	3,829	4,032	4,477	4,923	4,979	4,656	3,583	856
72	2,928	3,098	3,466	3,868	3,968	3,809	3,135	1,283
73	1,989	2,115	2,383	2,696	2,801	2,751	2,388	1,283
74	1,013	1,082	1,228	1,407	1,478	1,481	1,344	856
75	0	0	0	0	0	0	0	0

TABLE 2.2 (*continued*)

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	1,119	0	0	0	0	0	0	0
26	1,119	0	0	0	0	0	0	0
27	1,119	0	0	0	0	0	0	0
28	1,119	0	0	0	0	0	0	0
29	1,119	0	0	0	0	0	0	0
30	2,238	0	0	0	0	0	0	0
31	2,238	0	0	0	0	0	0	0
32	2,238	0	0	0	0	0	0	0
33	2,238	0	0	0	0	0	0	0
34	2,238	0	0	0	0	0	0	0
35	3,357	1,562	0	0	0	0	0	0
36	3,357	1,562	0	0	0	0	0	0
37	3,357	1,562	0	0	0	0	0	0
38	3,357	1,562	0	0	0	0	0	0
39	3,357	1,562	0	0	0	0	0	0
40	4,476	3,124	0	0	0	0	0	0
41	4,700	3,436	488	0	0	0	0	0
42	4,924	3,748	976	0	0	0	0	0
43	5,147	4,061	1,464	0	0	0	0	0
44	5,371	4,373	1,953	0	0	0	0	0
45	5,595	4,685	2,441	0	0	0	0	0
46	5,819	4,998	2,929	0	0	0	0	0
47	6,043	5,310	3,417	0	0	0	0	0
48	6,266	5,622	3,905	0	0	0	0	0
49	6,490	5,935	4,393	0	0	0	0	0
50	6,714	6,247	4,882	0	0	0	0	0
51	6,938	6,560	5,370	827	0	0	0	0
52	7,162	6,872	5,858	1,654	0	0	0	0
53	7,385	7,184	6,346	2,480	0	0	0	0
54	7,609	7,497	6,834	3,307	0	0	0	0
55	7,833	7,809	7,322	4,134	0	0	0	0
56	8,057	8,121	7,811	4,961	1,119	0	0	0
57	8,281	8,434	8,299	5,788	2,238	0	0	0
58	8,504	8,746	8,787	6,614	3,357	0	0	0
59	8,728	9,058	9,275	7,441	4,476	0	0	0
60	8,952	9,371	9,763	8,268	5,594	0	0	0
61	9,176	9,683	10,251	9,096	6,713	1,543	0	0

TABLE 2.3. Death Benefits: Individual Policies, 1,825-Day Lifetime Maximum, and No Indexing

Attained Age	Issue Age							
	20	**30**	**40**	**50**	**55**	**60**	**65**	**70**
62	9,400	9,996	10,740	9,922	7,832	3,086	0	0
63	9,623	10,308	11,228	10,748	8,951	4,629	0	0
64	9,847	10,620	11,716	11,575	10,070	6,172	0	0
65	10,071	10,933	12,204	12,402	11,189	7,715	0	0
66	9,265	10,120	11,423	11,906	11,077	8,333	1,984	0
67	8,415	9,246	10,544	11,244	10,741	8,641	3,528	0
68	7,520	8,309	9,568	10,418	10,182	8,641	4,630	0
69	6,580	7,309	8,494	9,426	9,399	8,333	5,292	0
70	5,595	6,247	7,322	8,268	8,392	7,715	5,512	0
71	4,566	5,123	6,053	6,945	7,161	6,790	5,292	1,279
72	3,491	3,936	4,686	5,457	5,706	5,555	4,630	1,919
73	2,372	2,686	3,222	3,803	4,028	4,012	3,528	1,919
74	1,209	1,374	1,660	1,984	2,126	2,160	1,984	1,279
75	0	0	0	0	0	0	0	0

TABLE 2.3 (*continued*)

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	1,793	0	0	0	0	0	0	0
26	1,793	0	0	0	0	0	0	0
27	1,793	0	0	0	0	0	0	0
28	1,793	0	0	0	0	0	0	0
29	1,793	0	0	0	0	0	0	0
30	4,081	0	0	0	0	0	0	0
31	4,081	0	0	0	0	0	0	0
32	4,081	0	0	0	0	0	0	0
33	4,081	0	0	0	0	0	0	0
34	4,081	0	0	0	0	0	0	0
35	7,002	2,336	0	0	0	0	0	0
36	7,002	2,336	0	0	0	0	0	0
37	7,002	2,336	0	0	0	0	0	0
38	7,002	2,336	0	0	0	0	0	0
39	7,002	2,336	0	0	0	0	0	0
40	10,729	5,317	0	0	0	0	0	0
41	11,590	6,006	587	0	0	0	0	0
42	12,494	6,729	1,203	0	0	0	0	0
43	13,443	7,488	1,850	0	0	0	0	0
44	14,440	8,286	2,529	0	0	0	0	0
45	15,486	9,123	3,242	0	0	0	0	0
46	16,585	10,001	3,991	0	0	0	0	0
47	17,739	10,924	4,778	0	0	0	0	0
48	18,950	11,893	5,603	0	0	0	0	0
49	20,222	12,911	6,470	0	0	0	0	0
50	21,558	13,979	7,381	0	0	0	0	0
51	22,960	15,101	8,337	838	0	0	0	0
52	24,433	16,278	9,340	1,718	0	0	0	0
53	25,979	17,515	10,394	2,642	0	0	0	0
54	27,603	18,814	11,500	3,613	0	0	0	0
55	29,307	20,177	12,662	4,632	0	0	0	0
56	31,097	21,609	13,882	5,701	1,004	0	0	0
57	32,976	23,112	15,163	6,825	2,059	0	0	0
58	34,950	24,690	16,508	8,004	3,166	0	0	0
59	37,022	26,348	17,920	9,242	4,329	0	0	0
60	39,197	28,088	19,403	10,543	5,550	0	0	0
61	41,481	29,915	20,960	11,908	6,832	1,208	0	0

TABLE 2.4. Death Benefits: Individual Policies, 365-Day Lifetime Maximum, and 5%/Year Indexing

Attained Age	Issue Age							
	20	**30**	**40**	**50**	**55**	**60**	**65**	**70**
62	43,880	31,833	22,595	13,342	8,178	2,476	0	0
63	46,398	33,848	24,311	14,847	9,591	3,808	0	0
64	49,043	35,963	26,114	16,428	11,075	5,206	0	0
65	51,820	38,184	28,006	18,087	12,633	6,674	0	0
66	49,261	36,464	26,994	17,847	12,842	7,394	1,334	0
67	46,237	34,371	25,664	17,328	12,790	7,867	2,430	0
68	42,707	31,875	23,989	16,506	12,454	8,073	3,270	0
69	38,631	28,941	21,943	15,359	11,811	7,991	3,832	0
70	33,965	25,535	19,493	13,858	10,837	7,596	4,094	0
71	28,660	21,618	16,609	11,976	9,505	6,864	4,032	740
72	22,667	17,151	13,256	9,683	7,786	5,767	3,620	1,138
73	15,932	12,090	9,396	6,945	5,651	4,279	2,830	1,167
74	8,397	6,390	4,992	3,730	3,067	2,367	1,634	797
75	0	0	0	0	0	0	0	0

