

# SOCIETY OF ACTUARIES



## LONG TERM CARE EXPERIENCE COMMITTEE

### INTERCOMPANY STUDY

1984 – 2004

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## INTRODUCTION

This document is the fifth Intercompany Report prepared by the SOA LTC Experience Committee. Previous reports were published in 1995, 2000, 2002 and 2004. The five reports of this committee sponsored by the SOA and prepared by the SOA Long Term Care Experience Committee, along with reports of 2004 and 2006 also sponsored by the SOA and prepared by LIMRA staff, are the only publicly published reports of experience on lives insured under private LTC insurance plans in the United States.

Data for this report has been gathered from, combined with and analyzed from 24 organizations. Participating organizations are listed in Appendix A.

This report reaches a major milestone in reporting on a full two decades of exposure - twenty years of experience - January 1, 1984 through December 31, 2004. Insurers provided information on 100% of their issued policies. Data was managed such that, wherever possible, each company's exposure was roughly in line with their percentage of the industry so as not to distort overall results.

Claims incurred on policies during this timeframe were followed from claim inception through the earlier of claim termination or June 30, 2005. Allowing a six-month period to report incurred claims allows for the capture of most of the incurred but not reported claims occurring on or before 12/31/2004. Claim distribution information is found in Appendix C.

Data gathering for this report used a two-record reporting format (rather than the previous three-record approach). In total, this format requested fewer fields. This change was made in hopes of making it easier for non-participating companies to become contributors. The Compiler mapped prior records provided for this study under the three-record formats to the new format. The new format and additional participating companies required the SOA LTC Experience Committee and the Compiler to spend extensive time scrutinizing and scrubbing the data to ensure that it was as clean as possible. While the process to produce the report was daunting and tedious, the Committee believes this report provided the best aggregation of industry results to date.

Results in this report have benefited from the increased number of contributors. There is an increased volume of policies, claims, deaths and lapses. Committee members consider the quality of the data to be improved. As readers compare this report to the previous four reports, they will notice the largest changes from previous reports are in the Voluntary Lapse, Total Termination and Mortality Sections.

This report provides information on the marital situation that has never before been included. In the past, participating companies have not been able to provide information on the marital status of their insureds at time of issue. However this time, several companies were able to provide us with a marker on their policy records when a marital discount was offered. Because no companies reported marital discounts on their Group

submissions, the information on marital discounts is only for Individual policies. Each section in the report has some information on marital status based on a marital discount.

This report also enhanced the Morbidity and Cause of Claim Sections. In Appendix D, there is a pivot table labeled D2a. That pivot table allows users to select among 10 different variables that affect incidence rates. Length of claim is calculated and presented in both the Morbidity Section and the Cause of Claim Section. The length of claim reported in Morbidity Section is longer than the length of claim reported in the Cause of Claim Section. The Morbidity Section reports on elapsed calendar time between first and last claim payment dates. The Cause of Claim Section reports on actual days or visits that are reported as paid.

The Cause of Claim Section and the associated Appendix G have almost tripled in size. The section covers those circumstances where payments have been made for Nursing Home benefits, Home Care and Community benefits and for all or Total benefits. This additional delineation has been made for two reasons. The finer separation is made possible because of the increase in the number of companies that have the ability to provide information on Home and Community benefits. However, there are some companies, primarily early contributors that did not separate their claims into Nursing Home or Home and Community benefits. Those claims not separated between Nursing Home and Home Care (about 25%) are included with all other claims under the Total category.

Exposure records have increased steadily with each report. This report has information on 6.5 million policies. Years of exposure have doubled to 25 million years. Exposure distribution continues to lengthen to longer durations than in previous reports. The numbers in parenthesis below are the comparable results from the previous report.

- 35% of the exposure was in the first two policy years (43%)
- 28% of the exposure was in the third to fifth exposure years (24%)
- 69% of the exposure remains on Individual insureds (69%)
- Average issue age of all insureds in the database is 59 (61)
- Average issue age of Individual insureds is 64 (67)
- Average issue age of Group insureds is 46 (47)
- Average attained age of the insureds in the database is still 64 (64)
- Female insureds represent 57% of the exposure (59%)

General characteristics of the Exposure file are found in Appendix B.

Claimants virtually doubled from 95,000 in the 2002 Report to just over 172,000 in this report. The percentage of claims having some Home and Community Care significantly increased (by almost 50%) from that in the prior report.

- 55% of the claims only paid for Nursing Home care (80%)
- 26% of the claims only paid for Home care (15%)
- 19% of the claimants paid for both Nursing Home and Home care (5%)

- 96% of the claims are closed
- Average attained age on incurral date of claim was 78.9 years (79.9)
- Average length of all claims is 2.04 years (1.87)

General characteristics of the Claim file are found in Appendix C.

Each section of this report covers one or more of several areas for which sufficient data is available. The areas that are included in this report are:

- Gender
- Issue Age
- Attained Age
- Elimination Period
- Benefit Period (Limited vs. Unlimited)
- Policy Duration
- Individual vs. Group
- Nursing Home vs. Home Care
- Issue Year Groupings
- Experience Year Groupings
- Underwriting Type
- Benefit Escalator Clause
- Distribution Source
- Marital Discount (new to this report)

Compiled data continues to support previously reported findings:

- Incidence rates rise steadily by attained age and policy duration
- Mortality rates increase steadily by attained age and policy duration
- Morbidity and Mortality selection is apparent in early policy durations
- Alzheimer/Dementia claims remain the dominant and growing cause

New findings in this report:

- Group lapse rates for longest durations continue to decrease
- Voluntary Lapse and Total Termination rates dropped significantly
- Marital status demonstrates unique results

Other general results of interest:

#### Incidence Rates

- Overall incidence rate is .64% (down from .68%)
- Female to Male ratio of incidence rates continue to increase
- Incidence rates generally decline as the Elimination Period lengthens
- Incidence rates increase with increasing attained age, with a more marked increase after attained age 75

### Claim Continuance

- Generally increases with increasing age at claim until about age 90
- Average length of claim extended to 1040 days (914)
- 66% of nursing home claims end in death (68%)
- About half of home care claims end in death and half in recovery

### Cause of Claim

- Alzheimer's claims are the most frequent, longest, most expensive, for ages after 65, for both genders and all incurral year cohorts since 1988
- Nervous Disorders are leading causes for Nursing Home claims under age 65
- Cancer is leading cause for Home Care claims under age 65

### Mortality

- Overall mortality rate slipped slightly from 1.1% to 1.0%
- Mortality rate decreased from last study at all ages under 85
- Male mortality remains about 40% greater than female
- Mortality is considerably lower than 1994 GAM, A2000, and 2001 VBT
- Mortality select period looks to be at least 10 years
- Disabled Lives mortality has increased to 30 times that of Active Lives
- Disabled Lives mortality for LTCI is roughly 200% greater than Disability

### Voluntary Lapse Rates

- Average annual Lapse rates dropped noticeably to 5.5% (7.4%)
- New participating company experience lower over most durations
- Lapse rates now decrease for 13 durations (9 policy years previously)
- Lapse rates now flatten much more at later durations than previously
- Group insurance lapses start out higher, then drop below Individual rates after 10 years

### Total Termination Rates

- Average annual Total Termination rates dropped to 6.8% (8.9%)
- For issue ages over 70, Total Termination rates increase steadily
- Mortality rates exceed Lapse rates at attained ages 85 and older

### Home Care

- Average number of visits were 3.2 per week (4.3)
- Cancer has largest number of visits per week at 4.0
- Nervous System disorders cause longest claims

### Limited vs. Unlimited Benefit plans

- Incidence rates are not consistently different by Benefit Period
- Voluntary Lapse Rates are not consistently different by Benefit Period

The reader may wish to compare the results of this report with the results of the prior report done by this committee, entitled “*1984 - 2001 Long Term Care Experience Committee’s Intercompany Report.*” Also of interest might be the recent report entitled “*Long-Term Care Insurance Persistency Experience - A 2006 Report,*” jointly sponsored by LIMRA International and the Society of Actuaries. As of this writing, both may be found on the Society of Actuaries website ([www.soa.org](http://www.soa.org)). On the home page, select the *Research* tab, then select *Experience Studies*, then select *Long-Term Care*.

## CALCULATIONS

Many tables in this report are segregated by policy duration. Duration is calculated based on exposure from either active or terminated records. From active records, duration is calculated by using only the latest record in the following formula:

Duration in Months = (1 + Last Observation Date – Issued Date) / Days per Month  
(30.42 was used as the Days per Month to account for monthly variations and leap years)

From terminated policy records, duration is calculated by substituting the Termination Date for the Last Observation Date in the previous formula.

The incidence tables shown break duration down into annual periods as follows:

<u>Duration</u>	<u>Months</u>	<u>Duration</u>	<u>Months</u>
1	1 to 13	6	62 to 73
2	14 to 25	7	74 to 85
3	26 to 37	8	86 to 97
4	38 to 49	9	98 to 109
5	50 to 61	10	110 to 121

Duration 1 spans 13 months to estimate the effect of the grace period. The application of grace periods in practice varies significantly from carrier to carrier. Generally, a company does not consider a policy “terminated” until at least the end of the grace period. For administrative simplicity, many carriers do not terminate (or lapse) a policy until well after the grace period has expired. The division of duration into these time periods has the effect of counting any active policy currently in its grace period in the previous duration.

Each policy is credited with a full exposure year for all integer duration years up to and including the duration year in which the observation period or termination date ends. For example, a policy whose duration is 26 months and 7 days will be included and counted as completing duration 3. This methodology will overstate duration by duration cohort and in total. Claim incidence and lapse rates will be understated as a result.

Incurral Date is the earliest incurred date shown on records submitted for each claimant. Issue Date is the earliest date of issue for each insured.

For each claim, duration is calculated using the following formula:

Duration in Months = (1 + Incurral Date – Issue Date) / Days per Month  
(30.42 was used as the Days per Month to account for monthly variations and leap years)

An incidence rate is found by dividing the number of claims in any cell by the exposure in that cell.



Data was submitted for many specific elimination periods. A trivial portion of all records provided contained no information on the elimination period. These records were excluded from all calculations of incidence. Because the data contained small amounts of experience for several elimination periods that were close to other periods with a large amount of exposure, the elimination period data was split into cohorts in the following manner:

<b>Elimination Periods</b>	<b>Cohort Label</b>
0	0
7-21	20
28-30	30
31-80	60
90-91	90
100	100
>100	>100

## LIMITATIONS

This fifth Intercompany Report of the SOA LTC Experience Committee includes increasingly valuable information. As one considers the findings in this report, please remember five main points. First, the data has been gathered from different companies contributing over different timeframes that had varying benefit eligibility criteria. Only two companies have contributed to all five reports. Second, many of the earlier issued policies provided little in the way of home care benefits. Therefore, claims are biased toward claims from nursing home facilities. Thirdly, many of the contributors write either Individual or Association Group policies that are both underwritten. Almost 76% of the policies and 96% of the claim experience is based on individually underwritten insureds. Fourth, some sections of the report analyze only subsets of data (because of incomplete coding in some records) that may result in apparent inconsistencies between sections. Fifth, experience is reported exactly as calculated. There has been no attempt to smooth, interpolate or extrapolate numerical data.

Because this analysis was based on data submitted from a variety of sources, there may have been issues that went undetected or were not completely resolved. If possible, problems with data submissions were discussed with the contributors and corrected.

The tables and charts were based on raw data that cut across broad variations in market and product. Distortions may have been introduced because results were aggregated over several calendar years for companies with different distribution methods, types of underwriting, target markets, pricing levels, products and administrative rules. The representation of any one company varies from cell to cell, so identified trends are in part distorted by a shift in the underlying mix.

Also, while the policy duration extended further with each report, most of the exposure and claims data came from relatively early policy durations.

The Committee believes that significant improvement in coding has been made compared with previous reports. In particular, it is felt that coding of deaths improved significantly, yet some deaths were still likely to be recorded as voluntary lapses. Therefore, the Total Termination Rates Section was retained for understanding the total decrement of all insureds.

Finally, claim incidence and voluntary lapse rates fell significantly from the previous study periods. Thus, averages for the entire twenty-year experience period are not necessarily indicative of levels at the end of the period.

## SECTION I - MORBIDITY

This section presents information on both the incidence and continuance of claims for long-term care insureds.

### **Incidence Rates Methodology**

The incidence rates developed in this report are always shown by elimination period category and attained age upon satisfaction of the elimination period. Only claims in which the elimination period is satisfied are included. These categories were considered to be central to any unbiased determination of incidence rates. Elimination period categories were grouped to include elimination periods less commonly found with those with the bulk of the exposure (Zero days, 7- 21 days, 28-30 days, 31-80 days, 90-91 days, 100 days, and >100 days). Within these categories, incidence rates are classified by other variables including duration of the policy at time of claim eligibility, gender, issue year, benefit period and daily benefit. Although some companies' submissions included claims without any paid benefits, these claims were excluded from the claim counts (but not the exposure to the risk of claim).

Exposures for policies were determined based on the length of time the policy was in force during the study period. Policies that had claims after their policy anniversary in 2004 continued to contribute exposure until the end of the study period for the claims incidence study, but not for the lapse or mortality studies. Because there were a significant number of claims in this category, both the claims and the associated exposures were included. In the prior report, exposure for all purposes terminated at the policy anniversary prior to the end of the observation period.

In the course of compiling the exposure for the prior reports, the attained age associated with each year of exposure was equal to the attained age at the last policy anniversary, *for the entire life of the policy prior to any claim*. This inadvertent change from the standard method of associating exposure with each individual attained age throughout a policy's pre-claim tenure was discovered in the course of analyzing the data for this report at the higher attained ages. While the total exposure has always reflected the underlying data, all years of exposure (other than those associated with policies' attained ages as of their last policy anniversaries) were associated with higher attained ages than they should have been.

As a result, for the highest ages in the prior reports, exposures were overstated. Younger attained age cohorts' exposures in the prior reports more closely matched their actual values because exposures that were shifted to higher ages were offset by exposures that were shifted from younger ages. Thus, the exposures for attained age cohorts above age 84 are lower in this report than in the prior report, and the incidence rates are higher. This should be kept in mind when performing comparisons in incidence experience for the highest attained age cohorts.

**Incidence Rates by Attained Age (Appendix D-1)**

Exposure more than doubled in relation to the prior report, while the overall incidence rate decreased slightly overall. However, incidence rates for attained age cohorts greater than 75 increased with the most marked increases for attained age cohorts over 84. These latter cohorts exhibited reduced exposure because of the change in methodology described in the previous section of this report. Thus, while the incidence rates did increase for the two attained age cohorts over age 84, the increase is not as dramatic as the raw rates would indicate. For example, the incidence rate for attained ages above 89, if computed using the exposure from this report, would have been 3.45% instead of 1.61% (3616/104,739). Because the actual exposure for this cohort was less, the actual rate is somewhat higher.

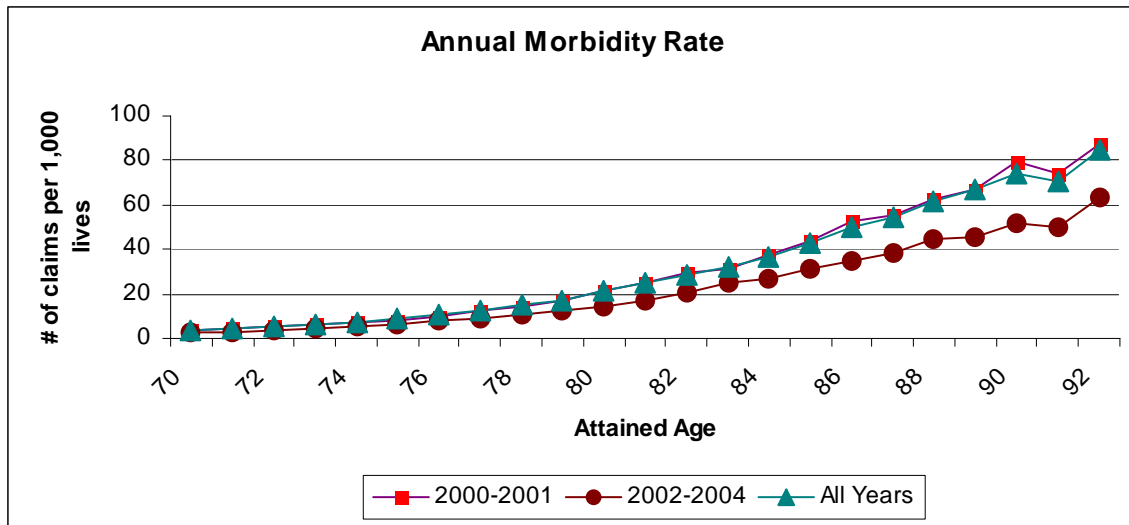
**Figure 1a  
Incidence Rates Compared to Prior Reports**

Attained Age	Exposure			Total Incidence Rates		
	1999 Report	2001 Report	2004 Report	1999 Report	2001 Report	2004 Report
< 40	404,124	701,857	1,609,793	0.02%	0.01%	0.01%
40-49	483,508	862,259	2,231,684	0.04%	0.03%	0.02%
50-59	745,061	1,250,749	4,189,408	0.06%	0.05%	0.05%
60-64	659,887	874,104	3,348,867	0.12%	0.13%	0.10%
65-69	1,291,531	1,535,981	4,733,691	0.24%	0.28%	0.20%
70-74	1,730,648	2,229,135	4,702,325	0.47%	0.53%	0.50%
75-79	1,517,943	2,231,889	3,468,448	0.94%	0.97%	1.24%
80-84	923,297	1,550,721	1,847,646	1.58%	1.62%	2.74%
85-89	445,930	745,581	583,482	1.77%	1.97%	5.16%
90+	*	224,619	104,739	*	1.61%	7.83%
Total	8,201,929	12,206,895	26,820,085	0.60%	0.68%	0.64%

\* Data for ages 90+ is included in data for the 85-89 attained age cohort.

Figure 1b is derived from Appendix D-1, which provides data by both Attained Age and Elimination Period. For the 2002-2004-observation period, morbidity rates declined modestly at attained ages above 84 in relation to both the overall rate and the rate for the 2000-2001 observation period. Because the incidence rates for attained ages prior to 80 are relatively low, there was no discernable difference between incidence rates for these ages. For attained ages 94 and above, both the low level of exposure and claims diminishes the credibility of the resulting relatively high incidence rates.