Caption: **TABLE 2.4 (*continued*)**

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	2,038	0	0	0	0	0	0	0
26	2,038	0	0	0	0	0	0	0
27	2,038	0	0	0	0	0	0	0
28	2,038	0	0	0	0	0	0	0
29	2,038	0	0	0	0	0	0	0
30	4,640	0	0	0	0	0	0	0
31	4,640	0	0	0	0	0	0	0
32	4,640	0	0	0	0	0	0	0
33	4,640	0	0	0	0	0	0	0
34	4,640	0	0	0	0	0	0	0
35	7,960	2,709	0	0	0	0	0	0
36	7,960	2,709	0	0	0	0	0	0
37	7,960	2,709	0	0	0	0	0	0
38	7,960	2,709	0	0	0	0	0	0
39	7,960	2,709	0	0	0	0	0	0
40	12,197	6,167	0	0	0	0	0	0
41	13,176	6,966	698	0	0	0	0	0
42	14,204	7,804	1,431	0	0	0	0	0
43	15,283	8,685	2,201	0	0	0	0	0
44	16,416	9,610	3,009	0	0	0	0	0
45	17,606	10,580	3,858	0	0	0	0	0
46	18,855	11,600	4,749	0	0	0	0	0
47	20,166	12,670	5,684	0	0	0	0	0
48	21,544	13,794	6,667	0	0	0	0	0
49	22,990	14,974	7,698	0	0	0	0	0
50	24,508	16,213	8,781	0	0	0	0	0
51	26,102	17,514	9,919	1,039	0	0	0	0
52	27,776	18,880	11,113	2,130	0	0	0	0
53	29,534	20,314	12,366	3,276	0	0	0	0
54	31,379	21,820	13,683	4,479	0	0	0	0
55	33,317	23,402	15,065	5,742	0	0	0	0
56	35,352	25,062	16,517	7,068	1,283	0	0	0
57	37,489	26,805	18,041	8,460	2,629	0	0	0
58	39,732	28,636	19,641	9,922	4,043	0	0	0
59	42,087	30,558	21,321	11,457	5,528	0	0	0
60	44,561	32,576	23,085	13,069	7,087	0	0	0
61	47,158	34,695	24,938	14,762	8,720	1,613	0	0

TABLE 2.5. Death Benefits: Individual Policies, 730-Day Lifetime Maximum, and 5%/Year Indexing

TABLE 2.5 (*continued*)								
Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
62	49,884	36,921	26,883	16,539	10,443	3,307	0	0
63	52,747	39,257	28,925	18,405	12,247	5,086	0	0
64	55,754	41,710	31,070	20,365	14,142	6,954	0	0
65	58,910	44,286	33,321	22,422	16,132	8,915	0	0
66	56,002	42,291	32,117	22,124	16,399	9,877	1,869	0
67	52,564	39,864	30,534	21,480	16,332	10,509	3,405	0
68	48,551	36,969	28,542	20,462	15,903	10,785	4,582	0
69	43,917	33,566	26,107	19,039	15,082	10,674	5,370	0
70	38,612	29,615	23,192	17,179	13,838	10,147	5,737	0
71	32,582	25,073	19,761	14,846	12,137	9,168	5,650	1,090
72	25,769	19,892	15,771	12,003	9,943	7,704	5,072	1,676
73	18,112	14,022	11,179	8,610	7,216	5,716	3,966	1,718
74	9,546	7,411	5,939	4,624	3,917	3,162	2,290	1,175
75	0	0	0	0	0	0	0	0

Attained	Issue Age							
Age	20	30	40	50	55	60	65	70

TABLE 2.6. Death Benefits: Individual Policies, 1,825-Day Lifetime Maximum, and 5%/Year Indexing

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	2,689	0	0	0	0	0	0	0
26	2,689	0	0	0	0	0	0	0
27	2,689	0	0	0	0	0	0	0
28	2,689	0	0	0	0	0	0	0
29	2,689	0	0	0	0	0	0	0
30	6,120	0	0	0	0	0	0	0
31	6,120	0	0	0	0	0	0	0
32	6,120	0	0	0	0	0	0	0
33	6,120	0	0	0	0	0	0	0
34	6,120	0	0	0	0	0	0	0
35	10,500	3,712	0	0	0	0	0	0
36	10,500	3,712	0	0	0	0	0	0
37	10,500	3,712	0	0	0	0	0	0
38	10,500	3,712	0	0	0	0	0	0
39	10,500	3,712	0	0	0	0	0	0
40	16,090	8,449	0	0	0	0	0	0
41	17,381	9,544	991	0	0	0	0	0
42	18,737	10,692	2,031	0	0	0	0	0
43	20,160	11,899	3,124	0	0	0	0	0
44	21,655	13,166	4,271	0	0	0	0	0
45	23,224	14,496	5,476	0	0	0	0	0
46	24,872	15,892	6,740	0	0	0	0	0
47	26,602	17,359	8,068	0	0	0	0	0
48	28,419	18,898	9,463	0	0	0	0	0
49	30,326	20,515	10,927	0	0	0	0	0
50	32,329	22,212	12,464	0	0	0	0	0
51	34,432	23,995	14,078	1,517	0	0	0	0
52	36,640	25,866	15,773	3,111	0	0	0	0
53	38,959	27,831	17,553	4,784	0	0	0	0
54	41,394	29,895	19,421	6,540	0	0	0	0
55	43,950	32,061	21,383	8,385	0	0	0	0
56	46,634	34,336	23,444	10,321	1,904	0	0	0
57	49,452	36,725	25,607	12,355	3,903	0	0	0
58	52,411	39,233	27,878	14,490	6,002	0	0	0
59	55,519	41,866	30,263	16,732	8,207	0	0	0
60	58,781	44,631	32,767	19,086	10,521	0	0	0
61	62,207	47,534	35,396	21,557	12,951	2,409	0	0

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
62	65,804	50,583	38,157	24,153	15,503	4,938	0	0
63	69,581	53,784	41,056	26,878	18,182	7,593	0	0
64	73,546	57,145	44,100	29,739	20,995	10,382	0	0
65	77,710	60,674	47,296	32,743	23,949	13,309	0	0
66	73,874	57,941	45,586	32,308	24,345	14,745	2,810	0
67	78,006	61,443	48,757	35,289	27,276	17,650	5,760	0
68	82,344	65,119	52,087	38,419	30,354	20,700	8,857	0
69	86,899	68,980	55,583	41,706	33,585	23,903	12,110	0
70	91,682	73,034	59,254	45,157	36,978	27,266	15,525	0
71	96,704	77,290	63,109	48,780	40,540	30,797	19,111	3,718
72	101,977	81,759	67,156	52,585	44,281	34,505	22,876	7,622
73	107,514	86,451	71,406	56,580	48,209	38,398	26,829	11,721
74	113,327	91,379	75,868	60,775	52,333	42,485	30,980	16,025
75	119,432	96,552	80,553	65,179	56,663	46,777	35,339	20,544

TABLE 2.6 (*continued*)

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	626	0	0	0	0	0	0	0
26	626	0	0	0	0	0	0	0
27	626	0	0	0	0	0	0	0
28	626	0	0	0	0	0	0	0
29	626	0	0	0	0	0	0	0
30	1,253	0	0	0	0	0	0	0
31	1,253	0	0	0	0	0	0	0
32	1,253	0	0	0	0	0	0	0
33	1,253	0	0	0	0	0	0	0
34	1,253	0	0	0	0	0	0	0
35	1,879	808	0	0	0	0	0	0
36	1,879	808	0	0	0	0	0	0
37	1,879	808	0	0	0	0	0	0
38	1,879	808	0	0	0	0	0	0
39	1,879	808	0	0	0	0	0	0
40	2,506	1,615	0	0	0	0	0	0
41	2,631	1,777	231	0	0	0	0	0
42	2,756	1,938	462	0	0	0	0	0
43	2,881	2,100	693	0	0	0	0	0
44	3,007	2,261	924	0	0	0	0	0
45	3,132	2,423	1,155	0	0	0	0	0
46	3,257	2,584	1,386	0	0	0	0	0
47	3,383	2,746	1,617	0	0	0	0	0
48	3,508	2,907	1,848	0	0	0	0	0
49	3,633	3,069	2,079	0	0	0	0	0
50	3,758	3,230	2,310	0	0	0	0	0
51	3,884	3,392	2,541	364	0	0	0	0
52	4,009	3,553	2,772	728	0	0	0	0
53	4,134	3,715	3,003	1,092	0	0	0	0
54	4,260	3,876	3,234	1,456	0	0	0	0
55	4,385	4,038	3,465	1,820	0	0	0	0
56	4,510	4,200	3,696	2,184	476	0	0	0
57	4,635	4,361	3,927	2,548	952	0	0	0
58	4,761	4,523	4,158	2,912	1,428	0	0	0
59	4,886	4,684	4,389	3,276	1,904	0	0	0
60	5,011	4,846	4,620	3,640	2,380	0	0	0
61	5,136	5,007	4,851	4,004	2,856	640	0	0

TABLE 2.7. Death Benefits: Employee Policies, 365-Day Lifetime Maximum, and No Indexing

TABLE 2.7 (*continued*)								
Attained Age	**Issue Age**							
	20	**30**	**40**	**50**	**55**	**60**	**65**	**70**
62	5,262	5,169	5,082	4,368	3,331	1,280	0	0
63	5,387	5,330	5,313	4,731	3,807	1,920	0	0
64	5,512	5,492	5,544	5,095	4,283	2,559	0	0
65	5,638	5,653	5,775	5,459	4,759	3,199	0	0
66	5,187	5,233	5,405	5,241	4,712	3,455	801	0
67	4,711	4,781	4,990	4,950	4,569	3,583	1,424	0
68	4,209	4,296	4,528	4,586	4,331	3,583	1,869	0
69	3,683	3,780	4,019	4,149	3,998	3,455	2,136	0
70	3,132	3,230	3,465	3,640	3,569	3,199	2,225	0
71	2,556	2,649	2,864	3,057	3,046	2,815	2,136	497
72	1,954	2,035	2,218	2,402	2,427	2,303	1,869	745
73	1,328	1,389	1,525	1,674	1,713	1,664	1,424	745
74	677	711	785	874	904	896	801	497
75	0	0	0	0	0	0	0	0

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70

TABLE 2.8. Death Benefits: Employee Policies, 730-Day Lifetime Maximum, and No Indexing

Attained Age	20	30	40	50	55	60	65	70
25	729	0	0	0	0	0	0	0
26	729	0	0	0	0	0	0	0
27	729	0	0	0	0	0	0	0
28	729	0	0	0	0	0	0	0
29	729	0	0	0	0	0	0	0
30	1,458	0	0	0	0	0	0	0
31	1,458	0	0	0	0	0	0	0
32	1,458	0	0	0	0	0	0	0
33	1,458	0	0	0	0	0	0	0
34	1,458	0	0	0	0	0	0	0
35	2,187	1,001	0	0	0	0	0	0
36	2,187	1,001	0	0	0	0	0	0
37	2,187	1,001	0	0	0	0	0	0
38	2,187	1,001	0	0	0	0	0	0
39	2,187	1,001	0	0	0	0	0	0
40	2,916	2,002	0	0	0	0	0	0
41	3,062	2,202	306	0	0	0	0	0
42	3,208	2,402	612	0	0	0	0	0
43	3,353	2,602	918	0	0	0	0	0
44	3,499	2,802	1,224	0	0	0	0	0
45	3,645	3,002	1,531	0	0	0	0	0
46	3,791	3,203	1,837	0	0	0	0	0
47	3,937	3,403	2,143	0	0	0	0	0
48	4,082	3,603	2,449	0	0	0	0	0
49	4,228	3,803	2,755	0	0	0	0	0
50	4,374	4,003	3,061	0	0	0	0	0
51	4,520	4,203	3,367	509	0	0	0	0
52	4,666	4,404	3,673	1,019	0	0	0	0
53	4,811	4,604	3,980	1,528	0	0	0	0
54	4,957	4,804	4,286	2,038	0	0	0	0
55	5,103	5,004	4,592	2,547	0	0	0	0
56	5,249	5,204	4,898	3,056	683	0	0	0
57	5,395	5,404	5,204	3,566	1,366	0	0	0
58	5,540	5,604	5,510	4,075	2,049	0	0	0
59	5,686	5,805	5,816	4,585	2,733	0	0	0
60	5,832	6,005	6,122	5,094	3,416	0	0	0
61	5,978	6,205	6,429	5,603	4,099	936	0	0

TABLE 2.8 (*continued*)								
Attained Age	**Issue Age**							
	20	**30**	**40**	**50**	**55**	**60**	**65**	**70**
62	6,124	6,405	6,735	6,113	4,782	1,872	0	0
63	6,269	6,605	7,041	6,622	5,465	2,808	0	0
64	6,415	6,805	7,347	7,132	6,148	3,744	0	0
65	6,561	7,006	7,653	7,641	6,832	4,680	0	0
66	6,036	6,485	7,163	7,335	6,763	5,054	1,192	0
67	5,482	5,925	6,612	6,928	6,558	5,242	2,119	0
68	4,899	5,324	6,000	6,418	6,217	5,242	2,782	0
69	4,287	4,684	5,326	5,807	5,739	5,054	3,179	0
70	3,645	4,003	4,592	5,094	5,124	4,680	3,311	0
71	2,974	3,283	3,796	4,279	4,372	4,118	3,179	757
72	2,274	2,522	2,939	3,362	3,484	3,370	2,782	1,135
73	1,545	1,721	2,020	2,343	2,459	2,434	2,119	1,135
74	787	881	1,041	1,223	1,298	1,310	1,192	757
75	0	0	0	0	0	0	0	0