Figure 1b



**Incidence Rates by Attained Age and Elimination Period (Appendix D-1)**

For all elimination periods combined, the incidence rates increase markedly by attained age, rising from an overall rate of 0.01 per hundred at ages “Less than 40” to 5.16 per hundred at “Ages 85-89.” For policyholders over age 89, the incidence rate was 7.83 per hundred, which was higher than the corresponding rate from the prior report of 1.61. The exposure for these age cohorts, while greater than that for the prior report, was still under 1,000,000 years, thereby rendering these (over age 89) values less credible than the other age categories.

The slope of the increase in incidence rates by attained age varied by elimination period, with the zero elimination period exhibiting higher rates than other elimination periods for all attained age cohorts age 40 and above. While the overall incidence rate was only slightly lower than that in the prior report, the overall rate for the zero-day elimination period increased from 1.53 per hundred to 1.87. Figure 1c depicts the incidence rates by attained age for the elimination categories comprising the most exposure.

**Figure 1c**  
**Incidence Rates by Attained Age and Elimination Period (per hundred)**  
**Elimination Period Category in Days**

<b>Attained Age</b>	<b>Zero</b>	<b>20</b>	<b>90</b>	<b>100</b>	<b>All</b>
< 40	0.08%*	0.18%*	0.00%	0.00%	0.01%
40-49	0.13%*	0.03%*	0.01%	0.01%	0.02%
50-59	0.14%	0.06%	0.03%	0.03%	0.05%
60-64	0.23%	0.09%	0.08%	0.06%	0.10%
65-69	0.47%	0.20%	0.13%	0.13%	0.20%
70-74	1.18%	0.54%	0.33%	0.33%	0.50%
75-79	2.81%	1.32%	0.90%	0.84%	1.24%
80-84	5.61%	3.00%	2.20%	1.90%	2.74%
85-89	9.62%	5.63%	4.72%	3.79%	5.16%
90+	12.17%*	8.51%	8.96%*	5.80%	7.83%
Total	1.87%	1.14%	0.21%	0.62%	0.64%
2001 Study	1.53%	1.12%	0.14%	0.79%	0.68%
1999 Study	1.49%	0.86%	0.17%	0.50%	0.60%

\*These cells have less than 25,000 years of exposure.

“All” includes data from all elimination periods, including those not shown here, and also includes data from claims where the elimination period was not identified.

Some patterns are noted when viewing data by attained age cohort across elimination period categories:

“20 day” incidence rates are generally about 50-60% less than “zero day” rates (up to 40% less in the prior report).

“90 day” incidence rates are generally about 60-90% less than “zero day” rates (70% less in the prior report) and about 30% less than “20 day” rates (50% less in the prior report).

“100 day” incidence rates are at or slightly below the “90 day” rates; however, different companies contribute data in the 90-day category than the 100-day category since few companies have experience in both these categories. (The prior report showed the “100 day” rates at or slightly above the corresponding “90-day” rates.)

The overall incidence rate for the "90 day" cohort is lower than all other cohorts, while the incidence rates for all attained age cohorts are equal to or greater than those for the corresponding age cohorts in the "100 day" cohort. Because the "90 day" cohort contains a great deal more exposure at attained age cohorts of 50 and younger (with corresponding lower incidence rates) than any other elimination day cohort, the weighted average incidence rate for this cohort is driven lower than all others. The relatively large prevalence of younger lives in the "90 day" cohort is dominated by Group certificate holders; over 90% of the exposure for attained ages 50 and younger is attributable to Group certificates, while only about 10% of the corresponding exposure is attributable to Group certificates for the "100 day" cohort.

### **Incidence Rates by Attained Age, Elimination Period, and Policy Duration (Appendix D-2)**

For all attained age cohorts and elimination period categories combined, incidence rates increase for all but one duration cohort; the incidence rate decreased slightly from duration cohort 5 to duration cohort 6 (0.55% to 0.50%). This can be seen particularly at the older issue age cohorts. For all attained age cohorts and elimination period categories combined, the rate of increase is relatively smooth through duration 10 though, in fact, this is highly influenced by the changing mix of exposure and claims over the attained age cohort/elimination period cells. Rising incidence rates would reflect a typical pattern of the "wearing off" of underwriting as selection factors rise to an ultimate level.

### **Incidence Rates by Issue Age, Policy Duration, and Underwriting Category (Appendix D-2a)**

In the prior report, an aggregate approach was developed in order to infer the length of a selection period. Based on the aggregate analysis that required estimates for an average annual increase in incidence rates by attained age, and that combined Individual and Group experience, an eight-year selection period was suggested.

An alternative approach was undertaken in this report that involved a more granular view across different underwriting categories, issue age and attained age cohorts, for both Individual and Group products. In the form of a pivot table, Appendix D-2a enables more detailed studies beyond the representative studies presented in this section, which highlights the estimation of a selection period for cohorts with relatively large exposures.

By computing the ratio of the incidence rates for the attained age cohort 70-74 in the first policy duration to those of the same attained age cohort in the sixth duration, one can compute a raw selection factor for the first policy year. One can compute raw selection factors for subsequent policy years for this issue age cohort through the ratio of the incidence rates of the same two cohorts in subsequent policy years. For example, to compute the raw selection factor for policy year 4, one would ratio the incidence rate for

policies issued at ages 70-74 in duration 4 to the incidence rate for policies issued at ages 65-69 in duration 9.

Figure 2a provides this comparison for this cohort for fully underwritten policies for Individual, while Figure 2b provides the corresponding data for Group business. Figure 2c provides data for simplified issue policies.

**Figure 2a**  
**Claim Incidence Rates by Issue Age Cohorts**  
**Individual Fully Underwritten Business**

Duration t	Issue Age Groups		Raw Selection Factor
	65-69 Duration [5+t]	70-74 Duration [t]	
1	0.45%	0.35%	77.04%
2	0.52%	0.46%	87.67%
3	0.59%	0.62%	104.96%
4	0.69%	0.77%	111.98%
5	0.79%	0.93%	116.95%
6	0.82%	1.12%	137.01%
7	0.93%	1.20%	129.00%
8	1.04%	1.37%	132.11%
9	1.08%	1.59%	146.62%
10	0.97%	1.73%	178.83%

**Figure 2b**  
**Claim Incidence Rates by Issue Age Cohorts**  
**Group Fully Underwritten Business**

Duration t	Issue Age Groups		Raw Selection Factor
	65-69 Duration [5+t]	70-74 Duration [t]	
1	0.50%	0.37%	73.01%
2	0.56%	0.54%	96.50%
3	0.69%	0.40%	57.18%
4	0.95%	0.45%	47.18%
5	0.94%	0.64%	68.45%
6	0.92%	0.90%	97.30%
7	1.06%	1.30%	123.68%
8	1.20%	1.60%	133.19%
9	1.32%	2.28%	173.03%
10	0.70%	2.38%	341.10%



**Figure 2c**  
**Claim Incidence Rates by Issue Age Cohorts**  
**Group & Individual Simplified Issue Business**

Duration t	Issue Age Groups		Raw Selection Factor
	65-69 Duration [5+t]	70-74 Duration [t]	
1	1.88%	1.15%	60.92%
2	2.29%	1.59%	69.34%
3	2.73%	2.02%	73.94%
4	3.11%	2.44%	78.59%
5	2.93%	2.98%	101.50%
6	3.12%	3.38%	108.16%
7	3.59%	4.22%	117.51%
8	4.16%	4.88%	117.21%
9	4.92%	4.96%	100.84%
10	4.72%	5.31%	112.66%

Although the raw selection factors are similar in the first two durations, the fully underwritten Group experience continues to exhibit the effects of selection for several more years, while the corresponding Individual experience indicates that the effect of selection is eliminated after the second policy year. This difference may be caused by the relatively small amounts of exposure for the Group business; many of the attained age cohorts have barely 25,000 years of exposure. The simplified underwritten business, which is virtually all Individual business, exhibits selection through duration 4.

Based on the incidence rates for the issue age cohorts from age 60 through age 79, the Simplified Issue cohorts show the greatest degree of selection across all age cohorts. Fully underwritten experience indicates that the effect of selection is most extensive for policies issued between ages 75-79. For this issue age cohort, the effect of selection was 5% or more for the first 4 years, while for other issue age cohorts, the effect was eliminated by duration 3. Guaranteed issue policies showed the effects of selection from durations 2-8, but there was relatively low exposure for this cohort.

### **Incidence Rates by Attained Age, Elimination Period, and Gender (Appendix D-3)**

Figure 3 indicates that the incidence rate for females is modestly higher than that for males, except at the youngest ages, where they are nearly identical. When segmented by elimination period, only within the zero-day and 90-day cohorts below age 50 did males exhibit higher incidence rates than females.

When segmented by attained age, ratios of female to male incidence rates have increased modestly from the prior report, except at age cohorts greater than 79, where they exhibited a modest decrease. The zero-day elimination period was virtually identical between the two reports at both age cohorts greater than 79 and less than 50, while for all other elimination periods for age cohorts greater than 79, the margin between female and male incidence rates narrowed modestly.

**Figure 3**  
**Ratio of Female/Male Incidence Rates by Elimination Period, Attained Age Category**

Attained Age	Elimination Period Category in Days				
	Zero	20	90	100	All
< 50	60% *	214%*	92%	175%	101%
50-59	147%	132%	103%	145%	116%
60-69	126%	116%	109%	135%	125%
70-79	112%	111%	137%	133%	121%
80+	108%	113%	135%	126%	117%

\* These cells have less than 25,000 years of exposure.

### **Incidence Rates by Attained Age, Elimination Period, Issue Year, and Duration (Appendix D-4)**

As shown in Figure 4, while incidence rates by issue year cohort have continued to improve with time, for policies in the issue year cohort 1997-2001, the incidence rates increased slightly in relation to the corresponding rates from the prior report for the 20-day elimination period, and are slightly higher than those from prior issue year cohorts. For this and other issue year cohorts in their early durations, these changes are attributable to the additional data that has been contributed for this report from companies that did not contribute to the prior report. For the 90-day elimination period, however, incidence rates have been trending lower over time, with the exception of those in duration 7. Reasons for this improvement might include improved underwriting tools, better definitions of which impairments translate into long-term care risks, and increased market penetration leading to the coverage of a broader set of health risks. While the incidence rates for the issue period 2002-2004 were lower for the 90-day elimination period cohort, they are higher for duration 1 and 2 than for any prior issue period for the 80-84 attained age cohort. This could be attributable to a lowering of the maximum issue age for some companies, resulting in a smaller pool of policyholders in this category.

**Figure 4  
Incidence Rates over Issue Year Groups**

<b>Duration</b>	<b>Issue Year Group</b>	<b>20 Day Elim</b>	<b>90 Day Elim</b>
1	1984-87	0.56%	0.32%
	1988-91	0.50%	0.16%
	1992-96	0.43%	0.14%
	1997-01	0.92%	0.11%
	2002-04	1.37%*	0.06%
3	1984-87	0.89%	0.34%
	1988-91	0.78%	0.27%
	1992-96	0.66%	0.21%
	1997-01	1.54%	0.19%
	2002-04	0.73%*	0.05%
5	1984-87	1.40%	0.44%
	1988-91	0.99%	0.26%
	1992-96	0.90%	0.36%
	1997-01	1.64%	0.31%
7	1984-87	1.76%	0.00%*
	1988-91	1.32%	0.18%
	1992-96	1.17%	0.50%
	1997-01	1.23%	0.38%

\* These cells have exposures of less than 25,000 years.

**Incidence Rates by Attained Age, Elimination Period, and Benefit Period (Appendix D-6)**

Incidence rates were compared by benefit period to ascertain any effect of antiselection at issue or reduced reticence to begin drawing claims benefits. For all elimination period categories, the average incidence rates for longer benefit periods (unlimited or lifetime) do not appear to be consistently higher than in benefit period categories 1-4 or 5+ (5 or more but not unlimited), and are somewhat lower overall. For policyholders attaining age 70 and higher upon satisfaction of the elimination period, the incidence rate was modestly lower for benefit period categories 1-4 than for any other benefit period category. This may be the result of increased prevalence of Partnership products, which tend to exhibit lower benefit periods than non-Partnership policies. Overall, antiselection may be minimal or may be masked by the use of offers of shorter benefit periods for applicants with less robust health histories. This result is consistent with that found in the prior report.

**Incidence Rates by Attained Age, Elimination Period, and Maximum Daily Benefit (Appendix D-7)**

Incidence rates were compared by maximum daily benefit to ascertain any effect of antiselection. Because the incidence rates exhibited little variation by daily benefit amount, antiselection does not seem apparent. This result is consistent with that found in the prior report.

**Incidence Rates by Attained Age and Marital Premium Discount (Appendix D-9)**

Incidence rates were compared by marital premium discount to determine the differences between claim incidence rates between these two categories. As illustrated in Figure 4a, incidence rates for Individual policies with a marital discount were only about 1/3 of those without a marital discount.

For the attained age cohorts of Individual business, the lack of a marital premium discount was associated with higher incidence rates for every attained age cohort through age 84. For attained ages beyond 84, the incidence rates were higher for policies with marital discounts than those without them. The greatest differences were for the youngest attained age cohorts. This could be attributable to the tendency for married individuals to receive care from their spouses before turning to their Long-Term Care policies for the financing of care.

**Figure 4a  
Summary of Data Underlying Marital Discount Analysis  
Individual-Type Policies Only**

<b>Marital Discount Category</b>	<b>Exposure</b>	<b>Claims</b>	<b>Incidence Rate</b>
Has Discount	4,007,062	11,573	0.29%
No Discount	6,665,406	50,769	0.76%
Unknown	10,415,559	103,420	0.99%
Total	21,088,027	165,762	0.79%

**Continuance by Elimination Period (Appendix E-1)**

Persistency on claim is measured from the end of the elimination period to the termination of the claim by death, recovery or benefits exhaustion. For elimination periods other than zero day, claims that terminate before satisfaction of the elimination period are excluded in determining continuance rates, because they are not relevant in continuance measurement.

Continuance on claim across all elimination periods lengthened slightly in relation to the prior report for the first 30 days, but lengthened modestly by the 365 and 730-day points.

**Figure 5**  
**Percentage Persisting at Least N Days**  
**Current vs. Prior Report**

<b>Duration From Incurral Date (Days)</b>	<b>Current</b>	<b>Prior</b>
1	99.71%	99.69%
2	99.41	99.29
3	99.08	98.89
4	98.70	98.39
5	98.31	97.89
10	96.19	95.04
20	92.40	90.16
30	88.93	85.75
60	81.41	76.46
90	76.13	70.41
120	71.68	65.94
180	65.12	59.58
365	51.58	46.64
730	35.43	32.29

In order to make a meaningful comparison of claim continuance across elimination period categories, the figures should be adjusted to account for differences in elimination period. Figure 6 compares the zero-day elimination period category continuance with that of the other three continuance categories, reformatting the data so that the “7-30 day,” “31-80 day”, and “90+ day” continuance data begin at the 20th, 50th and the 90th days, respectively. The percentages indicate the comparison of zero-day elimination continuance to data from each of the other categories. Zero-day elimination period claimants stay on claim longer, based on these approximations for differences in elimination period.

**Figure 6**  
**Persistency on Claim Relative to Zero Day Elimination Period Category**

<b>Duration from Incurral</b>	<b>7-30 Days</b>	<b>31-80 Days</b>	<b>90+ Days</b>
20	100%		
25	98		
30	95		
35	93		
40	90		
50	86	100%	
60	83	98	
90	75	90	100%
120	69	84	95
180	61	74	88
365	47	56	71
730	32	37	51

**Continuance by Gender (Appendix E-2)**

The percentage persisting for n days or longer is similar for males and females at early claim durations. At durations from 30 through 180 days, female continuance is slightly shorter than male continuance, but after 180 days, male continuance was modestly shorter than female continuance. In the prior report, male continuance did not diverge from female continuance until after 90 days. Continuance for both genders increased in relation to the prior report, with male continuance increasing from just under 27% in the prior report to close to 33% at 730 days.

**Figure 7**  
**Percentage Persisting at Least N Days by Gender**

<b>Duration From Incurral Date (Days)</b>	<b>Female</b>	<b>Male</b>
1	99.74%	99.66%
2	99.44	99.35
3	99.12	99.01
4	98.74	98.63
5	98.37	98.22
10	96.18	96.19
20	92.31	92.56
30	88.72	89.30
60	80.92	82.30
90	75.60	77.10
120	71.31	72.36
180	65.05	65.26
365	52.24	50.37
730	36.85	32.91

**Continuance by Age (Appendix E-3)**

At almost all claim durations, persistency on claim increases as the age of the claimant increases. This may be due to fewer recoveries as age increases. However, at durations past 365 days, the 85-89 and 90+ cohorts' persistency on claim is lower than those of younger claimants. This may be caused by the dominance of terminations by mortality for these age cohorts.

**Figure 8  
Percentage Persisting at Least N Days by Age at Incurral**

Duration (Days)	Incurral Age Group				
	55-64	65-74	75-84	85-89	90+
1	99.21%	99.65%	99.71%	99.83%	99.90%
2	98.89	99.30	99.40	99.57	99.60
3	98.58	98.81	99.07	99.38	99.39
4	98.19	98.30	98.68	99.10	99.19
5	97.81	97.75	98.30	98.85	98.90
10	95.50	94.93	96.13	97.28	97.66
20	91.68	90.52	92.26	94.19	94.34
30	88.09	86.55	88.69	91.29	91.43
60	79.55	77.72	81.29	84.75	84.22
90	72.83	71.85	76.15	80.00	78.59
120	67.73	67.26	71.76	75.71	73.69
180	59.73	60.54	65.44	69.13	66.13
365	45.82	48.28	52.25	54.18	48.89
730	34.12	34.55	36.28	34.98	28.59
1095	26.77	25.23	24.69	21.70	14.52
1460	19.81	17.47	15.72	12.15	6.91
1825	15.05	12.22	10.30	7.42	3.80

## **Technical Notes on Continuance on Claim**

The continuance tables in this report are based on raw claim data without any adjustments for smoothing or graduation. This section documents the methodology to provide a framework for understanding and developing conclusions about the limitations of the data.

A value of one is assigned to each day a claimant is on claim, beginning with the earliest date on which services began after the elimination period, if any, was satisfied. After the latest date for which services ended, the claim was given a value of zero again. Claims incurred on which no payment was ever made or which show zero benefit days are excluded from continuance calculations.

Data was tabulated separately using different characteristics; elimination period, gender and age. The elimination period categories were set to aggregate data into “like” periods because the data available for some elimination periods was very small.