TABLE 2.9. Death Benefits: Employee Policies, 1,825-Day Lifetime Maximum, and No Indexing								
Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	895	0	0	0	0	0	0	0
26	895	0	0	0	0	0	0	0
27	895	0	0	0	0	0	0	0
28	895	0	0	0	0	0	0	0
29	895	0	0	0	0	0	0	0
30	1,790	0	0	0	0	0	0	0
31	1,790	0	0	0	0	0	0	0
32	1,790	0	0	0	0	0	0	0
33	1,790	0	0	0	0	0	0	0
34	1,790	0	0	0	0	0	0	0
35	2,686	1,307	0	0	0	0	0	0
36	2,686	1,307	0	0	0	0	0	0
37	2,686	1,307	0	0	0	0	0	0
38	2,686	1,307	0	0	0	0	0	0
39	2,686	1,307	0	0	0	0	0	0
40	3,581	2,614	0	0	0	0	0	0
41	3,760	2,875	423	0	0	0	0	0
42	3,939	3,136	845	0	0	0	0	0
43	4,118	3,398	1,268	0	0	0	0	0
44	4,297	3,659	1,691	0	0	0	0	0
45	4,476	3,920	2,113	0	0	0	0	0
46	4,655	4,182	2,536	0	0	0	0	0
47	4,834	4,443	2,958	0	0	0	0	0
48	5,013	4,704	3,381	0	0	0	0	0
49	5,192	4,966	3,804	0	0	0	0	0
50	5,371	5,227	4,226	0	0	0	0	0
51	5,550	5,489	4,649	728	0	0	0	0
52	5,729	5,750	5,072	1,457	0	0	0	0
53	5,908	6,011	5,494	2,185	0	0	0	0
54	6,087	6,273	5,917	2,913	0	0	0	0
55	6,266	6,534	6,340	3,641	0	0	0	0
56	6,445	6,795	6,762	4,370	992	0	0	0
57	6,624	7,057	7,185	5,098	1,985	0	0	0
58	6,804	7,318	7,608	5,826	2,977	0	0	0
59	6,983	7,579	8,030	6,555	3,969	0	0	0
60	7,162	7,841	8,453	7,283	4,961	0	0	0
61	7,341	8,102	8,875	8,011	5,954	1,375	0	0

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
62	7,520	8,364	9,298	8,739	6,946	2,749	0	0
63	7,699	8,625	9,721	9,468	7,938	4,124	0	0
64	7,878	8,886	10,143	10,196	8,931	5,498	0	0
65	8,057	9,148	10,566	10,924	9,923	6,873	0	0
66	7,412	8,468	9,890	10,487	9,824	7,423	1,769	0
67	6,732	7,736	9,129	9,905	9,526	7,698	3,145	0
68	6,016	6,952	8,284	9,176	9,030	7,698	4,128	0
69	5,264	6,116	7,354	8,302	8,335	7,423	4,717	0
70	4,476	5,227	6,340	7,283	7,442	6,873	4,914	0
71	3,652	4,286	5,241	6,118	6,351	6,048	4,717	1,135
72	2,793	3,293	4,057	4,807	5,061	4,949	4,128	1,702
73	1,898	2,248	2,789	3,350	3,572	3,574	3,145	1,702
74	967	1,150	1,437	1,748	1,885	1,924	1,769	1,135
75	0	0	0	0	0	0	0	0

TABLE 2.9 (*continued*)

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	1,528	0	0	0	0	0	0	0
26	1,528	0	0	0	0	0	0	0
27	1,528	0	0	0	0	0	0	0
28	1,528	0	0	0	0	0	0	0
29	1,528	0	0	0	0	0	0	0
30	3,479	0	0	0	0	0	0	0
31	3,479	0	0	0	0	0	0	0
32	3,479	0	0	0	0	0	0	0
33	3,479	0	0	0	0	0	0	0
34	3,479	0	0	0	0	0	0	0
35	5,969	2,036	0	0	0	0	0	0
36	5,969	2,036	0	0	0	0	0	0
37	5,969	2,036	0	0	0	0	0	0
38	5,969	2,036	0	0	0	0	0	0
39	5,969	2,036	0	0	0	0	0	0
40	9,146	4,634	0	0	0	0	0	0
41	9,880	5,234	521	0	0	0	0	0
42	10,651	5,864	1,067	0	0	0	0	0
43	11,460	6,525	1,641	0	0	0	0	0
44	12,309	7,220	2,244	0	0	0	0	0
45	13,201	7,950	2,877	0	0	0	0	0
46	14,138	8,715	3,542	0	0	0	0	0
47	15,121	9,520	4,239	0	0	0	0	0
48	16,154	10,364	4,972	0	0	0	0	0
49	17,238	11,251	5,741	0	0	0	0	0
50	18,377	12,181	6,549	0	0	0	0	0
51	19,572	13,159	7,397	754	0	0	0	0
52	20,828	14,185	8,288	1,545	0	0	0	0
53	22,146	15,263	9,223	2,376	0	0	0	0
54	23,530	16,395	10,205	3,249	0	0	0	0
55	24,983	17,583	11,236	4,165	0	0	0	0
56	26,508	18,830	12,318	5,127	908	0	0	0
57	28,110	20,140	13,455	6,137	1,861	0	0	0
58	29,792	21,516	14,648	7,197	2,863	0	0	0
59	31,559	22,960	15,901	8,311	3,914	0	0	0
60	33,413	24,476	17,217	9,480	5,017	0	0	0
61	35,360	26,068	18,598	10,708	6,176	1,096	0	0

TABLE 2.10. Death Benefits: Employee Policies, 365-Day Lifetime Maximum, and 5%/Year Indexing

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
62	37,405	27,740	20,049	11,997	7,393	2,246	0	0
63	39,552	29,495	21,572	13,351	8,671	3,455	0	0
64	41,806	31,339	23,171	14,772	10,013	4,723	0	0
65	44,173	33,274	24,851	16,264	11,421	6,055	0	0
66	41,992	31,775	23,952	16,048	11,610	6,708	1,210	0
67	39,414	29,952	22,772	15,581	11,563	7,138	2,205	0
68	36,405	27,776	21,286	14,843	11,259	7,325	2,966	0
69	32,931	25,220	19,470	13,811	10,678	7,250	3,476	0
70	28,953	22,251	17,297	12,461	9,797	6,892	3,714	0
71	24,431	18,838	14,737	10,769	8,593	6,227	3,657	668
72	19,322	14,946	11,762	8,707	7,039	5,233	3,283	1,027
73	13,581	10,536	8,338	6,245	5,109	3,882	2,567	1,053
74	7,158	5,568	4,429	3,354	2,773	2,148	1,482	719
75	0	0	0	0	0	0	0	0

TABLE 2.10 (*continued*)

Attained	Issue Age							
Age	20	30	40	50	55	60	65	70
				TABLE 2.11. Death Benefits: Employee Policies, 730-Day Lifetime Maximum, and 5%/Year Indexing				