Data was initially tabulated for claims marked open, closed or unknown as of the end of the observation period. There appears to be wide variation in the labeling of claims by company, so some of the data were adjusted to separate data into only an open or closed status. No adjustment was made for claims initially marked closed. For each claim initially marked open or unknown, if the latest service end date was different than the observation date by more than 180 days, the claim status was adjusted to closed. Claims marked closed due to benefit expiry were removed from continuance calculations as of the date of the last payment.

Bifurcation of claims between those open and closed as of the end of the observation period enables an effective study of continuance behavior. Open claim data can be used to support continuance curve research, but its usefulness is limited to the time of the observation period. The persistency-on-claim data reported here combine the experience of the open claims (from inception to the observation date) and closed claims.

“Number of claims open” is the number of claimants marked open with a value of 1 for that particular duration. For example, 749 claims open means that there were 749 claimants which were open as of the end of the observation period, and persisted until at least that duration.

"Number of claims closed" is the number of claims that closed on or before the end of the observation period that persisted until at least that duration.

In measuring persistency from one duration to the next, only the claims that are observable at the next duration can be counted. Claims closed because of benefit exhaustion are included in the exposure calculations through the end of the duration in which they are closed, but are not included in the number of terminating claims for purposes of determining claim continuance. In order to obtain this result, the claims



exposed at the beginning of a duration are adjusted for the claims closed because of benefits exhaustion during the prior duration.

The beginning exposure for duration t is derived from the number of observable claims as of the next duration, t+1, plus those claims that were closed for reasons other than benefit expiry at some point in time between duration t and duration t+1.

Symbolically,

Beginning exposure<sub>t</sub> =

All observable claims<sub>t+1</sub> + All Claims Closed<sub>t</sub> - Claims Closed Due to Benefit Expiry<sub>t</sub>

The number of claims terminating during a duration, for purposes of computing claim continuance, is equal to the number of claims closed during that duration for reasons other than benefit exhaustion. Thus, the number of claims terminating during duration t is determined by subtracting the total number of claims that were closed during duration t because of benefit exhaustion from the total number of claims that terminated during that time. Symbolically,

Terminating<sub>t</sub> = Closed<sub>t+1</sub> - Closed<sub>t</sub> - Closed EOB<sub>t</sub>, where

Terminating<sub>t</sub> = Claims terminating between duration t and t+1,

Closed<sub>t+1</sub> = Claims closed on or before duration t+1 for all reasons,

Closed<sub>t</sub> = Claims closed on or before duration t for all reasons,

Closed EOB<sub>t</sub> = Claims closed during duration t because of benefits exhaustion.

The "Percent Persisting n days" is determined by:

Percent Persisting n-1 days \* [1 - (terminating on day n/beginning exposure n)].

## SECTION II - CAUSE OF CLAIM

This section presents information relating to the primary diagnosis for long-term care claimants in this report. Eight to nine categories have been selected for analysis in the following sub-sections of this report with respect to Nursing Home claims and Home Health Care/ADC/Other (“Home Health Care”). Assisted Living Facility claims are included in this analysis as Nursing Facility claims.

Appendices G-1 through G-16 detail the number of claims, days on claim and dollars of claim payment, as well as average payments, average days and average payments per day by primary diagnosis groups along with other policy and claim characteristics.

For this report, a “*Total*” claims analysis was also performed to allow the inclusion of over 25% (\$1.5 billion) of the claim payments submitted that did not distinguish between Nursing Home and Home Health Care settings. Therefore, “*Total*” claims includes all Nursing Home claims, Home Health Care claims and those claims that were not identified as either Nursing Home or Home Health Care. Total claims are analyzed for the same diagnosis categories as Nursing Home and Home Health Care claims. A claimant that has both Nursing Home and Home Health Care claims is counted as one claim in the Total claims analysis and the day/visits and claim payments are combined. For the “*Total*” claims analysis, a Home Health Care “visit” is considered the same as one Nursing Home “day.”

Throughout Section II of this report and Appendix G, Home Health Care “day” is synonymous to “visit.” For Home Health Care claims, the length of claims is based upon actual “visits” or “days” of service.

Since a new data format was implemented for participants in the current report, a mapping of data from the previous report to the current format was necessary. During the mapping process, it was determined that for some participants, the claim dollars and claim day/visits had not been correctly summarized. This resulted in over counting the claim dollars by over \$1 billion and the claim day/visits by \$1 million. This has been corrected in the current report and is a contributing factor to the differences between the prior report and this one.

Compared with the prior report through 2001, significantly more Nursing Home and Home Health Care claim records were captured with diagnosis information (for Nursing Home 102,821, compared with 47,325 in the last report, for Home Health Care 52,272, compared with 16,734 in the last report). Despite this increase in data, the Home Health Care and, to a lesser extent, the Nursing Home data for some of the more detailed breakdowns is still not credible. Some judgment was used to exclude less credible cells from our analysis and comments that follow.

Of the 102,821 claims that had Nursing Home payments, 78,659 (77%) were coded with primary diagnosis information (compared to 76% in the last report). Of the 52,272 claims that had Home Care payments, 44,016 (84%) were coded with primary diagnosis.

Claims coded with diagnosis “Other/Unknown” have remained about the same for both Nursing Home and Home Health Care. The “other” diagnosis group includes claims in the ill-defined/miscellaneous condition diagnosis group as well as any diagnosis group where the prevalence was less than 1.0% of the total. Unless otherwise noted, the following analysis excludes the “Other/Unknown” diagnosis category.

In summary, for all claims combined (with or without diagnosis information), the average claim (whether open or closed) has a length of 368.4 days and \$34,733. For those with a diagnosis, the averages are 397.1 days and \$38,788. As mentioned in the Introduction Section, the average length of claim is based upon the lesser of the actual days of service and the length of time between the service begin and service end dates.

The chart below summarizes the findings of Cause of Claim Analysis.

## Summary of Cause of Claim Findings: 1984-2004

	Nursing Home	Home Health Care	Total
<b>Top Cause of Claim (G-2)</b>			
-by claim count	Alzheimer's (26.7%)	Alzheimer's (17.5%)	Alzheimer's (24.3%)
-by average claim payments	Alzheimer's (\$58K)	Stroke (\$29k)	Alzheimer's (\$59K)
-by length of claim	Alzheimer's (659 days)	Nervous System (284 visits)	Alzheimer's (558 days)
<b>Open vs. Closed Status (G-3)</b>			
-open (average number of days/visits)	557 days	352 visits	529 days/visits
-closed (average number of days/visits)	410 days	139 visits	347 days/visits
<b>Male vs. Female (G-4)</b>			
-male (leading cause of claim)	Alzheimer's (28%)	Alzheimer's (18%)	Alzheimer's (26%)
-female (leading cause of claim)	Alzheimer's (26%)	Arthritis (18%)	Alzheimer's (24%)
<b>Attained Age Group (G-5)</b>			
-<65 (leading cause of claim)	Nervous Systems (24%)	Cancer(28%)	Cancer(28%)
-65-74 (leading cause of claim)	Alzheimer's (28%)	Cancer (22%)	Alzheimer's (21%)
-75+ (leading cause of claim)	Alzheimer's (27%)	Alzheimer's (20%)	Alzheimer's (26%)
<b>Policy Duration (G-6)</b>			
-claim counts	constant prevalence by duration	decreasing prevalence by duration	constant prevalence by duration
<b>Incurral Year Group (G-7)</b>			
-leading diagnosis			
1984-1987	Circulatory (20%)	N/A	Circulatory, Injury (20%)
1988-1991	Alzheimer's (15%)	Alzheimer's (18%)	Alzheimer's (16%)
1992-1996	Alzheimer's (23%)	Alzheimer's (15%)	Alzheimer's (23%)
1997-2000	Alzheimer's (29%)	Alzheimer's (17%)	Alzheimer's (26%)
2001-2004	Alzheimer's (33%)	Alzheimer's (19%)	Alzheimer's (25%)
<b>Closed Status (G-8)</b>			
- leading cause of closure (of known status)	Death (66%)	Death (49%)	Death (61%)
<b>Issue Year Group (G-9)</b>			
- leading diagnosis			
1984-1987	Alzheimer's (15%)	Injury (15%)	Alzheimer's (17%)
1988-1991	Alzheimer's (24%)	Alzheimer's (17%)	Alzheimer's (25%)
1992-1996	Alzheimer's (34%)	Alzheimer's (19%)	Alzheimer's (28%)
1997-2000	Alzheimer's (36%)	Cancer (18%)	Alzheimer's (23%)
2001-2004	Alzheimer's (32%)	Cancer (18%)	Cancer (18%)
<b>Underwriting Type (G-10)</b>			
- full underwriting (Avg. \$ per day)	\$87	\$116	\$93
-simplified underwriting (Avg. \$ per day)	\$57	\$44	\$123
<b>Benefit Period Type (G-11)</b>			
-limited (average days)	409	170	339
-unlimited (average days)	574	141	509
<b>Average Number of Home Care Visits (G-12)</b>			
- leading diagnosis	N/A	Cancer (4.0 visits per week)	N/A
- overall average	N/A	Overall 3.2 visits per week	N/A
<b>Policy Type (G-13)</b>			
- group (leading cause of claim)	Alzheimer's (31%)	Nervous System (23%)	Alzheimer's (26%)
- individual (leading cause of claim)	Alzheimer's (27%)	Alzheimer's (17%)	Alzheimer's (24%)
<b>Marital Status (G-14)</b>			
-marital discount (average days per claim)	417	241	372
- no marital discount (average days per claim)	493	243	299

## **Definition of Terms**

*Average Claim Payments:* Total Payments/Tally

*Average Days:* Days/Tally

*Average per Day:* Average Claim Payments/Average Days

*Days:* The minimum of the number of days recorded (as service) for that claim or the length of time between the service begin date and the service end date.

*Tally:* Number of claims with either a Nursing Home and/or a Home Health Care payment. If a claim had payments in both locations, it is included in the tally of both Nursing Home and Home Health Care charts. If a claim had payments in both locations, the claim days and payments only reflect the portion of the claim attributable to each location.

*Total Payments:* The sum of the claim payments made for that claim within that claim location.

## **ICD-9-CM Codes by Diagnosis (Appendix G-1)**

Primary ICD9 codes were used to map claims into diagnosis categories. Appendix G-1 describes the mapping logic. Diagnosis is defined as the primary diagnosis at onset of claim.

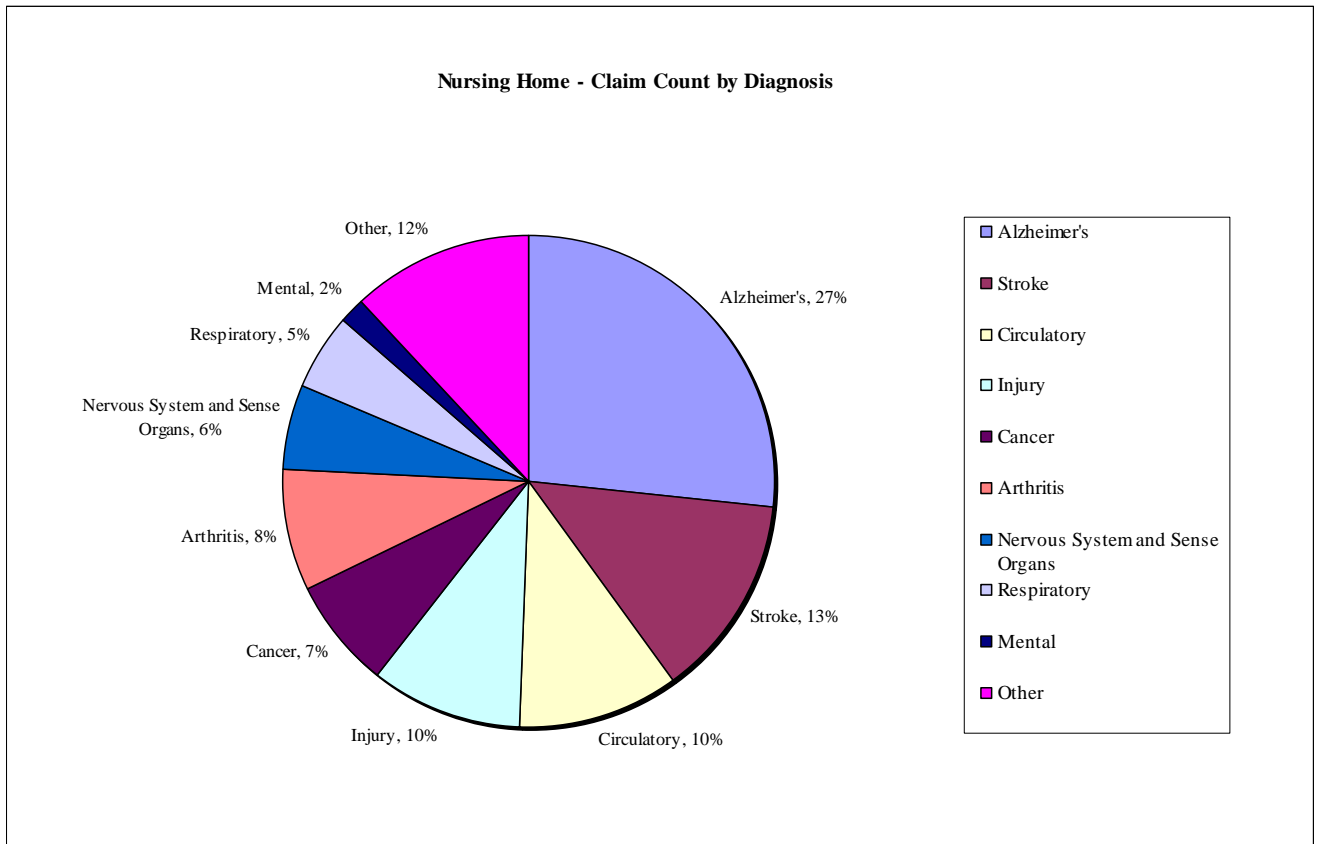
**Nursing Home, Home Health Care/ADC/Other Claims: Diagnosis Category Summary (Appendix G-2)**

For Nursing Home claims, Alzheimer’s claims have continued to increase in prevalence in recent years and remain the leading cause of claim in this report, now as prevalent as the next two most common causes combined. The leading causes of Nursing Home claims over the 1984 to 2004 period were Alzheimer’s (26.7%), Stroke (13.3%) and Circulatory (10.4%).

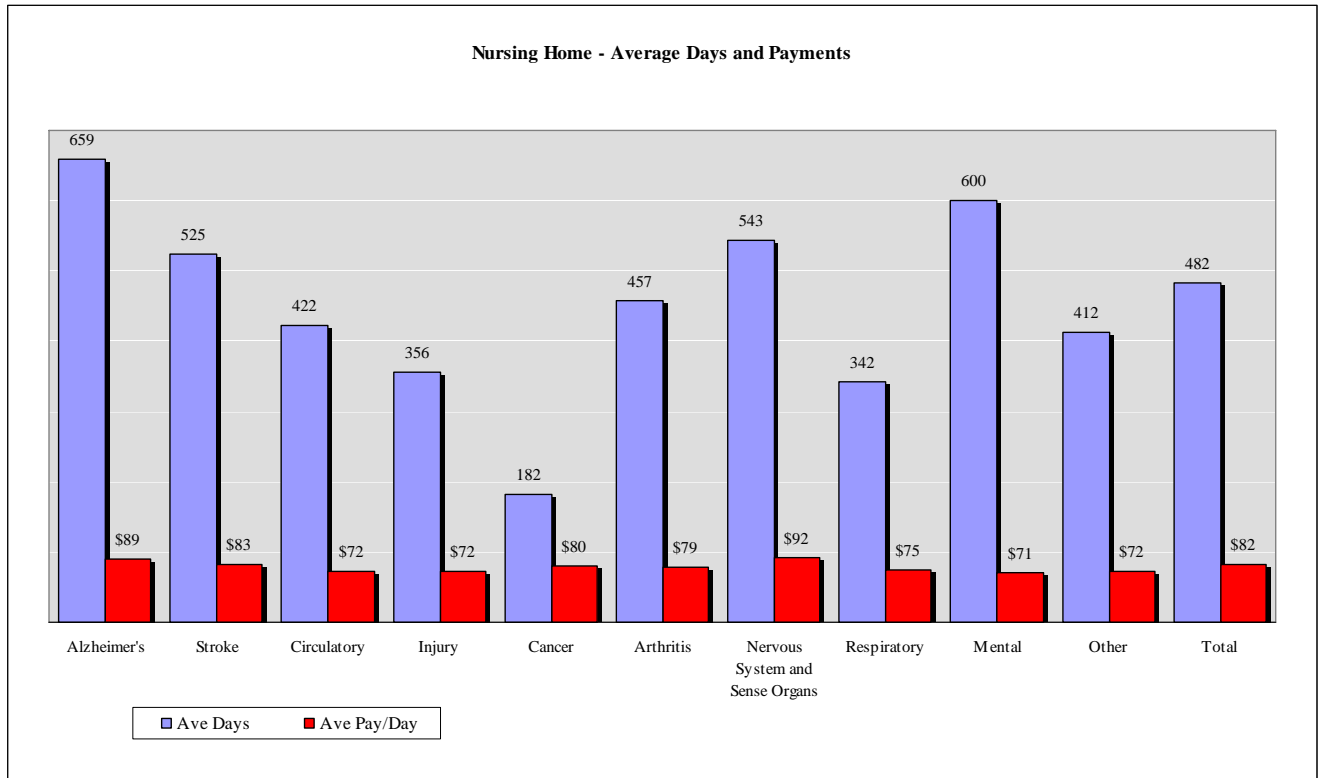
Average claim payments for Alzheimer’s were the most costly at \$58K, followed by Nervous System (\$50K), Stroke (\$44K) and Mental (\$43K). The least costly claims are Cancer (\$15K), Pregnancy Disorders (\$21K) and Congenital (\$22K).

Alzheimer’s exhibited the longest average claim duration with 659 days, followed by Mental (600 days). The diagnosis groups with the shortest average Nursing Home claim duration were Cancer (182 days) and Genitourinary System (321 days). The diagnosis groups with the highest average claim payments per day were Nervous System (\$92/day) and Alzheimer’s (\$89/day). Among the least costly causes, as measured by average claim payments/day, were Pregnancy (\$59/day) and Hypertension (\$69/day).

**FIGURE 1: Distribution of Number of Nursing Home Claims by Diagnosis**



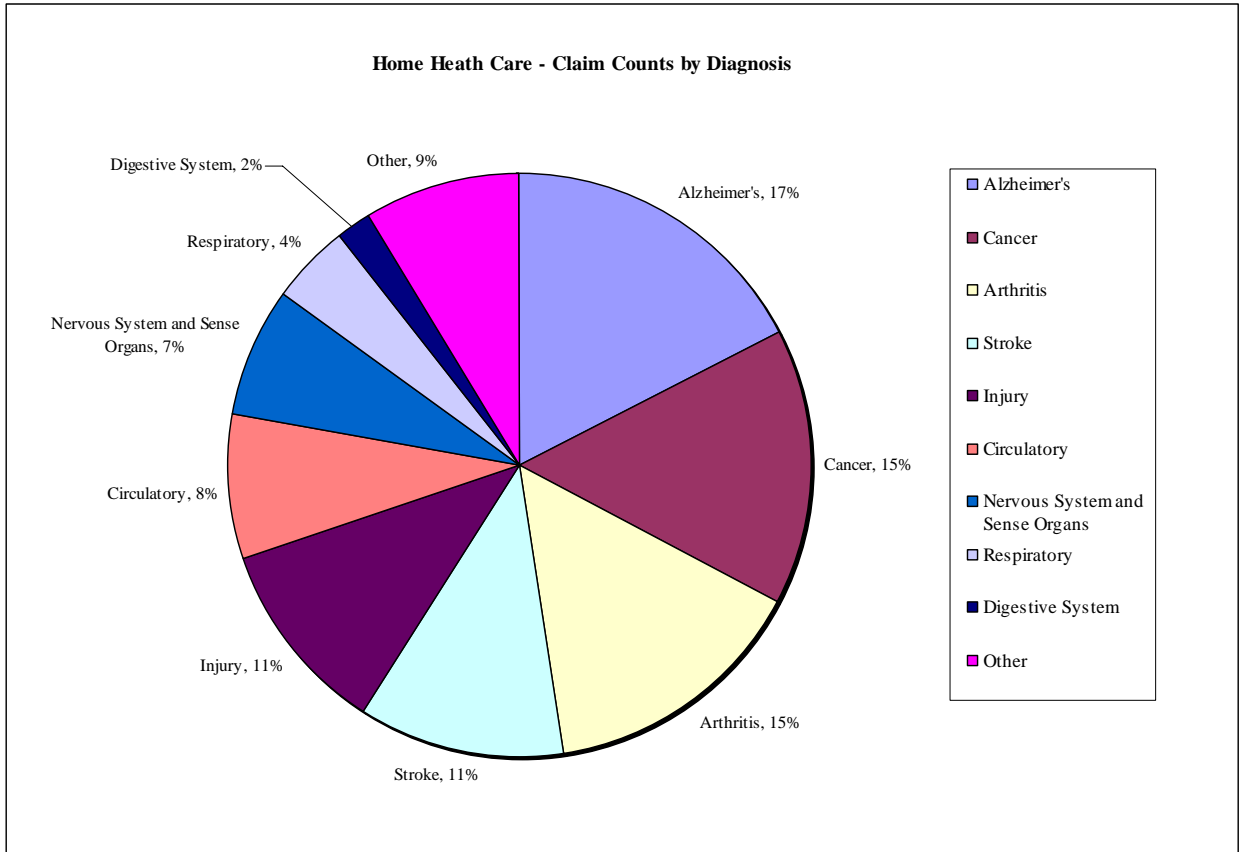
**FIGURE 2: Average Number of Days on Claim and Average Cost per Day for Nursing Home Claims by Diagnosis**



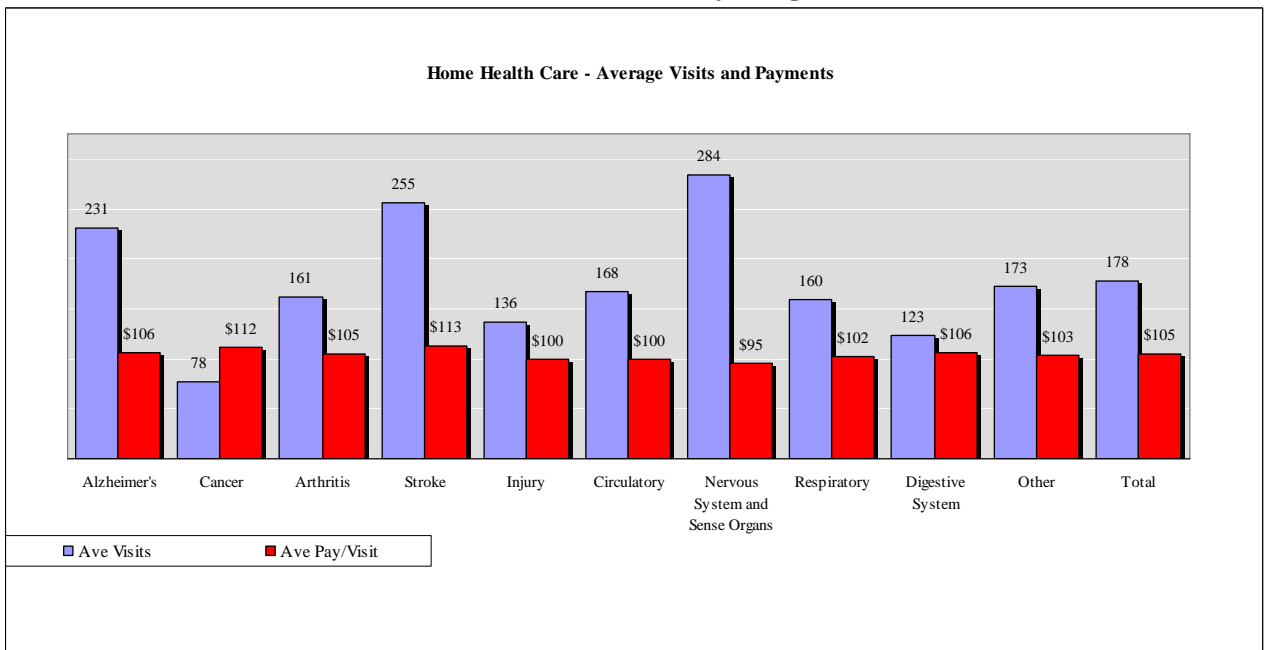
For Home Health Care claims, while still much smaller than the block of Nursing Home claims, the current report (data through 2004) has three times as many Home Health Care claims as the prior report (data through 2001). Home Health Care claims now contribute approximately one-third of the total claims. There were 52,272 claims with Home Health Care payments in the current report versus 16,734 in the prior report. While 24% of the Nursing Home claims were coded as diagnosis Other\Unknown, there were only 16% of the Home Health Care claims with an Other\Unknown diagnosis.

For the 1984 through 2004 Report, the leading Home Health Care diagnosis by claim count is Alzheimer's (17.5%), followed by Cancer (15.4%) and Arthritis (14.6%). In terms of average claim payments for Home Health Care claims, Stroke claims have the highest at \$29K, followed by Nervous System (\$27K). On the lower side of the average claim payments were Pregnancy (\$7.0K) and Congenital (\$8.3K), although both of these had very low frequency. Average visits for Home Health Care claims were the longest for Nervous System (284) and Stroke (255) claims. Viewing only diagnosis groups with at least 100 claims in the report, the Mental diagnosis group exhibited the highest average payments per visit at \$114/visit, followed by Stroke (\$113/visit) and Cancer (\$112/visit). Among the least costly diagnosis groups were Diabetes (\$86/visit), Nervous Systems (\$95/visit) and Hypertension (\$95\$/visit). Compared with Nursing Home claims, Home Health Care claims had a shorter average length of claim for all diagnosis groups.

**FIGURE 3: Distribution of Number of Home Health Care Claims by Diagnosis**



**FIGURE 4: Average Number of Visits per Claim and Average Cost/Visit for Home Health Care Claims by Diagnosis**



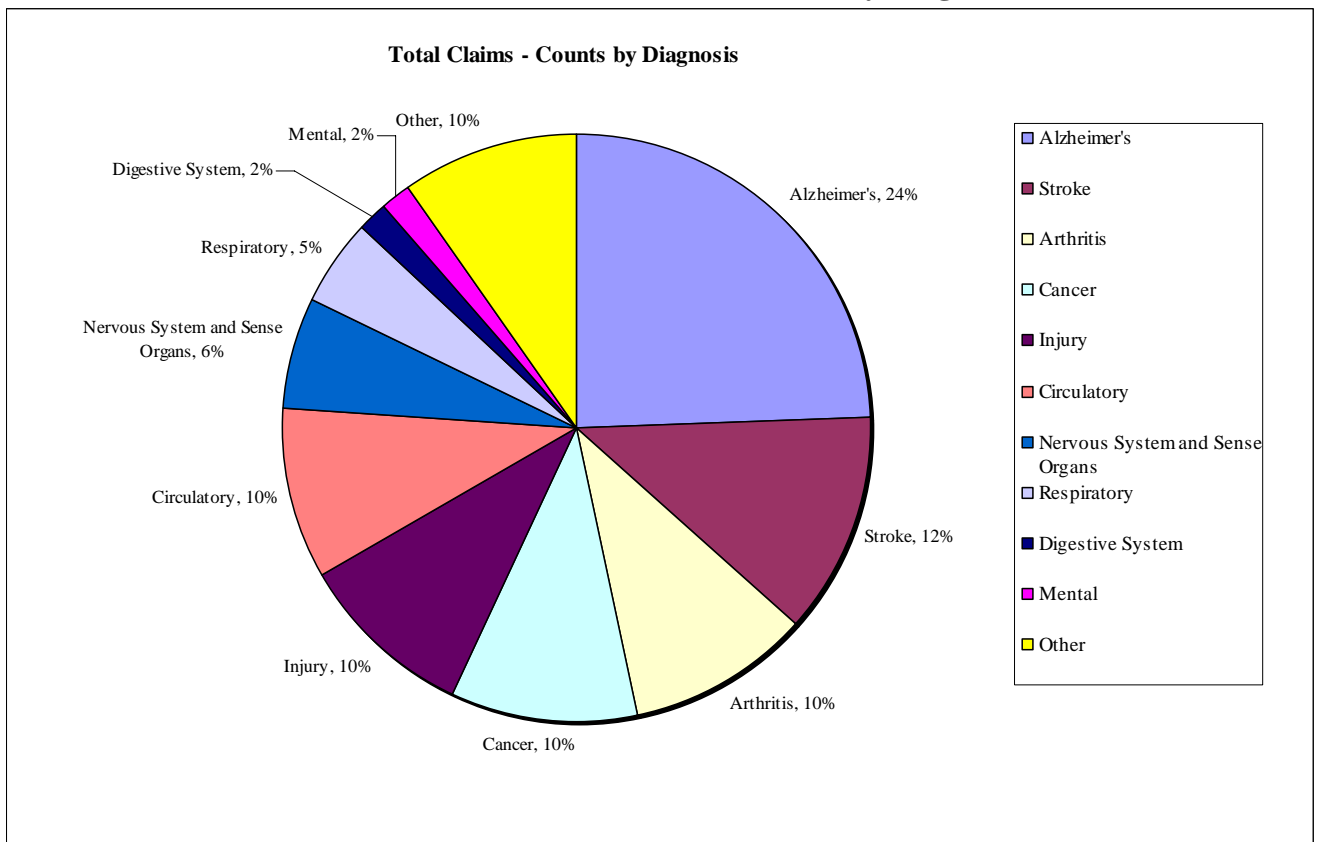


For Total claims, over the 1984 to 2004 period, the leading causes of claims were Alzheimer's (24.3%), Stroke (12.2%) and Arthritis (10.2%).

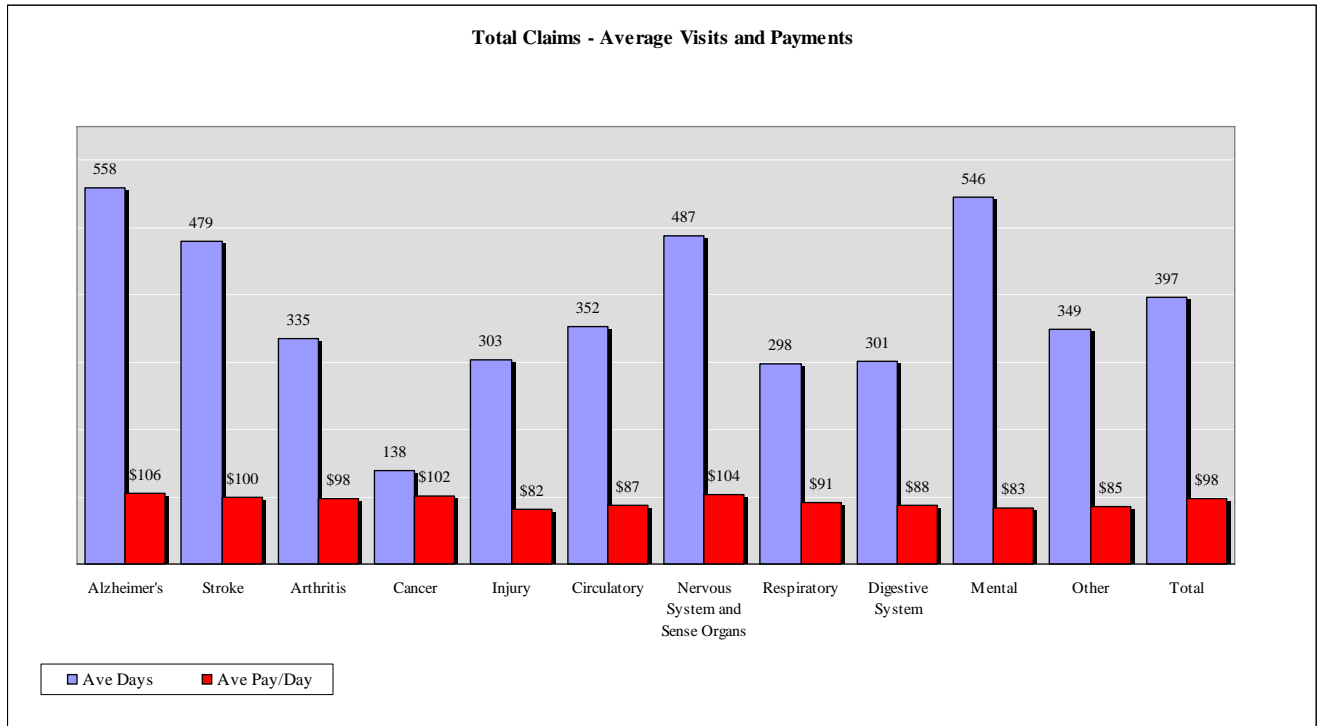
Average claim payments for Alzheimer's were the most costly at \$59K, followed by Nervous System (\$51K), and Stroke (\$48K). The least costly claims are Cancer (\$14K), Pregnancy Disorders (\$18K) and Congenital (\$21K).

For Total Claims, Alzheimer's exhibited the longest average claim duration with 558 days/visits, followed by Hypertension (489 days). The diagnosis groups with the shortest average Total claim duration were Cancer (138 days) and Genitourinary System (262 days). The diagnosis groups with the highest average claim payments per day were Alzheimer's (\$106/day) and Nervous System (\$104/day). Among the least costly causes as measured by average claim payments/day, were Pregnancy (\$65/day) and Congenital (\$69/day).

**FIGURE 5: Distribution of Number of Total Claims by Diagnosis**



**FIGURE 6: Average Number of Day/Visits per Claim and Average Cost per Day/Visit for Total Claims by Diagnosis**

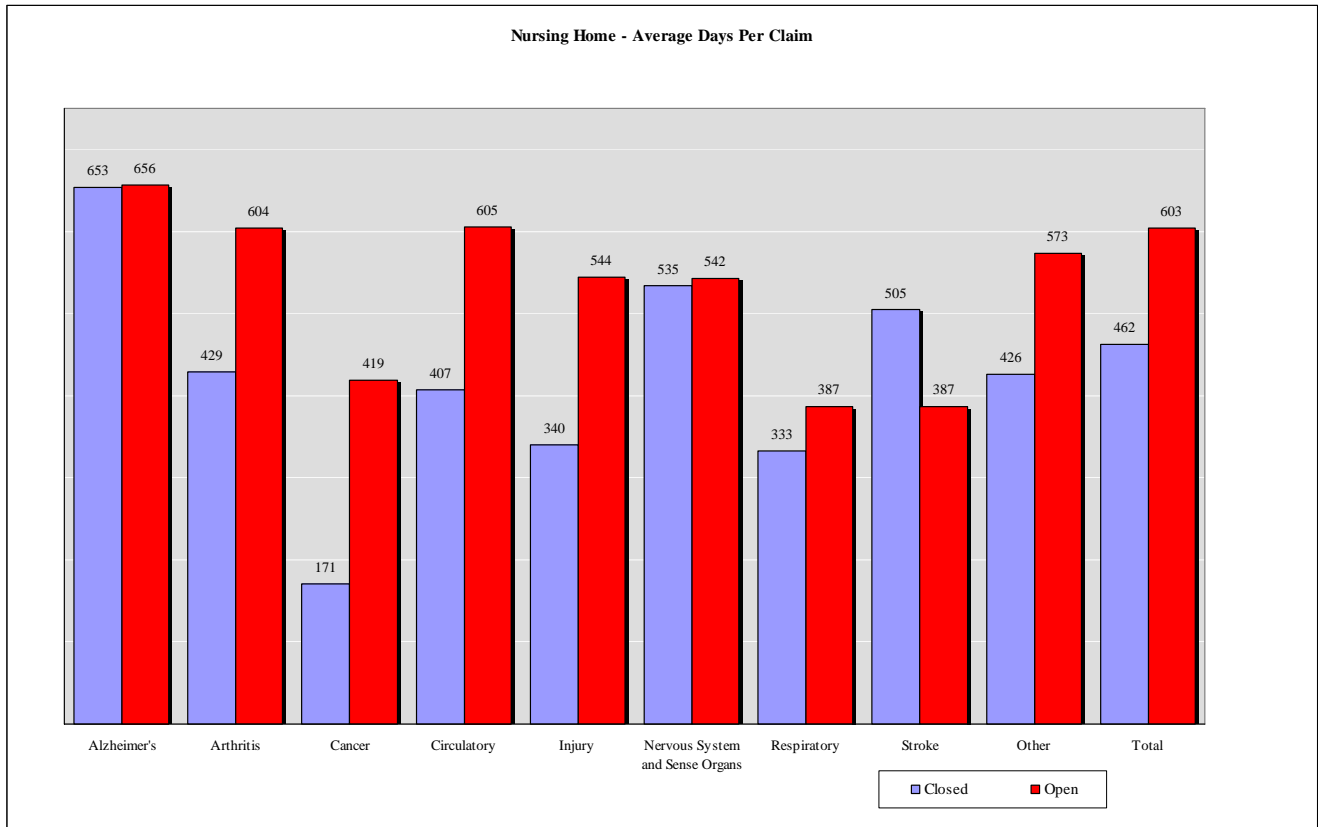


**Nursing Home, Home Health Care/ADC/Other Claims: Status Type and Diagnosis Summary (Appendix G-3)**

Appendix G-3 is the same as G-2, except that it breaks claims by open versus closed claim status.