Attained Age	Issue Age							
	20	30	40	50	55	60	65	70
25	1,754	0	0	0	0	0	0	0
26	1,754	0	0	0	0	0	0	0
27	1,754	0	0	0	0	0	0	0
28	1,754	0	0	0	0	0	0	0
29	1,754	0	0	0	0	0	0	0
30	3,994	0	0	0	0	0	0	0
31	3,994	0	0	0	0	0	0	0
32	3,994	0	0	0	0	0	0	0
33	3,994	0	0	0	0	0	0	0
34	3,994	0	0	0	0	0	0	0
35	6,852	2,380	0	0	0	0	0	0
36	6,852	2,380	0	0	0	0	0	0
37	6,852	2,380	0	0	0	0	0	0
38	6,852	2,380	0	0	0	0	0	0
39	6,852	2,380	0	0	0	0	0	0
40	10,499	5,417	0	0	0	0	0	0
41	11,342	6,119	623	0	0	0	0	0
42	12,226	6,855	1,278	0	0	0	0	0
43	13,155	7,629	1,965	0	0	0	0	0
44	14,130	8,441	2,686	0	0	0	0	0
45	15,154	9,293	3,444	0	0	0	0	0
46	16,230	10,189	4,239	0	0	0	0	0
47	17,359	11,129	5,075	0	0	0	0	0
48	18,544	12,116	5,952	0	0	0	0	0
49	19,789	13,153	6,873	0	0	0	0	0
50	21,096	14,241	7,840	0	0	0	0	0
51	22,468	15,384	8,855	939	0	0	0	0
52	23,909	16,583	9,921	1,924	0	0	0	0
53	25,422	17,843	11,040	2,959	0	0	0	0
54	27,010	19,166	12,215	4,046	0	0	0	0
55	28,679	20,555	13,449	5,187	0	0	0	0
56	30,430	22,014	14,745	6,385	1,164	0	0	0
57	32,269	23,545	16,106	7,643	2,387	0	0	0
58	34,200	25,153	17,534	8,964	3,670	0	0	0
59	36,227	26,841	19,034	10,351	5,018	0	0	0
60	38,356	28,614	20,609	11,808	6,433	0	0	0
61	40,592	30,475	22,263	13,337	7,919	1,469	0	0

48

Attained Age	Issue Age							
	20	**30**	**40**	**50**	**55**	**60**	**65**	**70**
62	42,939	32,430	24,000	14,942	9,479	3,012	0	0
63	45,403	34,482	25,823	16,628	11,117	4,632	0	0
64	47,991	36,637	27,737	18,398	12,838	6,332	0	0
65	50,708	38,899	29,747	20,257	14,644	8,118	0	0
66	48,205	37,147	28,672	19,988	14,886	8,994	1,700	0
67	45,245	35,015	27,259	19,406	14,825	9,570	3,099	0
68	41,791	32,472	25,481	18,487	14,436	9,820	4,169	0
69	37,803	29,483	23,307	17,201	13,691	9,720	4,886	0
70	33,236	26,013	20,705	15,520	12,561	9,239	5,220	0
71	28,045	22,023	17,642	13,413	11,017	8,349	5,141	986
72	22,181	17,472	14,080	10,844	9,025	7,015	4,615	1,516
73	15,590	12,317	9,980	7,779	6,551	5,205	3,608	1,555
74	8,217	6,509	5,302	4,178	3,555	2,879	2,083	1,063
75	0	0	0	0	0	0	0	0

Table caption: **TABLE 2.11 (*continued*)**

Attained	Issue Age							
Age	20	30	40	50	55	60	65	70

TABLE 2.12. Death Benefits: Employee Policies, 1,825-Day Lifetime Maximum, and 5%/Year Indexing

Attained Age	20	30	40	50	55	60	65	70
25	2,355	0	0	0	0	0	0	0
26	2,355	0	0	0	0	0	0	0
27	2,355	0	0	0	0	0	0	0
28	2,355	0	0	0	0	0	0	0
29	2,355	0	0	0	0	0	0	0
30	5,360	0	0	0	0	0	0	0
31	5,360	0	0	0	0	0	0	0
32	5,360	0	0	0	0	0	0	0
33	5,360	0	0	0	0	0	0	0
34	5,360	0	0	0	0	0	0	0
35	9,195	3,303	0	0	0	0	0	0
36	9,195	3,303	0	0	0	0	0	0
37	9,195	3,303	0	0	0	0	0	0
38	9,195	3,303	0	0	0	0	0	0
39	9,195	3,303	0	0	0	0	0	0
40	14,090	7,520	0	0	0	0	0	0
41	15,221	8,493	893	0	0	0	0	0
42	16,408	9,516	1,830	0	0	0	0	0
43	17,654	10,590	2,815	0	0	0	0	0
44	18,963	11,717	3,848	0	0	0	0	0
45	20,337	12,901	4,933	0	0	0	0	0
46	21,780	14,143	6,073	0	0	0	0	0
47	23,296	15,448	7,269	0	0	0	0	0
48	24,887	16,819	8,525	0	0	0	0	0
49	26,557	18,257	9,845	0	0	0	0	0
50	28,311	19,768	11,230	0	0	0	0	0
51	30,153	21,354	12,684	1,379	0	0	0	0
52	32,086	23,020	14,211	2,827	0	0	0	0
53	34,117	24,769	15,814	4,347	0	0	0	0
54	36,249	26,605	17,498	5,944	0	0	0	0
55	38,487	28,533	19,265	7,620	0	0	0	0
56	40,838	30,558	21,121	9,380	1,737	0	0	0
57	43,306	32,683	23,070	11,228	3,560	0	0	0
58	45,897	34,915	25,117	13,169	5,474	0	0	0
59	48,618	37,259	27,265	15,206	7,485	0	0	0
60	51,475	39,720	29,521	17,345	9,595	0	0	0
61	54,475	42,304	31,890	19,592	11,812	2,201	0	0

Attained Age	TABLE 2.12 (*continued*) Issue Age							
	20	30	40	50	55	60	65	70
62	57,625	45,017	34,377	21,950	14,139	4,512	0	0
63	60,932	47,865	36,989	24,427	16,582	6,939	0	0
64	64,405	50,856	39,731	27,027	19,148	9,487	0	0
65	68,051	53,997	42,611	29,758	21,842	12,163	0	0
66	64,692	51,565	41,071	29,362	22,203	13,475	2,563	0
67	60,720	48,606	39,047	28,508	22,112	14,337	4,671	0
68	56,085	45,075	36,499	27,157	21,531	14,713	6,285	0
69	50,732	40,926	33,385	25,269	20,420	14,563	7,365	0
70	44,604	36,109	29,658	22,800	18,736	13,843	7,868	0
71	37,638	30,571	25,270	19,703	16,433	12,509	7,749	1,498
72	29,767	24,254	20,168	15,930	13,462	10,511	6,956	2,303
73	20,922	17,097	14,296	11,427	9,770	7,798	5,439	2,361
74	11,027	9,036	7,595	6,137	5,303	4,314	3,140	1,614
75	0	0	0	0	0	0	0	0

ATTACHMENT 3. RPU.NEW

Reduced paid-up option tables by issue age, duration and indexing.