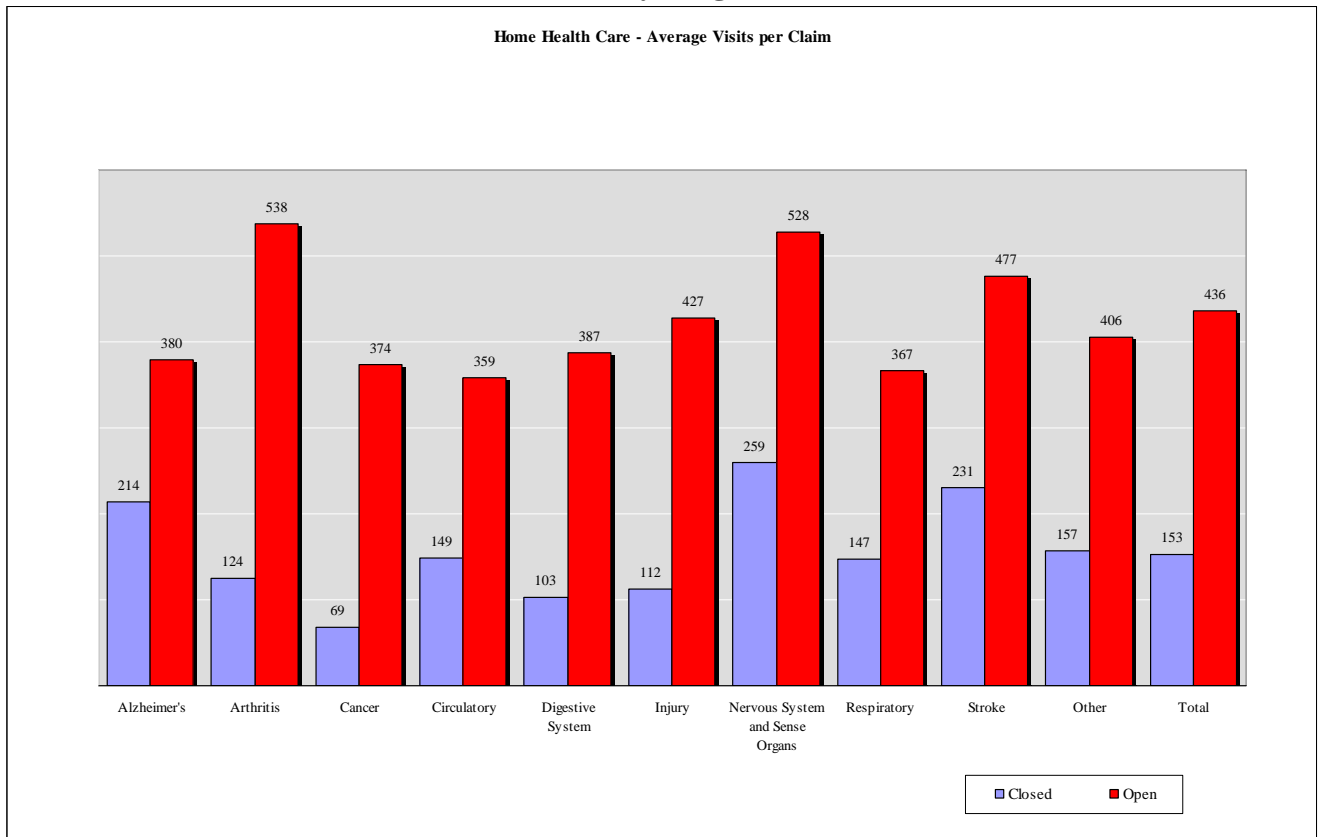
For Nursing Home claims contributing to the report, 96% were closed (88% in prior report). The average number of Nursing Home days on claim was 410 for closed claims compared to 557 for open claims. For closed claims, Alzheimer’s had the highest average days on claim (653 days), followed by Mental (594 days). For open claims, excluding diagnosis groups with less than 100 claims, Alzheimer’s had the highest average days on claim (656 days), followed by Circulatory at 605 days. Diagnosis groups with the highest percentage of open Nursing Home claims were Alzheimer’s (40%), Stroke (13%) and Injury (8%).

**FIGURE 7: Average Number of Days on Claim for Nursing Home Open and Closed Claims by Diagnosis**



For Home Health Care claims contributing to the report, 92% were closed (83% in prior report). The average number of claim visits was 139 for closed claims compared to 352 for open claims. For closed claims, Nervous Systems had the highest average number of claim visits (259 visits), followed by Stroke (231 visits) and Diabetes (221 visits). For open claims (excluding categories with under 100 claims), Arthritis had the highest average number of claim visits (538 visits), followed by Nervous Systems (528 visits) and Stroke (477 visits). Similar to open Nursing Home claims, the top three diagnosis groups with the highest percentage of open Home Health Care claims were Alzheimer’s (24%), Stroke (12%) and Nervous System (10%). Arthritis also had 9% of open claims.

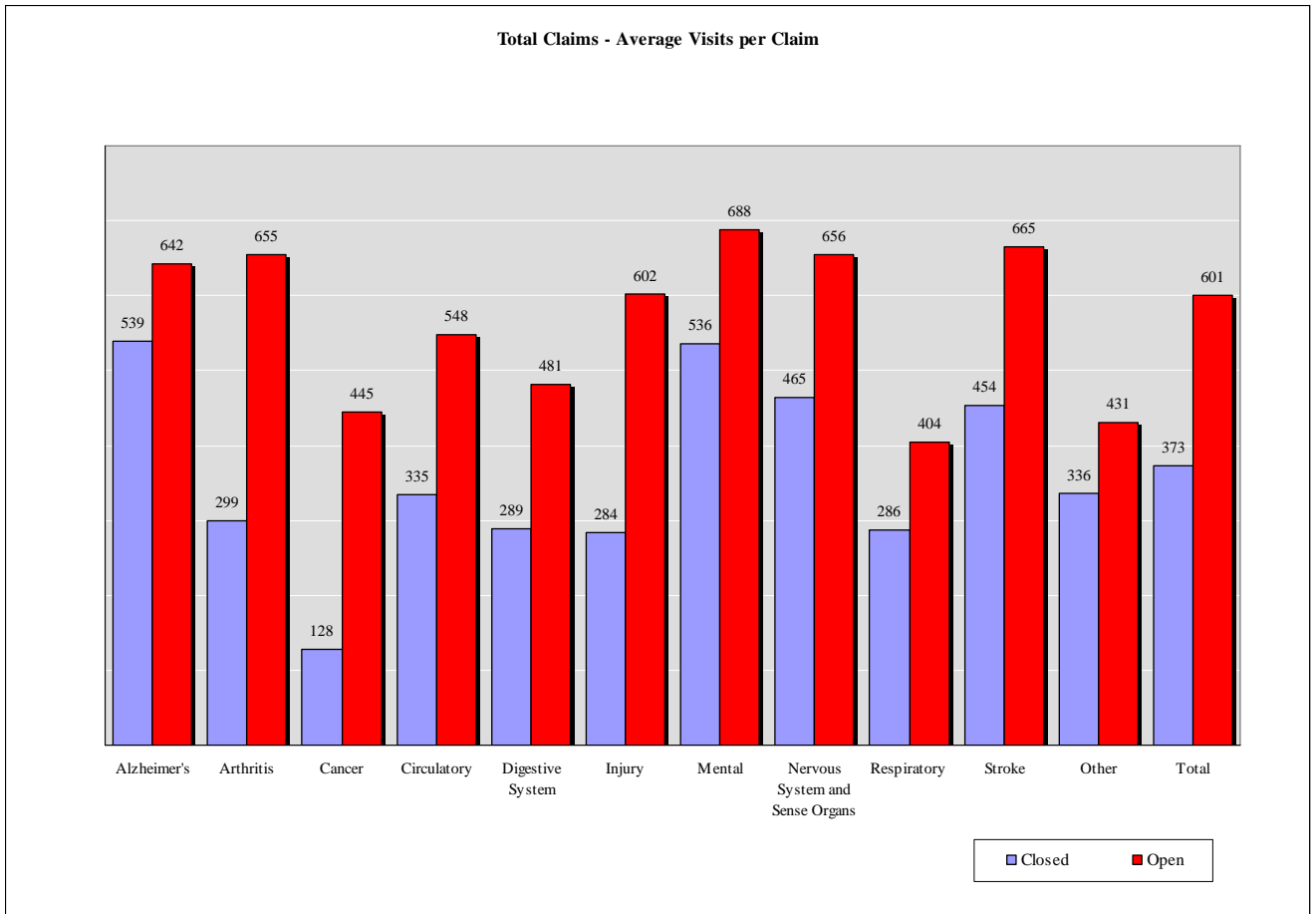
**FIGURE 8: Average Visits per Claim for Home Health Care Open and Closed Claims by Diagnosis**



For Total claims in this report, 96% of the claims were closed, which helps mitigate the impact that future experience from open claims will have on aggregate results. Based on average days on claim and average claim visits, open claims were significantly longer than closed claims for all diagnosis groups.

The average number of Total days/visits on claim was 347 for closed claims compared to 529 for open claims. For closed claims, Alzheimer’s had the highest average days on claim (539 days), followed by Mental (536 days). For open claims, excluding diagnosis groups with less than 100 claims, Stroke had the highest average days on claim (665 days), followed by Nervous Systems (656 days) and Arthritis (655 days). Diagnosis groups with the highest percentage of open Nursing Home claims were Alzheimer’s (31%), Stroke (11%), Nervous Systems (8%) and Arthritis (8%).

**FIGURE 9: Average Number of Days on Claim for Total Open and Closed Claims by Diagnosis**



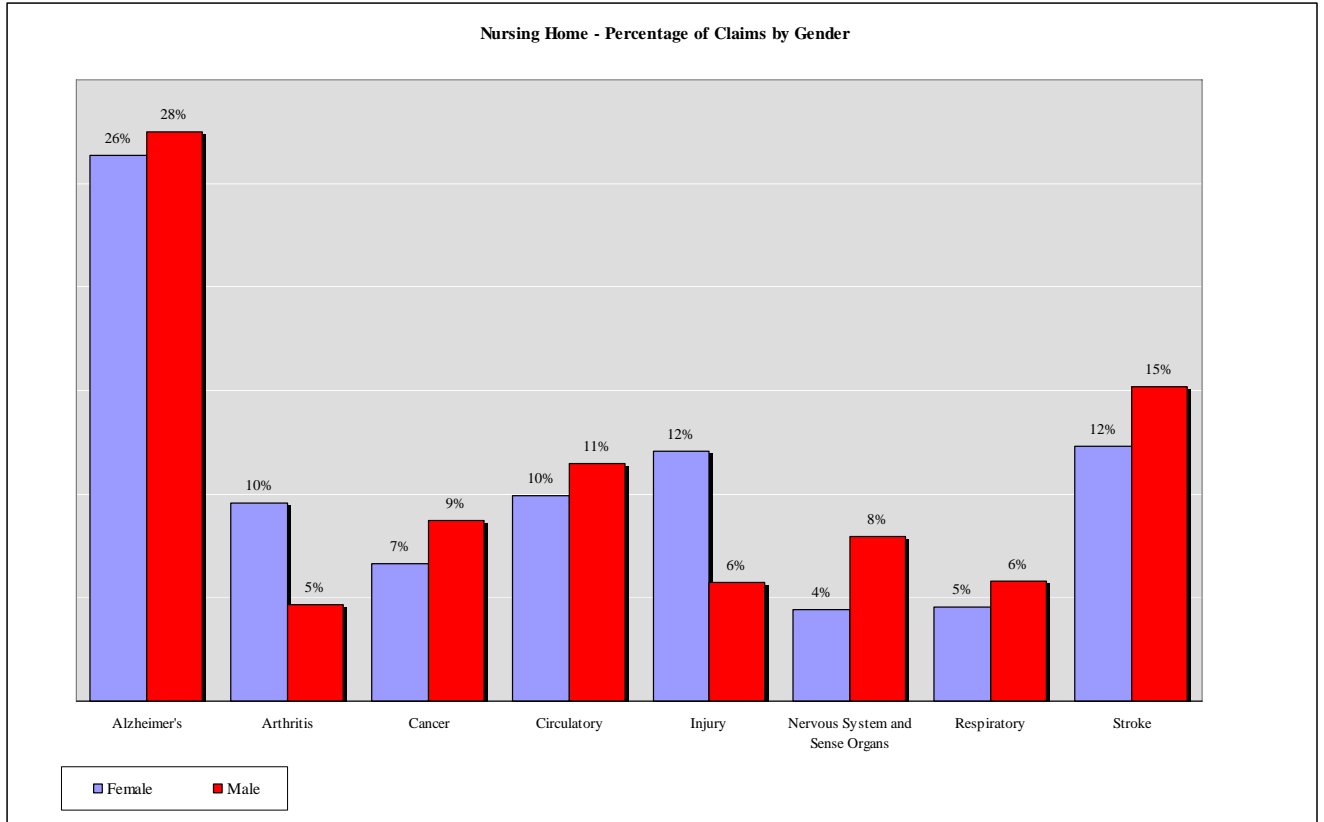
**Nursing Home, Home Health Care/ADC/Other Claims: Gender and Diagnosis Summary (Appendix G-4)**

Appendix G-4 compares claims experience by diagnosis category for males and females.

The trend of increased prevalence of Alzheimer’s claims is evident in both the male and female groups. Following Alzheimer’s, the next most prevalent diagnosis groups for both males and females remained unchanged from the prior report (Stroke – males, Injury – females). In terms of Nursing Home average days and Home Health Care average visits, both male and female groups experienced very similar days and visits as with the prior report.

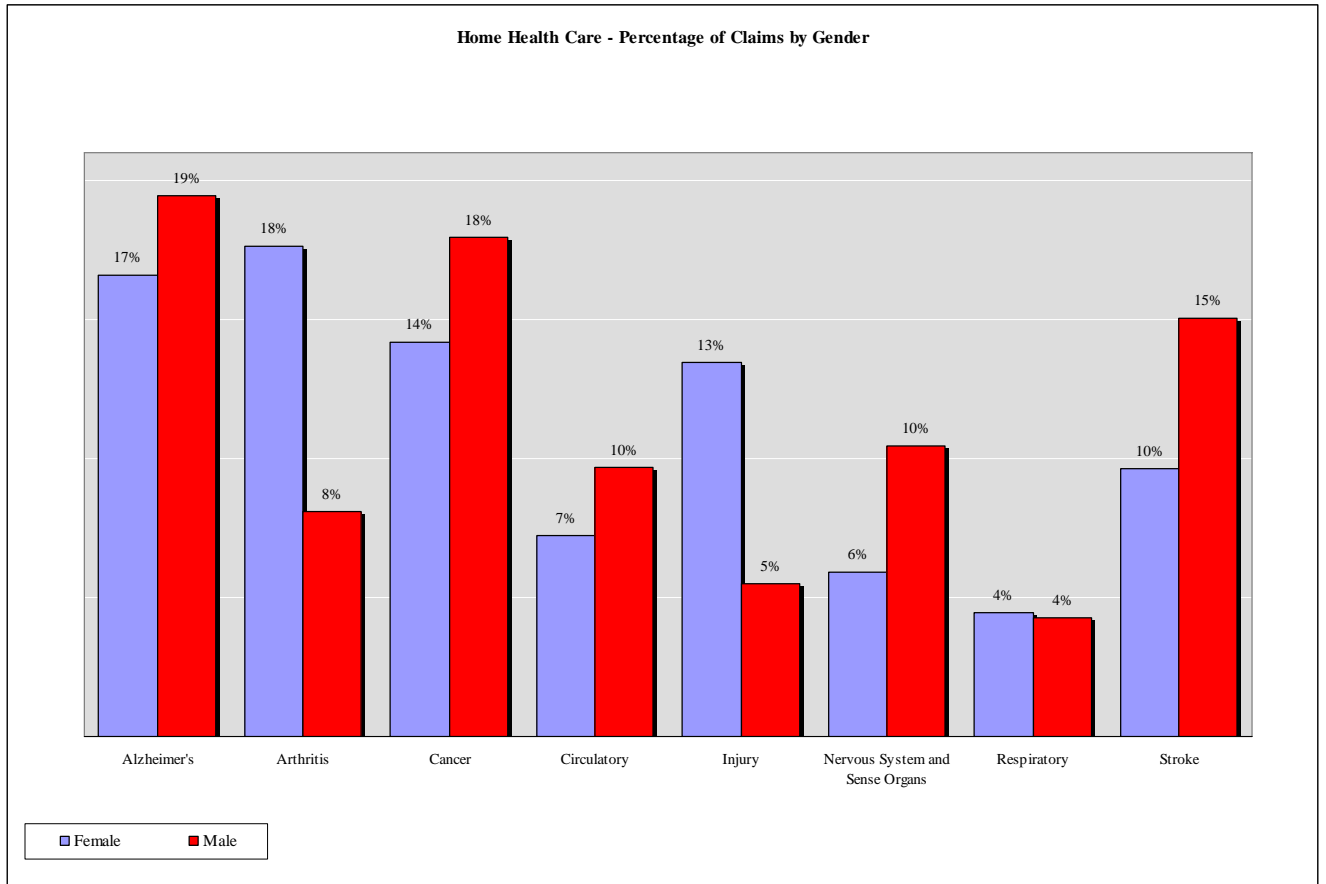
For both the Male and Female groups, Alzheimer’s was the leading cause of Nursing Home claims at 28% and 26%, respectively. Nursing Home Alzheimer’s claims were also the most costly in terms of highest average payments for both male and female. Following Alzheimer’s claims in prevalence were Injury (12%) and Stroke (12%) for females, and Stroke (15%) and Circulatory (11%) for males.