TABLE 3.A. % of Benefits Payable Under a Reduced Paid-Up Option by Duration: No Indexing										
Duration	**Issue Age**									
	20	**30**	**40**	**50**	**55**	**60**	**65**	**70**	**75**	**79**
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	0	25
6	0	0	0	26	28	30	30	30	30	30
7	25	28	30	33	34	35	35	35	35	35
8	28	34	36	38	40	40	40	40	40	40
9	29	39	41	44	45	45	45	45	45	45
10	30	40	46	48	50	50	50	50	50	50
11	31	41	50	53	54	55	55	55	55	55
12	32	42	52	56	58	59	58	59	59	57
13	33	43	53	60	61	61	62	62	62	60
14	34	44	54	53	64	64	64	65	64	63
15	35	45	55	65	67	67	67	67	65	66
16	36	46	56	66	69	69	69	69	67	69
17	37	47	57	67	71	71	71	71	69	73
18	38	48	58	68	73	73	73	72	72	78
19	39	49	59	69	74	75	74	73	74	83
20	40	50	60	70	75	78	77	75	77	90
21	40	50	60	70	75	78	77	76	77	90
22	40	50	60	70	75	78	77	75	77	90
23	40	50	60	70	75	78	77	75	77	90
24	40	50	60	70	75	78	77	75	77	90
25	45	55	65	75	80	83	83	88	82	0
26	45	55	65	75	80	83	83	88	82	0
27	45	55	65	75	80	83	83	88	82	0
28	45	55	65	75	80	83	83	88	82	0
29	45	55	65	75	80	83	83	88	82	0
30	50	60	70	80	85	87	90	90	87	0
31	50	60	70	80	85	87	90	90	87	0
32	50	60	70	80	85	87	90	90	87	0
33	50	60	70	80	85	87	90	90	87	0

TABLE 3.A. (*continued*)										
Duration	Issue Age									
	20	30	40	50	55	60	65	70	75	79
34	50	60	70	80	85	87	90	90	87	0
35	55	65	75	85	89	90	0	0	90	0
36	55	65	75	85	89	90	0	0	90	0
37	55	65	75	85	89	90	0	0	90	0
38	55	65	75	85	89	90	0	0	90	0
39	55	65	75	85	89	90	0	0	90	0
40	60	70	80	89	90	0	0	0	0	0
41	60	70	80	89	90	0	0	0	0	0
42	60	70	80	89	90	0	0	0	0	0
43	60	70	80	89	90	0	0	0	0	0
44	60	70	80	89	90	0	0	0	0	0
45	65	75	85	90	0	0	0	0	0	0
46	65	75	85	90	0	0	0	0	0	0
47	65	75	85	90	0	0	0	0	0	0
48	65	75	85	90	0	0	0	0	0	0
49	65	75	85	90	0	0	0	0	0	0
50	70	80	89	0	0	0	0	0	0	0

Duration	Issue Age									
	20	30	40	50	55	60	65	70	75	79
1	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0
5	25	25	25	25	25	25	25	25	25	25
6	30	30	30	30	30	30	30	30	30	30
7	35	35	35	35	35	35	35	35	35	35
8	40	40	40	40	40	40	40	40	40	40
9	45	45	45	45	45	45	45	45	45	45
10	50	50	50	50	50	50	50	50	50	50
11	55	55	55	55	55	55	55	55	55	55
12	60	60	60	60	60	60	60	60	60	60
13	65	65	65	65	65	65	65	65	65	65
14	70	70	70	70	70	70	70	70	70	68
15	75	75	75	75	75	75	75	75	74	70
16	80	80	80	80	80	80	80	80	75	73
17	85	85	85	85	85	85	85	82	77	77
18	90	90	90	90	90	90	87	83	79	80
19	95	95	95	95	95	91	88	83	80	85
20	100	100	100	100	97	93	89	84	82	93
21	100	100	100	100	97	93	89	84	82	93
22	100	100	100	100	97	93	89	84	82	93
23	100	100	100	100	97	93	89	84	82	93
24	100	100	100	100	97	93	89	84	82	93
25	100	100	100	100	100	95	92	92	87	98
26	100	100	100	100	100	95	92	92	87	98
27	100	100	100	100	100	95	92	92	87	98
28	100	100	100	100	100	95	92	92	87	98
29	100	100	100	100	100	95	92	92	87	98
30	100	100	100	100	100	97	96	97	92	100
31	100	100	100	100	100	97	96	97	92	100
32	100	100	100	100	100	97	96	97	92	100
33	100	100	100	100	100	97	96	97	92	100
34	100	100	100	100	100	97	96	97	92	100
35	100	100	100	100	100	98	100	100	97	0
36	100	100	100	100	100	98	100	100	97	0
37	100	100	100	100	100	98	100	100	97	0

TABLE 3.B. % of Benefits Payable Under a Reduced Paid-Up Option by Duration: Indexing

TABLE 3.B. (*continued*)										
Duration	**Issue Age**									
	20	**30**	**40**	**50**	**55**	**60**	**65**	**70**	**75**	**79**
38	100	100	100	100	100	98	100	100	97	0
39	100	100	100	100	100	98	100	100	97	0
40	100	100	100	100	100	100	0	0	100	0
41	100	100	100	100	100	100	0	0	100	0
42	100	100	100	100	100	100	0	0	100	0
43	100	100	100	100	100	100	0	0	100	0
44	100	100	100	100	100	100	0	0	100	0
45	100	100	100	100	0	0	0	0	0	0
46	100	100	100	100	0	0	0	0	0	0
47	100	100	100	100	0	0	0	0	0	0
48	100	100	100	100	0	0	0	0	0	0
49	100	100	100	100	0	0	0	0	0	0
50	100	100	100	0	0	0	0	0	0	0

ATTACHMENT 4. PRE.NEW

Monthly premium rates by option, issue age and employment status.

TABLE 1.A. Monthly Premium Rates: Individual Policies						
Issue Age	**Option**					
	1	**2**	**3**	**4**	**5**	**6**
20	13.79	15.64	18.65	27.04	30.74	40.55
30	16.99	20.49	26.03	35.23	40.86	55.98
40	23.27	30.09	40.68	48.90	58.18	82.58
50	35.51	48.84	68.90	69.85	86.59	126.45
55	45.78	64.83	93.24	83.70	106.88	158.67
60	60.89	88.18	128.59	100.65	134.45	200.72
65	84.19	124.40	183.74	123.49	173.04	260.15
70	117.61	178.25	266.49	154.19	227.13	344.26
75	164.42	255.30	387.34	195.88	303.61	465.55
79	220.98	345.77	527.52	246.69	391.78	604.49

KEY:
Option 1: $90/day maximum nursing home benefit; $60/day maximum home care benefit; 20% coinsurance on home care; 365-day lifetime maximum; Inability to perform 2 of 6 ADLs; 30-day elimination period (NH counts towards HC); 6-month waiting period for preexisting condition; Waiver of premium after 30 covered NH or HC days; Return-of-premium benefit up to age 65, less 10%/year thereafter; Reduced paid-up after 5 years.

Option 2: Same as Option #1, BUT 730-day lifetime maximum.

Option 3: Same as Option #1, BUT 1,825-day lifetime maximum.