**FIGURE 10: For the Leading Diagnosis Codes, the Percentage of Nursing Home Claims for Each Gender**



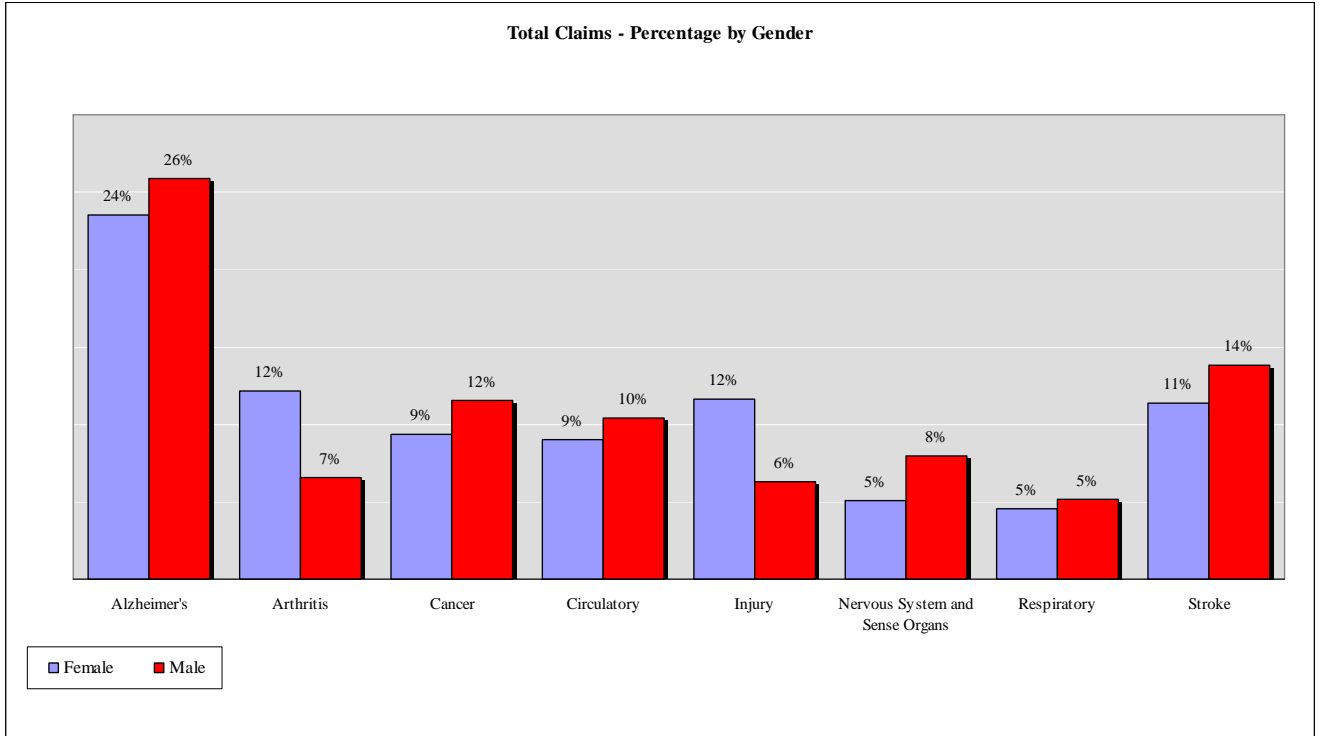
For Female Home Health Care claims, Arthritis claims were the most prevalent at 18%, followed by Alzheimer's (17%) and Cancer (14%). For Male Home Health Care claims, Alzheimer's claims were the most prevalent at 19%, followed by Cancer (18%) and Stroke (15%).

**FIGURE 11: For the Leading Diagnosis Codes, the Percentage of Home Health Care Claims for Each Gender**



For both Male and Female Total claims, Alzheimer's claims were the leading cause of claims at 26% and 24%, respectively. Following Alzheimer's claims in prevalence were Injury (12%) and Arthritis (12%) for females, and by Stroke (14%) and Cancer (12%).

**FIGURE 12: For the Leading Diagnosis Codes, the Percentage of Total Claims for Each Gender**





**Nursing Home, Home Health Care/ADC/Other Claims: Diagnosis Category by Attained Age Summary (Appendix G-5)**

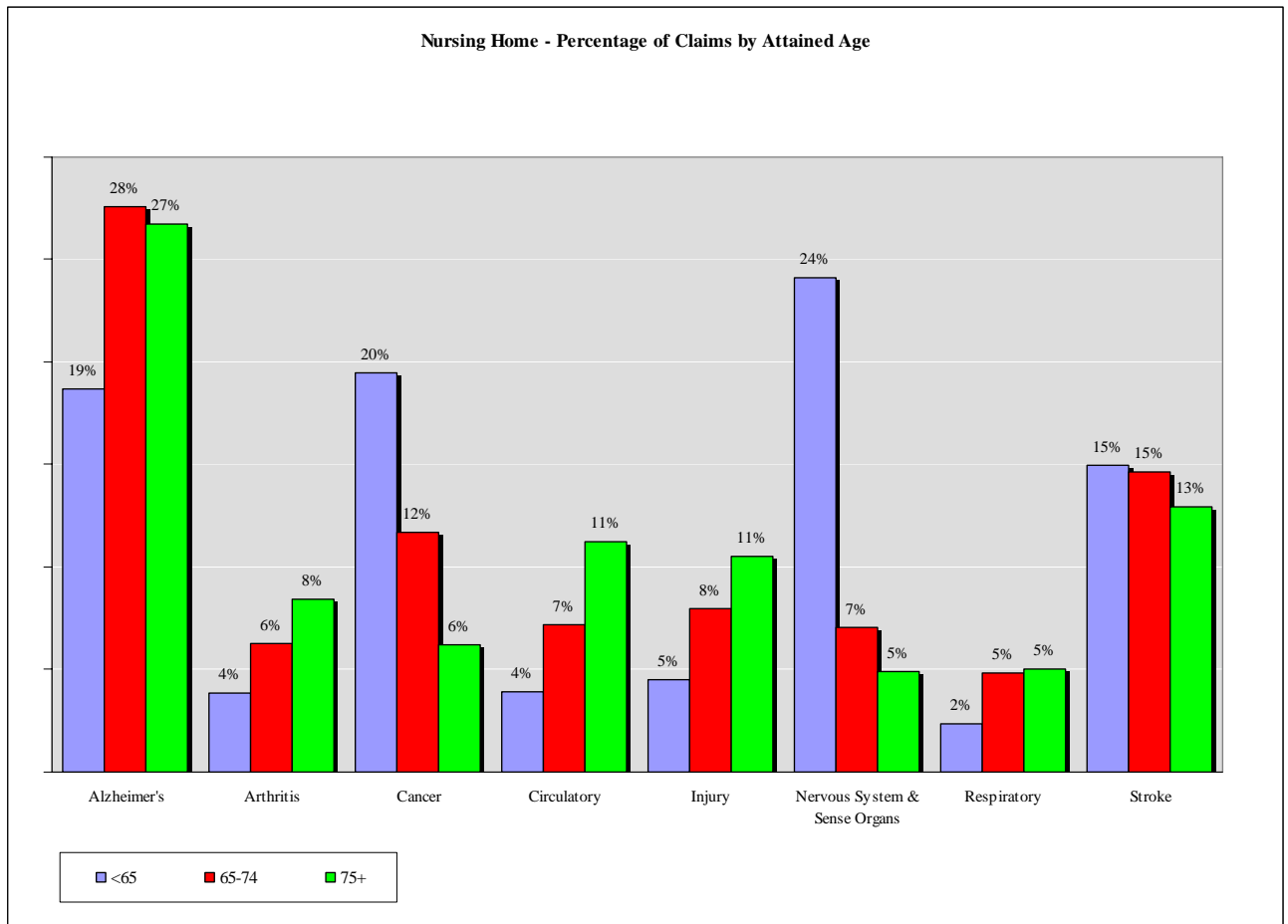
Appendix G-5 compares claims experience by diagnosis category by attained age.

The diagnosis groups with the highest percentage of Nursing Home claims for ages 75 and above were Alzheimer’s (27%), Stroke (13%), Circulatory (11%) and Injury (11%). For ages 65-74, the leading diagnosis groups were Alzheimer’s (28%), Stroke (15%), Cancer (12%) and Injury (8%). For claimant ages under 65, the leading diagnosis codes were Nervous Systems (24%), Cancer (20%), Alzheimer’s (19%) and Stroke (15%).

The diagnosis groups of Alzheimer’s and Mental have average claim durations and average payments per day that tend to decrease with age. Diagnosis groups of Arthritis, Cancer and Injury tend to increase with age.

In Figure 13 below, most Nursing Home diagnosis groups have increasing trends with age except cancer and nervous systems, which decrease, and stroke remains fairly level.

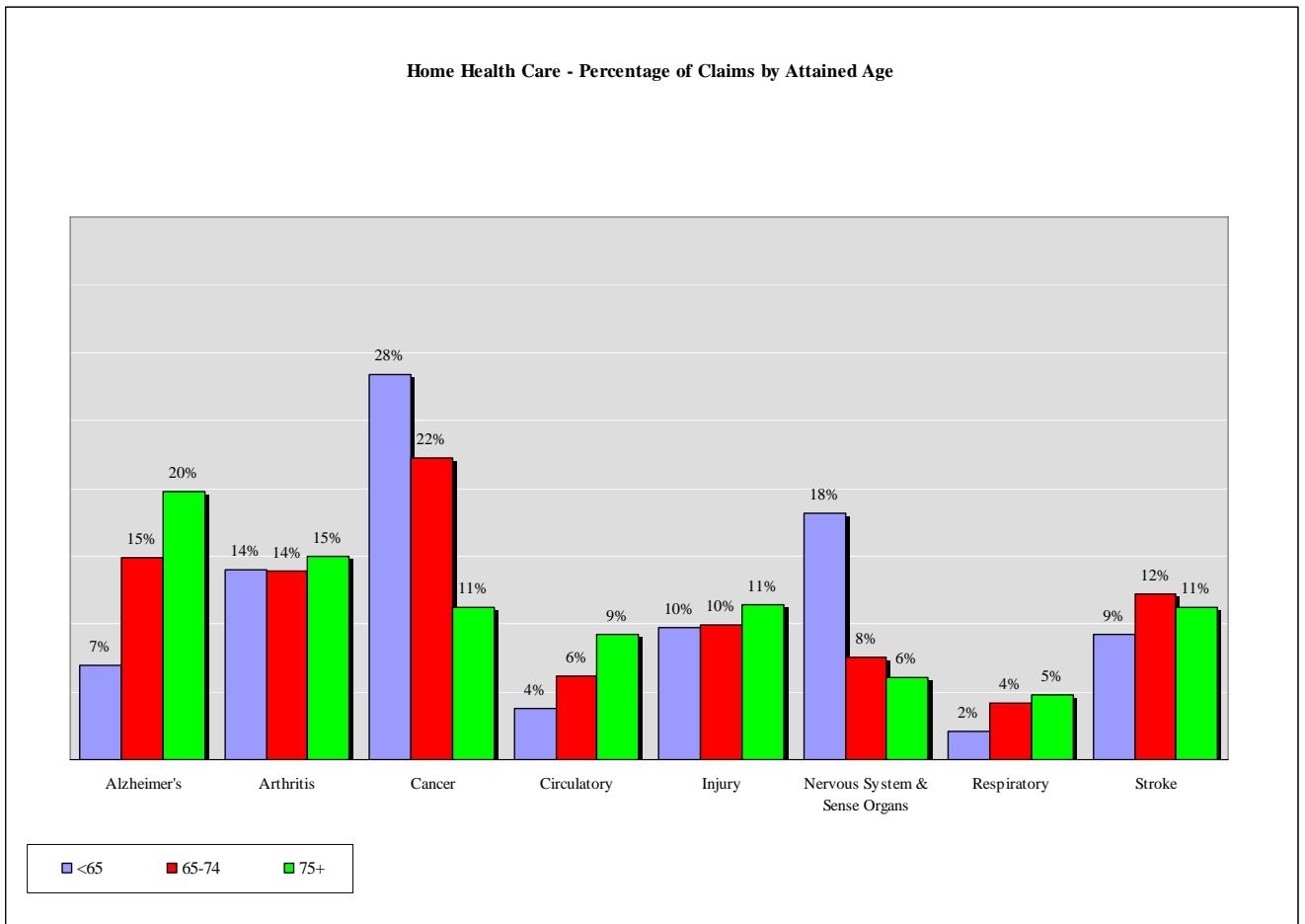
**FIGURE 13: For the Leading Diagnosis Codes, the Percentage of Nursing Home Claims for Attained Age Brackets 0 to 64, 65-74 and Ages 75 Plus**



The diagnosis groups with the highest percentage of Home Health Care claims for ages 75 and above were Alzheimer’s (20%), Arthritis (15%), Injury (11%), Cancer (11%) and Stroke (11%). For ages 65-74, the leading diagnosis groups were Cancer (22%), Alzheimer’s (15%), Arthritis (14%), Stroke (12%) and Injury (10%). For claimant ages under 65, the leading diagnosis codes were Cancer (28%), Nervous Systems (18%), Arthritis (14%), Injury (10%) and Stroke (9%).

In Figure 14 below, Home Health Care diagnosis groups with increasing trends by age include Alzheimer’s, Arthritis, Circulatory, Injury and Respiratory. Decreasing trends occur for Cancer and Nervous Systems, whereas Stroke is highest for the 65-74 age band.

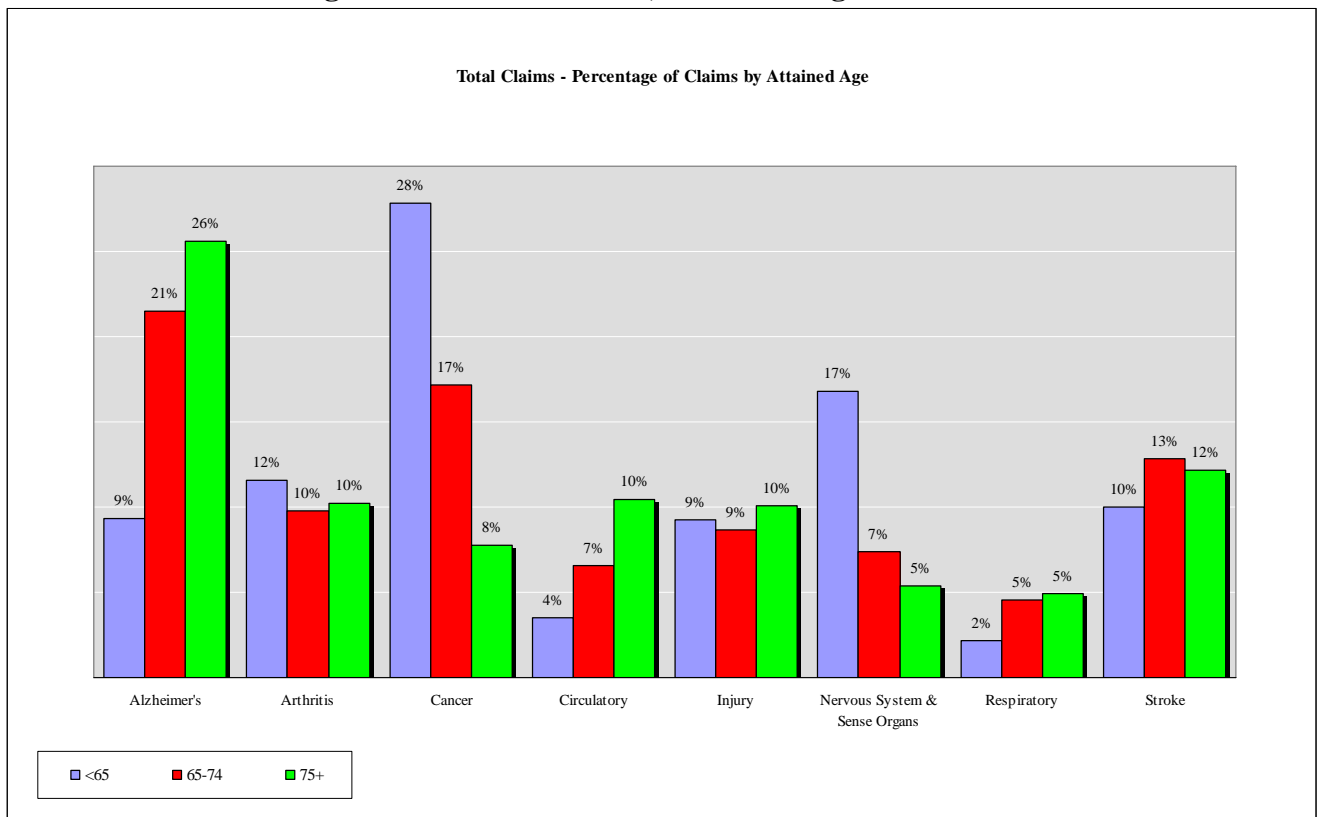
**FIGURE 14: For the Leading Diagnosis Codes, the Percentage of Home Health Care Claims for Attained Age Brackets less than 65, 65-74 and Ages 75 Plus**



The diagnosis groups with the highest percentage of Total Claims for ages 75 and above were Alzheimer's (26%), Stroke (12%), Injury (10%), Circulatory (10%) and Arthritis (10%). For ages 65-74, the leading diagnosis groups were Alzheimer's (21%), Cancer (17%), Stroke (13%), Arthritis (10%) and Injury (9%). For claimant ages under 65, the leading diagnosis codes were Cancer (28%), Nervous Systems (17%), Arthritis (12%), Stroke (10%) and Injury (9%).

In Figure 15, the Total claims diagnosis groups with increasing trends by age include Alzheimer's, Circulatory and Respiratory. Decreasing trends occur for Cancer and Nervous Systems. Arthritis, Injury and Stroke are similar across age bands.