Options 4-6: Correspond to Options 1-3, AND 5%/year indexing on benefits and premiums; Reduced paid-up after 4 years.

TABLE 1.B. Monthly Premium Rates: Employee Policies						
Issue Age	**Option**					
	1	**2**	**3**	**4**	**5**	**6**
20	10.44	12.15	14.92	23.05	26.46	35.51
30	13.46	16.68	21.78	30.70	35.89	49.82
40	19.25	25.51	35.22	43.39	51.94	74.40
50	30.33	42.45	60.69	62.81	78.23	114.92
55	39.66	56.93	82.69	75.67	97.02	144.71
60	53.32	78.00	114.55	91.32	122.43	183.43
65	74.18	110.38	163.79	112.02	157.45	237.33
70	103.51	157.65	236.41	139.11	205.46	213.01
75	143.14	223.00	339.02	174.35	270.84	415.87
79	188.47	295.61	451.58	215.84	343.39	530.34

KEY:

Option 1: $90/day maximum nursing home benefit; $60/day maximum home care benefit; 20% coinsurance on home care; 365-day lifetime maximum; Inability to perform 2 of 6 ADLs; 30-day elimination period (NH counts towards HC); 6-month waiting period for preexisting condition; Waiver of premium after 30 covered NH or HC days; Return-of-premium benefit up to age 65, less 10%/year thereafter; Reduced paid-up after 5 years.

Option 2: Same as Option #1, BUT 730-day lifetime maximum.

Option 3: Same as Option #1, BUT 1,825-day lifetime maximum.

Options 4-6: Correspond to Options 1-3, AND 5%/year indexing on benefits and premiums; Reduced paid-up after 4 years.

TABLE 1.C. Monthly Premium Rates: Retired Policies						
Issue Age	**Option**					
	1	**2**	**3**	**4**	**5**	**6**
20	12.36	14.07	16.85	24.76	28.17	37.22
30	15.35	18.58	23.68	32.35	37.55	51.48
40	21.14	27.39	37.10	44.99	53.54	76.00
50	32.23	44.35	62.59	64.35	79.76	116.46
55	41.54	58.81	84.56	77.16	98.50	146.19
60	55.17	79.84	116.39	92.77	123.88	184.88
65	79.01	112.21	165.62	113.46	158.90	238.78
70	105.38	159.51	238.28	140.62	206.97	313.52
75	145.13	224.99	341.01	176.00	272.49	417.52
79	190.69	297.83	453.81	217.68	345.24	532.19

KEY:

Option 1: $90/day maximum nursing home benefit; $60/day maximum home care benefit; 20% coinsurance on home care; 365-day lifetime maximum; Inability to perform 2 of 6 ADLs; 30-day elimination period (NH counts towards HC); 6-month waiting period for preexisting condition; Waiver of premium after 30 covered NH or HC days; Return-of-premium benefit up to age 65, less 10%/year thereafter; Reduced paid-up after 5 years.

Option 2: Same as Option #1, BUT 730-day lifetime maximum.

Option 3: Same as Option #1, BUT 1,825-day lifetime maximum.

Options 4-6: Correspond to Options 1-3, AND 5%/year indexing on benefits and premiums; Reduced paid-up after 4 years.

TABLE 4.A. Monthly Premium Rates: Generic Policies						
Issue Age	**Option**					
	1	**2**	**3**	**4**	**5**	**6**
20	8.14	5.62	7.36	0	0	0
30	10.21	7.61	9.32	0	0	0
40	14.70	11.85	13.54	0	0	0
50	24.18	20.64	22.32	0	0	0
55	33.36	29.07	30.75	0	0	0
60	47.72	42.11	43.81	0	0	0
65	70.76	62.78	64.51	0	0	0
70	106.02	93.80	95.61	0	0	0
75	158.40	138.65	140.59	0	0	0
79	214.96	185.46	187.55	0	0	0

KEY:

Option 1: $80/day maximum nursing home benefit; $40/day maximum home care benefit; 20% coinsurance on home care; 1,460-day lifetime maximum; Inability to perform 3 of 6 ADLs; 90-day elimination period (NH counts towards HC); 6-month waiting period for preexisting condition; INDIVIDUAL POLICY EXPENSES.

Option 2: Same as Option #1, BUT EMPLOYEE POLICY EXPENSES.

Option 3: Same as Option #1, BUT RETIRED POLICY EXPENSES.

ATTACHMENT 5. LAPSE.NEW

Pension lapse rates by policy year, age group, and type of pension.

	Graduated Select Lapse Rates: Term Life Insurance														
	Policy Year														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	.1330	.1051	.0731	.0591	.0508	.0417	.0373	.0341	.0318	.0298	.0214	.0183	.0149	.0131	.0127
1	.1771	.1108	.0796	.0643	.0532	.0412	.0359	.0330	.0319	.0305	.0212	.0179	.0144	.0127	.0129
2-4	.2201	.1162	.0757	.0581	.0500	.0413	.0370	.0342	.0325	.0313	.0236	.0204	.0172	.0166	.0201
5-9	.2184	.1179	.0710	.0511	.0439	.0381	.0350	.0335	.0338	.0354	.0334	.0364	.0353	.0353	.0485
10-14	.1746	.1045	.0543	.0388	.0383	.0391	.0421	.0437	.0451	.0472	.0491	.0444	.0375	.0372	.0392
15-19	.2864	.0134	.0878	.0684	.0715	.0611	.0548	.0496	.0469	.0462	.0449	.0415	.0360	.0335	.0317
20-24	.3198	.1513	.1231	.0968	.0867	.0647	.0570	.0517	.0486	.0460	.0411	.0342	.0272	.0248	.0244
25-29	.2371	.1289	.1047	.0847	.0757	.0580	.0525	.0496	.0489	.0486	.0463	.0395	.0319	.0286	.0239
30-34	.1990	.1220	.0907	.0749	.0689	.0554	.0512	.0480	.0460	.0447	.0418	.0376	.0315	.0248	.0188
35-39	.1797	.1122	.0831	.0688	.0619	.0500	.0459	.0430	.0417	.0414	.0392	.0364	.0306	.0244	.0197
40-44	.1634	.1101	.0751	.0630	.0574	.0482	.0454	.0436	.0435	.0433	.0416	.0383	.0333	.0283	.0264
45-49	.1615	.1070	.0756	.0660	.0612	.0510	.0481	.0475	.0469	.0485	.0504	.0490	.0458	.0437	.0502
50-54	.1660	.1042	.0754	.0698	.0696	.0600	.0595	.0585	.0584	.0577	.0602	.0518	.0430	.0477	.0506
55-59	.1617	.984	.0705	.0692	.0741	.0699	.0725	.0703	.0659	.0585	.0471	.0334	.0262	.0258	.0249
60-64	.1365	.1124	.0918	.0825	.0786	.0597	.0533	.0486	.0441	.0385	.0279	.0212	.0173	.0167	.0163
65-69	.1323	.0990	.0714	.0656	.0641	.0546	.0508	.0452	.0388	.0331	.0226	.0191	.0190	.0163	.0153
70-99	.1749	.1257	.1044	.0850	.0717	.0550	.0504	.0464	.0413	.0353	.0239	.0180	.0138	.0117	.0117