**FIGURE 15: For the Leading Diagnosis Codes, the Percentage of Total claims for Attained Age Brackets less than 65, 65-74 and Ages 75 Plus**

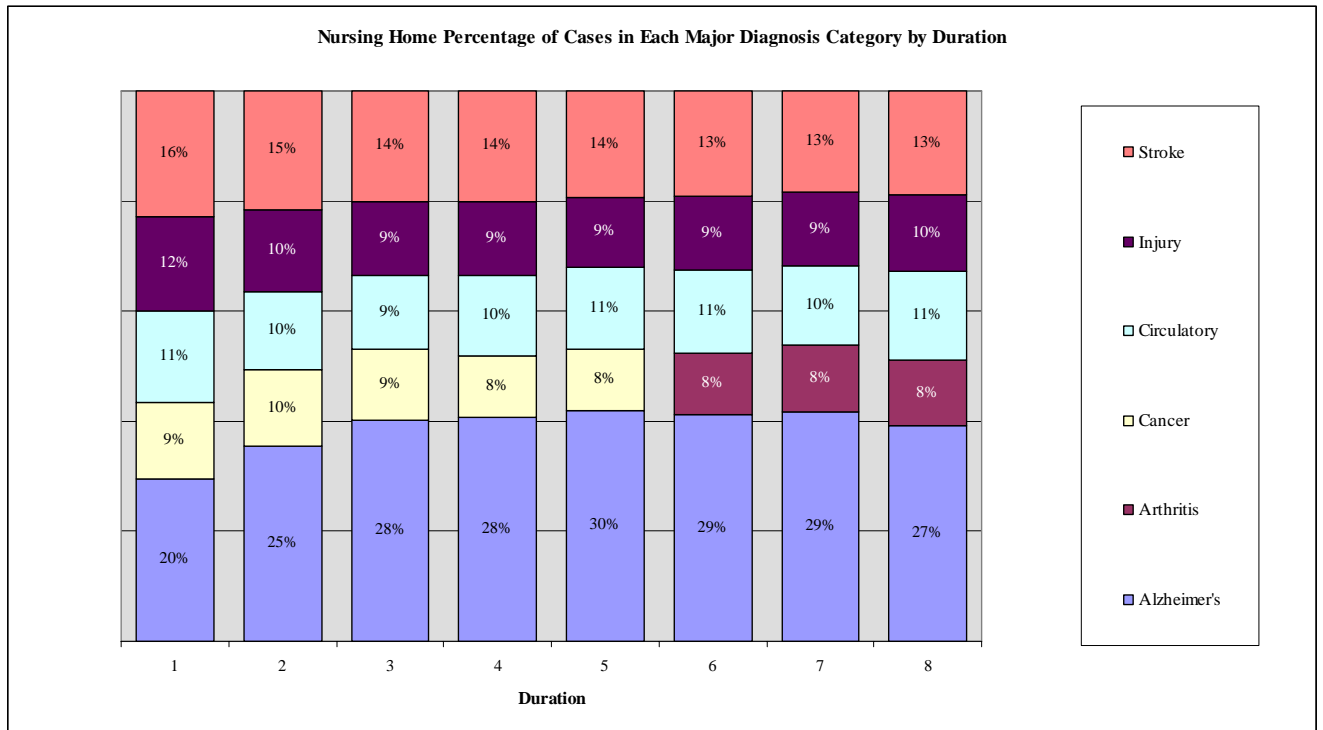


**Nursing Home, Home Health Care/ADC/Other Claims: Diagnosis Category by Policy Duration Summary (Appendix G-6)**

Appendix G-6 compares claims experience by major diagnosis and policy duration of claim incurral.

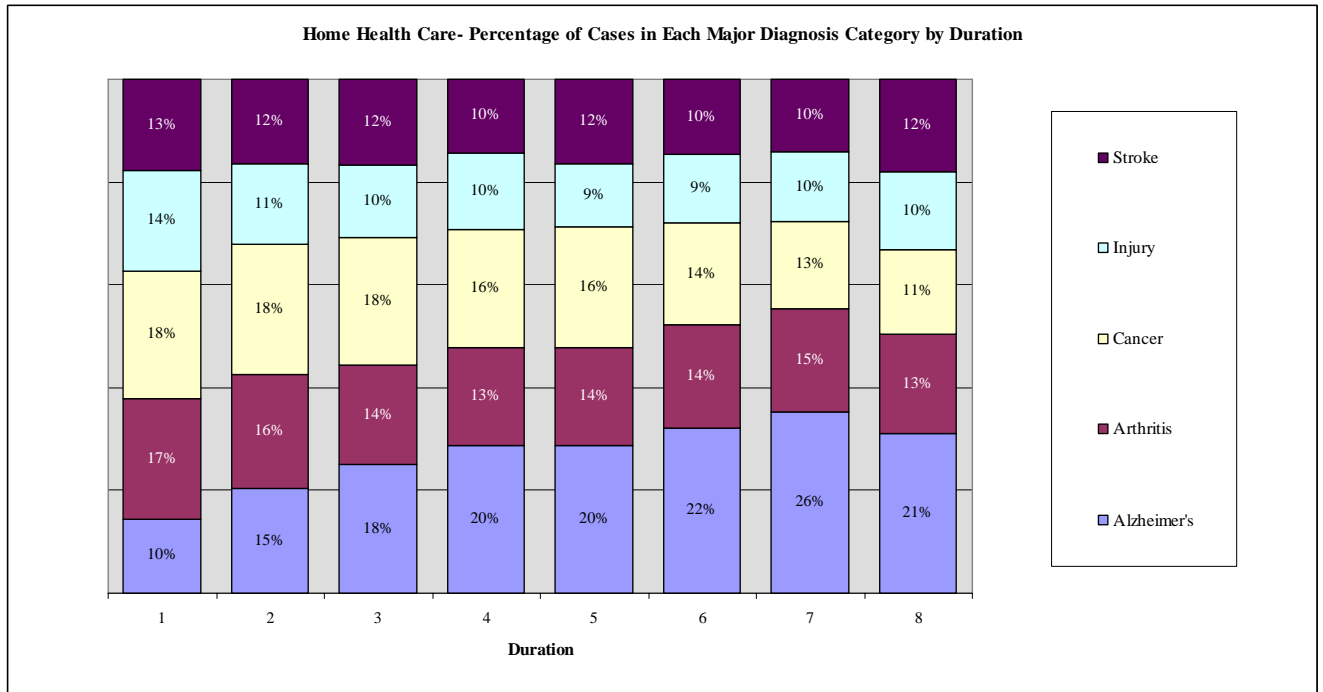
For Nursing Home claims, most diagnosis groups (excluding Ill-Defined and Other/Unknown claims) have lower claim counts in early durations and then peak at around duration 3-5. Claim counts tend to become constant or slightly decline in the later policy durations. As can be seen in the graph below, Alzheimer’s is the most prevalent Nursing Home diagnosis group regardless of policy duration. Also, it can be seen that cancer is highly prevalent for early policy durations, but is replaced among the most common major diagnosis groups by Arthritis in later policy durations. The prevalence of Circulatory, Stroke and Injury are the most constant across all of the policy durations.

**FIGURE 16: For the Leading Diagnosis Codes, Nursing Home Percentage of Claim Counts by Policy Duration**



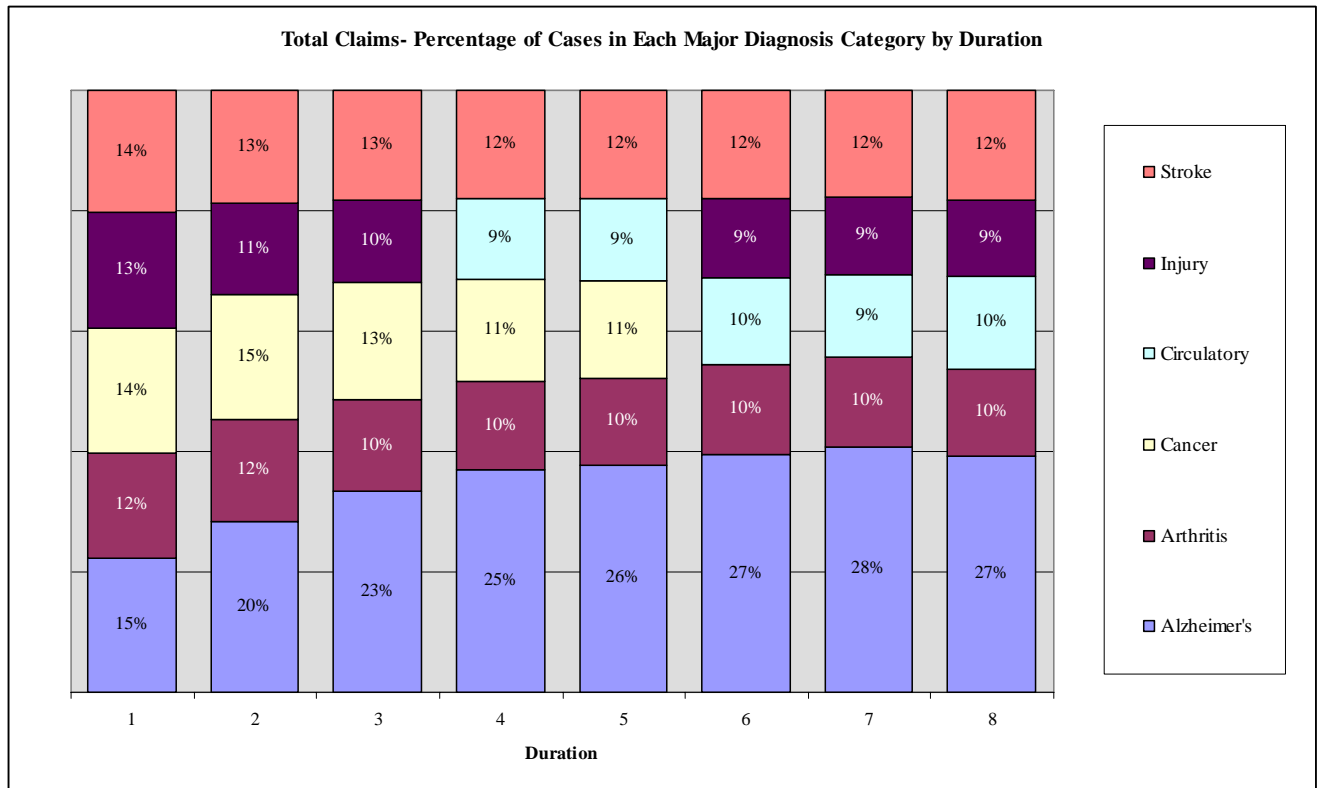
Home Health Care claims exhibit a significantly different pattern of claims by policy duration. The highest early duration diagnosis groups are Cancer and Arthritis, followed by Injury and Stroke. These early duration claims could have underwriting significance, including possible anti-selection. This is further demonstrated in that, unlike Nursing Home Claims, total Home Health Care claims counts peak at duration 1, and steadily decline as the policy duration increase. As policy duration increases, Alzheimer's becomes more and more prevalent, peaking at 26% of all claims with duration 7.

**FIGURE 17: For the Leading Diagnosis Codes, Home Health Care Percentage of Claim Counts by Policy Duration**



For Total claims, Alzheimer’s and Cancer exhibit the highest early policy duration claims. However, Alzheimer’s percentage of claim counts continue to increase through duration 7, while Cancer claim percentage peaks in duration 2 and decreases steadily thereafter. Stroke and Arthritis have the most constant percentage of claims by duration. The percentage of claims due to Circulatory issues increases slightly with increasing policy duration.

**FIGURE 18: For the Leading Diagnosis Codes, Total Percentage of Claim Counts by Policy Duration**



**Nursing Home, Home Health Care/ADC/Other Claims: Diagnosis Category by Incurred Year Group (Appendix G-7)**

Appendix G-7 compares claims experience by diagnosis group by claim incurral year periods (1984-1987; 1988-1991; 1992-1996; 1997-2000; 2001-2004).

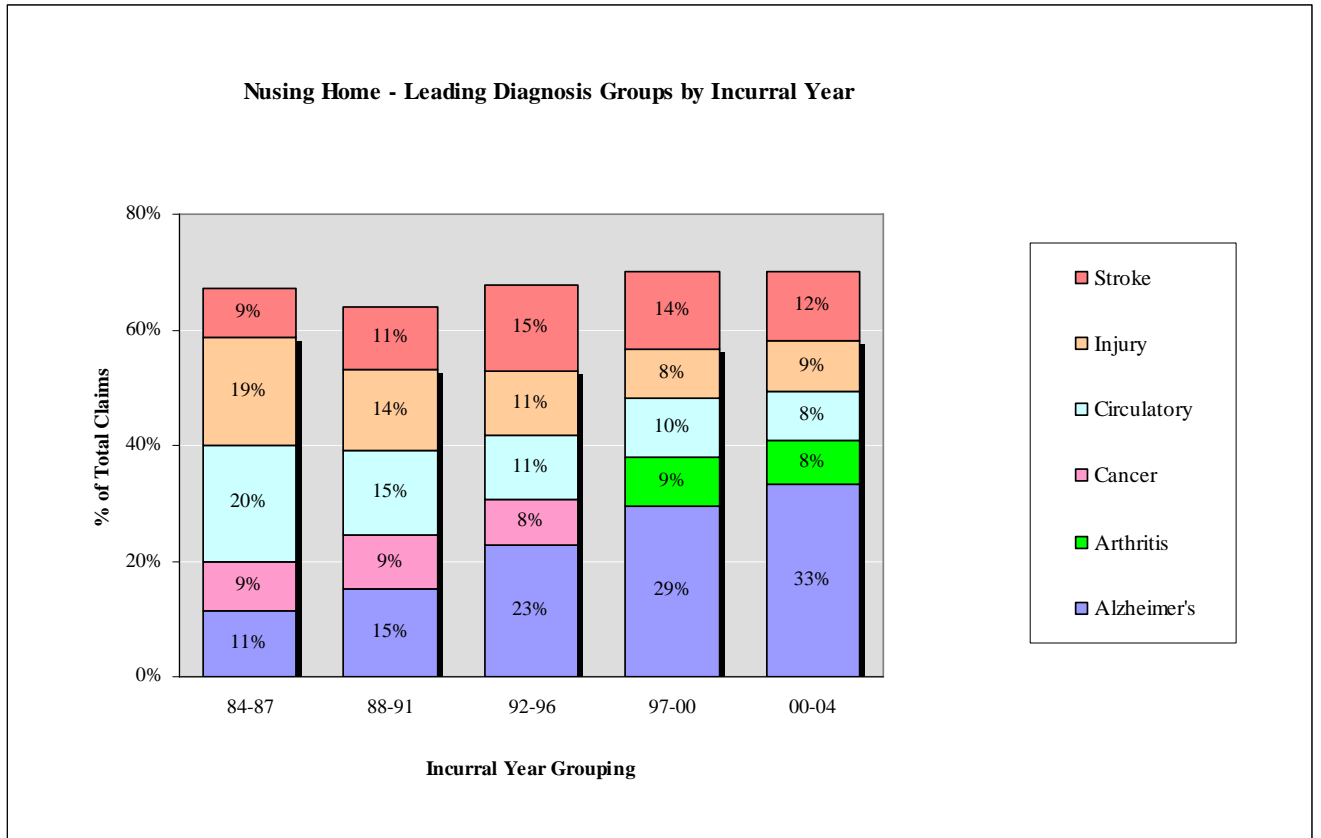
For Nursing Home Claims, the prevalence of the Alzheimer's diagnosis group has steadily increased over time. The Arthritis diagnosis group has replaced Cancer in the top five leading causes of claim for the two most recent incurral periods, 1997-2000 and 2001-2004.

The average cost per day increased as the incurral year increased except for the most recent time period, 2001-2004, which decreases from \$85 in the 1997-2000 incurral period to \$83 in the 2001-2004 incurral period. The average claim payment increased with incurral period except for the most recent incurral period, 2001-2004. The most recent incurral period had a larger portion of open claims (11.3% open for 2001-2004 group compared with 0.5% open for the earlier incurral year groups combined). Since there is a large percentage of open claims in the most recent claim incurral group period, the average payments and average days are expected to be understated.

Except for claims with incurral years before 1987 where there is very little experience by diagnosis group, Alzheimer's is the leading cause of claim. The next two leading causes of claim are Circulatory (1988-1991) and Stroke for more recent incurral groups.

In the prior report, there had been a trend of increased ICD9 coding as one progressed towards more recent incurral years, with 74% of the 1984-1987 group coded as Other\Unknown compared with 46% for the 1988-1991 group, 14% for the 1992-1996 group and 16% for the 1997-2000 group. However, for the most recent incurral group, 2001-2004, the Other\Unknown category jumped to 26%. This increase is caused by different levels of diagnosis coding by recent contributing companies.

**FIGURE 19: The Chart Below Shows the Trends of Five Leading Diagnosis Groups over Incurral Year Group for Nursing Home Claims**

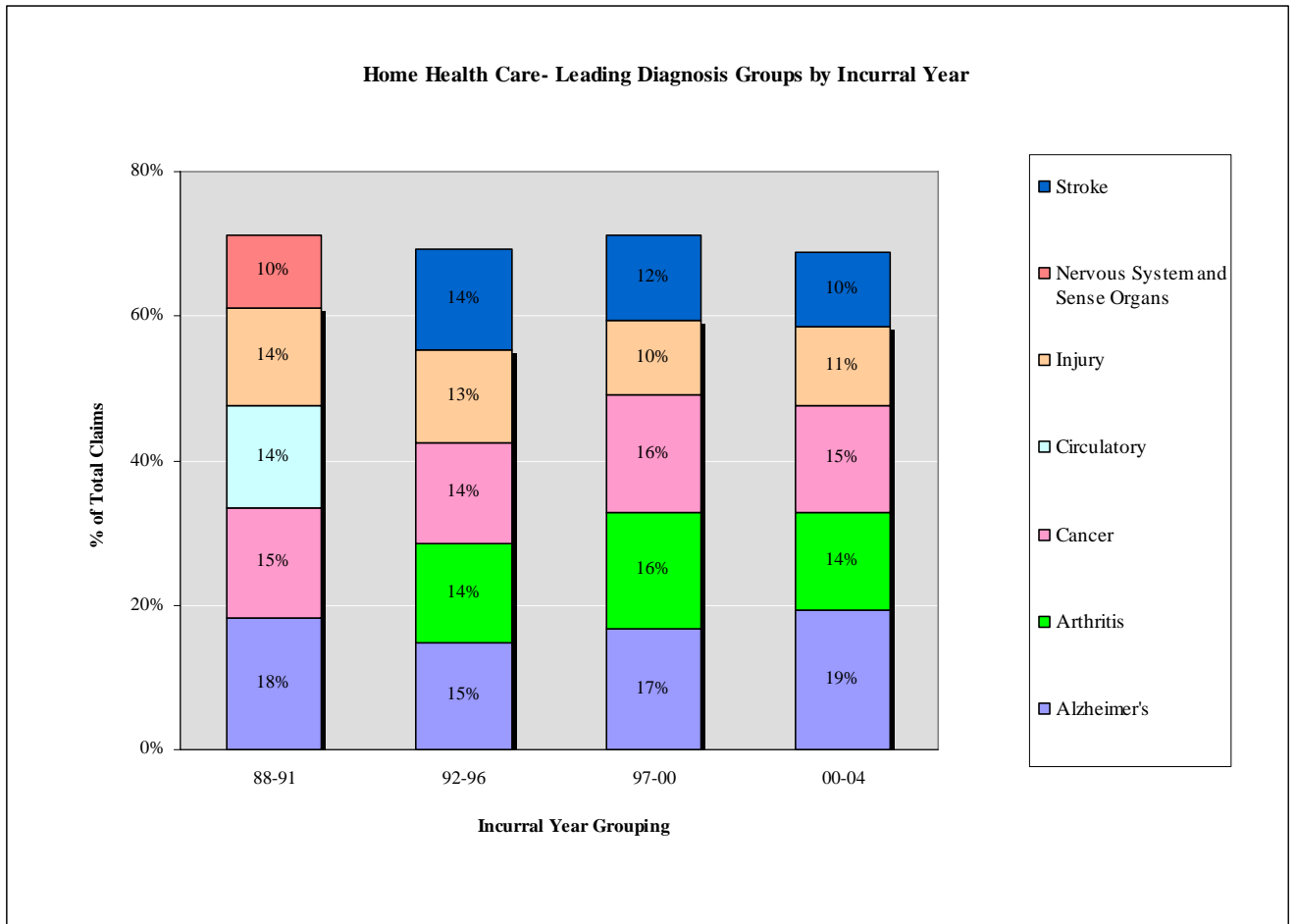




For Home Health Care claims, excluding incurral years 1984-1987 (only 116 claims), the leading diagnosis was Alzheimer's.