Graduated Select Lapse Rates: Pension Life Insurance

	Policy Year														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	.1520	.1410	.1250	.1160	.1110	.0190	.1070	.1060	.1080	.1110	.1140	.1170	.1190	.1200	.1200
1	.1540	.1390	.1270	.1200	.1170	.1150	.1140	.1130	.1150	.1170	.1190	.1210	.1230	.1230	.1220
2-4	.1520	.1370	.1250	.1180	.1140	.1120	.1100	.1100	.1110	.1130	.1160	.1190	.1220	.1240	.1260
5-9	.1540	.1440	.1260	.1160	.1120	.1100	.1090	.1090	.1110	.1140	.1180	.1200	.1210	.1200	.1160
10-14	.1520	.1430	.1250	.1150	.1100	.1070	.1060	.1060	.1080	.1120	.1170	.1200	.1240	.1250	.1250
15-19	.2590	.2160	.1660	.1340	.1170	.1070	.1000	.0960	.0990	.1060	.1150	.1220	.1270	.1270	.1240
20-24	.2260	.1460	.1140	.0920	.0800	.0720	.0660	.0630	.0630	.0670	.0720	.0770	.0810	.0820	.0820
25-29	.2180	.1060	.0930	.0850	.0790	.0750	.0720	.0690	.0680	.0680	.0680	.0670	.0660	.0630	.0600
30-34	.1900	.1500	.1550	.1510	.1400	.1270	.1150	.1030	.0890	.0750	.0620	.0520	.0450	.0440	.0460
35-39	.1710	.1480	.1430	.1400	.1380	.1370	.1370	.1380	.1400	.1430	.1470	.1520	.1580	.1650	.1730
40-44	.1610	.1230	.1200	.1180	.1170	.1170	.1170	.1190	.1210	.1240	.1270	.1320	.1370	.1430	.1490
45-49	.1580	.1210	.1180	.1150	.1130	.1120	.1130	.1150	.1180	.1220	.1290	.1370	.1460	.1590	.1730
50-54	.1520	.1020	.1050	.1060	.1060	.1080	.1120	.1200	.1290	.1400	.1550	.1740	.1970	.2250	.2580
55-59	.1400	.1140	.1100	.1170	.1320	.1470	.1580	.1660	.1740	.1800	.1800	.1720	.1560	.1290	.0920
60-64	.1490	.1140	.1320	.1400	.1400	.1360	.1320	.1270	.1200	.1120	.1040	.0990	.0970	.1000	.1070
65-69	.1770	.1310	.1200	.1120	.1080	.1050	.1040	.1040	.1050	.1080	.1120	.1170	.1210	.1260	.1300
70-99	.1430	.1340	.1250	.1190	.1160	.1140	.1130	.1130	.1150	.1170	.1200	.1230	.1260	.1280	.1300

Graduated Select Lapse Rates: High Early-Cash-Value Insurance

	Policy Year														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0	.1020	.0830	.0980	.1010	.0880	.0710	.0570	.0460	.0390	.0340	.0330	.0330	.0320	.0320	.0450
1	.1030	.0840	.0980	.1010	.0880	.0710	.0570	.0460	.0390	.0340	.0330	.0330	.0320	.0320	.0450
2-4	.1070	.0840	.0970	.1010	.0880	.0710	.0570	.0460	.0390	.0340	.0330	.0330	.0320	.0320	.0450
5-9	.1020	.0820	.0970	.1010	.0880	.0710	.0570	.0460	.0390	.0340	.0330	.0330	.0320	.0320	.0450
10-14	.1000	.0800	.1020	.1000	.0870	.0700	.0560	.0460	.0390	.0340	.0330	.0330	.0320	.0320	.0440
15-19	.1080	.0770	.1180	.0990	.0870	.0700	.0560	.0460	.0390	.0350	.0330	.0330	.0320	.0330	.0440
20-24	.1880	.0790	.1010	.0960	.0840	.0680	.0550	.0450	.0380	.0340	.0330	.0330	.0320	.0320	.0440
25-29	.1290	.0950	.1150	.1060	.0920	.0740	.0590	.0480	.0400	.0360	.0340	.0340	.0330	.0340	.0460
30-34	.0890	.0990	.1160	.1060	.0920	.0730	.0580	.0460	.0380	.0340	.0320	.0320	.0310	.0320	.0450
35-39	.0800	.0730	.0920	.1000	.0870	.0690	.0540	.0430	.0630	.0320	.0300	.0300	.0290	.0300	.0420
40-44	.0700	0.810	.0840	.1020	.0880	.0710	.0560	.0460	.0380	.0340	.0320	.0320	.0320	.0320	.0440
45-49	.0710	.0670	.0600	.0850	.0760	.0630	.0520	.0440	.0390	.0360	.0350	.0350	.0340	.0340	.0430
50-54	.0700	.0780	.0800	.0780	.0700	.0590	.0500	.0440	.0930	.0370	.0360	.0360	.0350	.0350	.0430
55-59	.0800	.0850	.1120	.0790	.0710	.0600	.0520	.0450	.0410	.0380	.0370	.0370	.0370	.0370	.0440
60-64	.0900	.0750	.0790	.0980	.0860	.0700	.0560	.0460	.0390	.0350	.0340	.0340	.0330	.0330	.0450
65-69	.1030	.0740	.1130	.1000	.0870	.0700	.0560	.0460	.0390	.0350	.0330	.0330	.0330	.0330	.0450
70-99	.1020	.0820	.1030	.1000	.0870	.0700	.0560	.0460	.0390	.0340	.0330	.0330	.0320	.0320	.0440

ATTACHMENT 6. Memo on Computer Budget for NIH Account

May 10, 1991

<u>**MEMORANDUM**</u>

TO: John Drabek

FROM: Dave Kennell
              Lisa Alecxih

SUBJECT: Computer Budget for NIH Account

As you requested, we have estimated the potential computer costs for various activities that may be undertaken using the Brookings/ICF Long Term Care Financing Model during the reminder of the fiscal year. We have categorized these estimates into policy simulations, new base case development, and development and maintenance of a public use version of the model. We expect that the computer costs for the remainder of the fiscal year to total $15,000.

POLICY SIMULATIONS

During off-peak hours, each simulation of the model costs approximately $500 (if a simulation is run with replacements for the younger cohorts -- e.g., to simulate tax implications for all age groups -- the cost is approximately double). However, because we typically run the model with replacement persons and because we often need to run simulations twice, a better average costs is $1,000. Assuming we will run seven policy simulations, we estimate the policy simulation computer costs to be $7,000.

NEW BASE CASE DEVELOPMENT

We have estimated the computer costs related to developing and benchmarking a new base case under the assumption that an additional PRISM run will not be necessary. The computer costs for activities related to benchmarking are estimated to be $7,000. If it were necessary to rerun PRISM, the computer cost would increase to $15,000 for both PRISM and benchmarking.

PUBLIC USE MODEL

We estimate the development and maintenance of a public use version of the model to be approximately $200 per month, which would total $1,000 for the remainder of the fiscal year.