The average cost per visit has decreased over recent incurral periods from \$124 for 1992-1996 and \$123 for 1997-2000 to \$88 for 2001-2004. This significant drop in average cost per visit may be due to the inclusion of more claims from Group contracts. Most Group LTC policies have daily benefit limits for Home Health Care that are significantly less than the daily limits for Nursing Home Care.

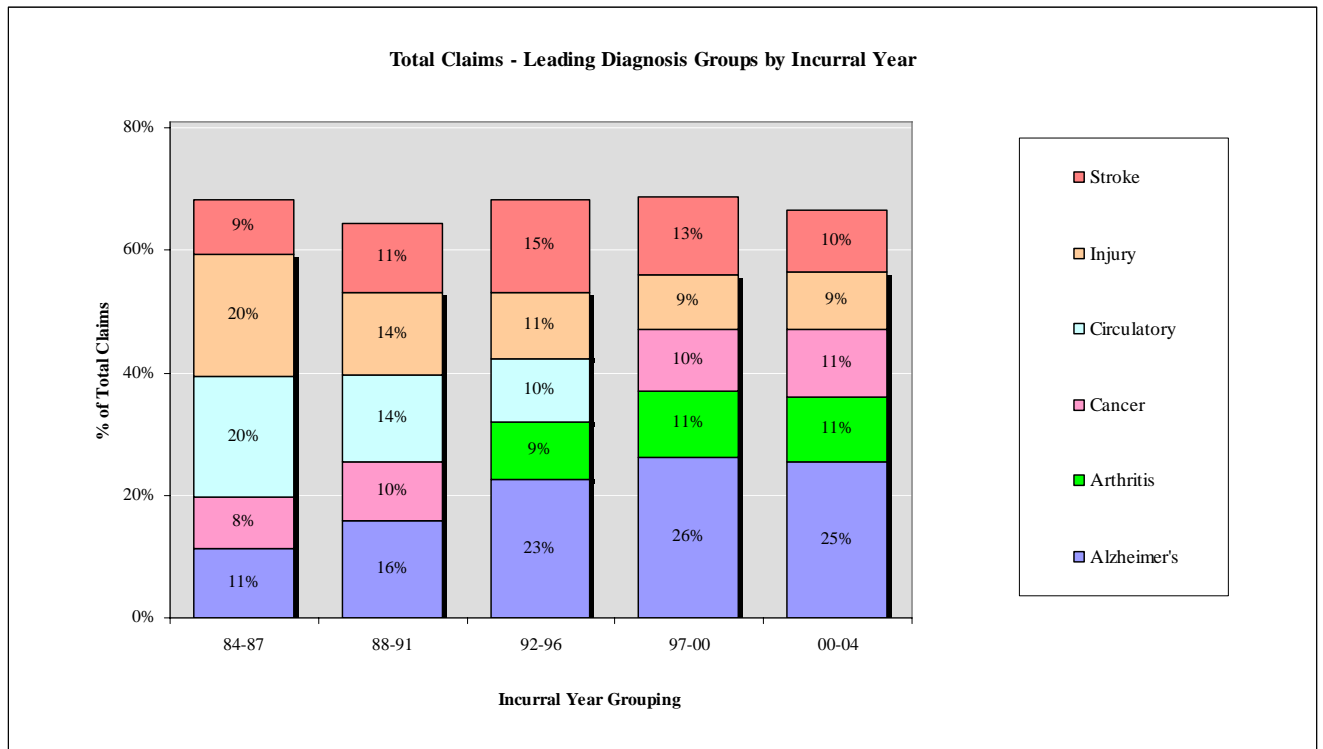
**FIGURE 20: The Chart Below Shows the Trends of Five Leading Diagnosis Groups over Incurral Year Group for Home Health Care Claims**



For Total claims, the leading diagnoses codes are Circulatory (1984-1987) and Alzheimer's for all later incurral periods.

The average cost per day/visit increased over all incurral periods except for the most recent one, 2001-2004, where it decreased from \$106 to \$102.

**FIGURE 21: The Chart Below Shows the Trends of Five Leading Diagnosis Groups over Incurral Year Group for Total Claims**



**Nursing Home, Home Health Care/ADC/Other Claims: Closed Status and Diagnosis Summary (Appendix G-8)**

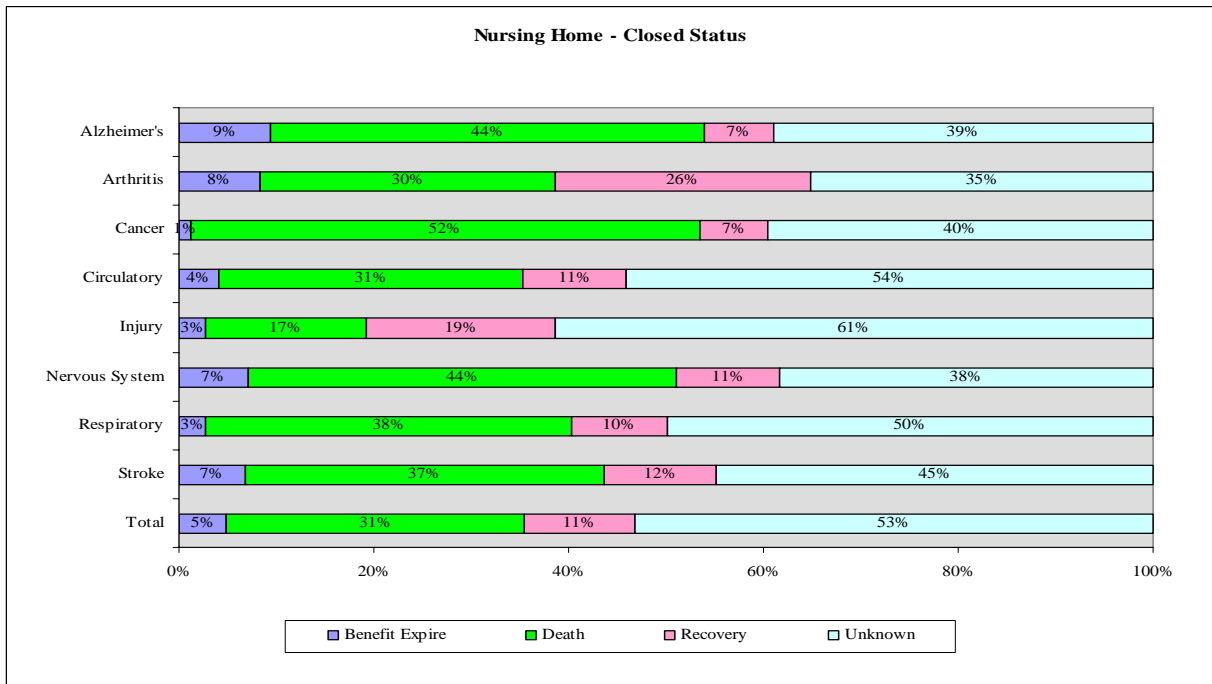
Appendix G-8 compares claims experience on closed claims by the diagnosis group and by the reason for closing claims (“claim close status”). The claim close status can be benefit expiry, death, recovery or transfer to a non-covered level of care.

A significant portion of data is coded as “Other\Unknown” claim close status at this time (53% of the Nursing Home claims and 41% of Home Health Care claims).

For Nursing Home claims, excluding unknown close status, the percentage of claims closed due to death is 66% (prior report 68%), recovery is 24% (prior report 20%) and benefit expiry is 10% (prior report 12%). As expected, the largest average payments and largest average claim days are from Nursing Home claims that closed due to benefit expiry (\$94K), followed by claims that closed due to death (\$40K), recoveries (\$20K) and the smallest average payments and average claim days from claims that transferred (\$12K). Transferred status only represented 126 out of 91,763 claims.

By diagnosis group, excluding unknown close status, Alzheimer’s Nursing Home claims had a much larger than average percentage of claims close due to death at 73%, with benefit expiries at 15% and recoveries at 12% (prior report 4%). Cancer (86%) and Respiratory (75%) had the highest death close status. Injury (50%) and Arthritis (41%) had the highest recovery rates. Alzheimer’s (15%) and Arthritis (13%) had the highest benefit expiry rate.

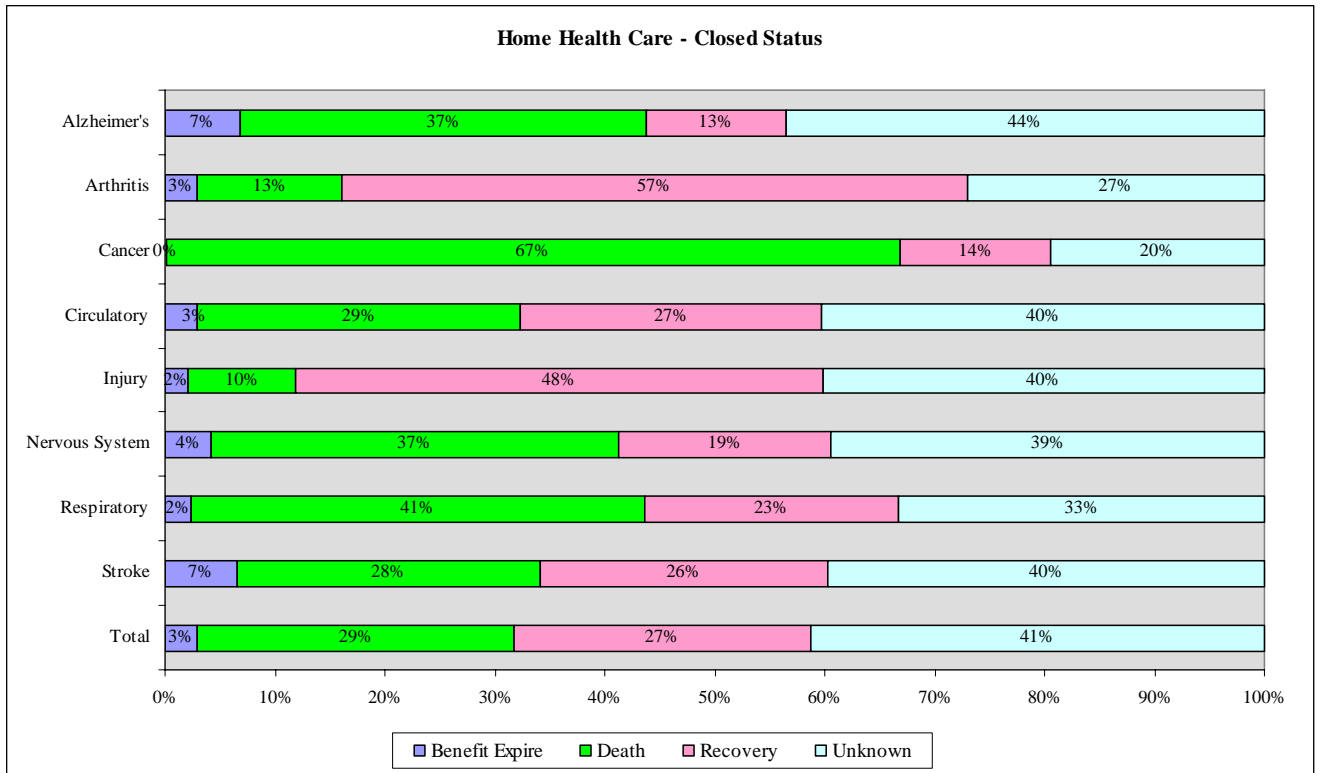
**FIGURE 22: The Chart Below Shows the Percentage of Claims Closed by Status Code for the Leading Diagnosis Groups of Nursing Home Claims, excluding Transfers**



For Home Health Care claims, excluding unknown close status, the percentage closed due to death is 49%, due to recovery is 46% and due to benefit expiry is 5%. As expected, the largest average payments are from Home Health Care claims that closed due to benefit expiry (\$50K), followed by claims that closed due to death (\$18K), then transfers (\$12K) and, finally, the smallest average payments from claims that recovered (\$8K). Claims that closed due to benefit expiry have the largest average claim days (402), followed by transfers (164), death (154) and recovery (70).

By diagnosis, excluding unknown close status, Alzheimer’s Home Health Care claims, the percentage of claims closed due to death was 65%; with benefit expiries 12% and recoveries 23% (prior report was 18%). In contrast, Home Health Care Injury (80%) and Arthritis (78%) claims had the highest recovery rates. Cancer claims had the highest close percentage rate due to death at 83%.

**FIGURE 23: The Chart Below Shows the Percentage of Claims Closed by Status Code for the Leading Diagnosis Groups of Home Health Care Claims, excluding Transfers**

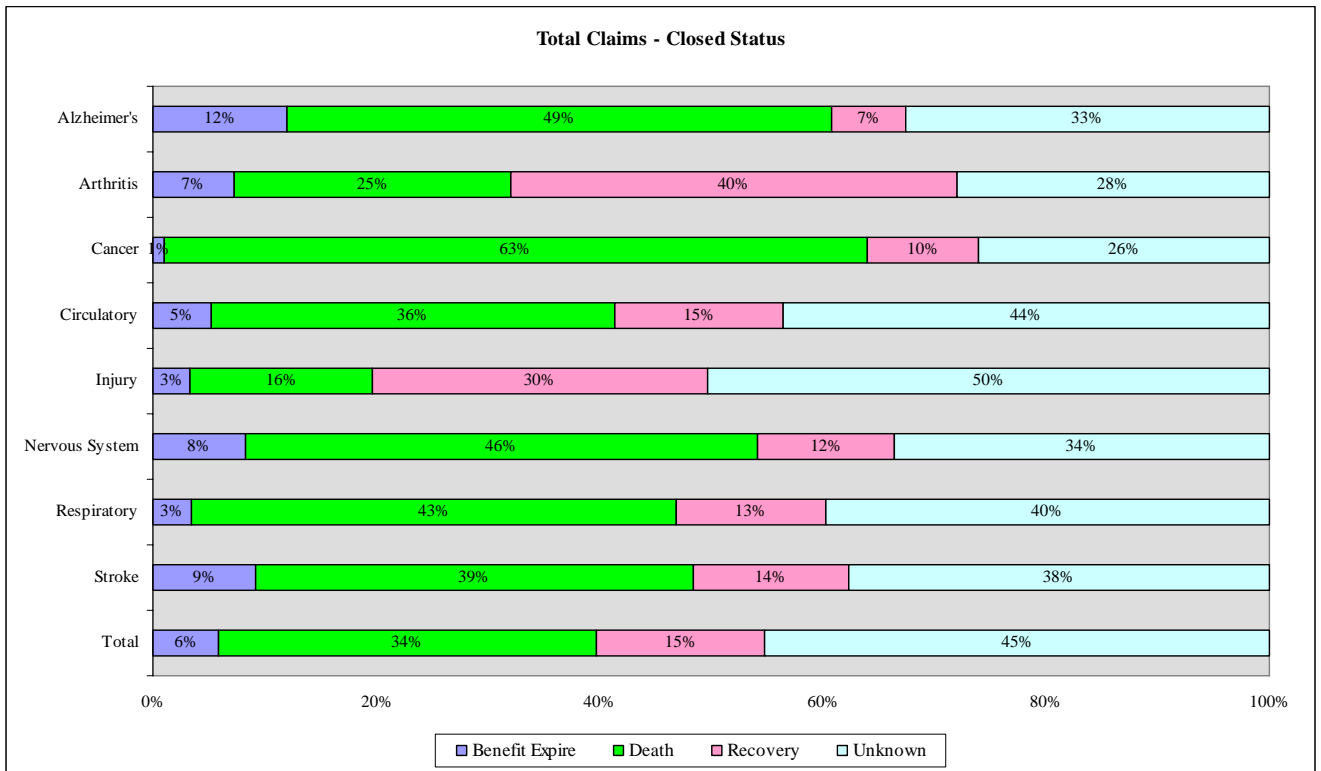


For Total claims, excluding unknown close status, the percentage closed due to death is 62%, due to recovery is 27%, due to benefit expiry is 11% and due to transfer is 1%. As expected, the largest average payments are from Total claims that closed due to benefit expiry (\$94K), followed by claims that closed due to death (\$40K), then recoveries (\$16K) and, finally, the smallest average payments from claims that transferred (\$15K). Claims that closed due to benefit expiry have the largest average claim days (838), followed by deaths (344), transfers (230) and recovery (161).

By diagnosis, excluding unknown close status, for Alzheimer’s Total claims, the percentage of claims closed due to death was 72%; with benefit expiries 18% and recoveries 10%. In contrast, Injury (60%) and Arthritis (56%) claims had the highest recovery rates. Cancer claims had the highest close percentage rate due to death at 85%.

Transfer status only represented 536 out of 85,212 claims with known status.

**FIGURE 24: The Chart Below Shows the Percentage of Claims Closed by Status Code for the Leading Diagnosis Groups of Total Claims, excluding Transfers**



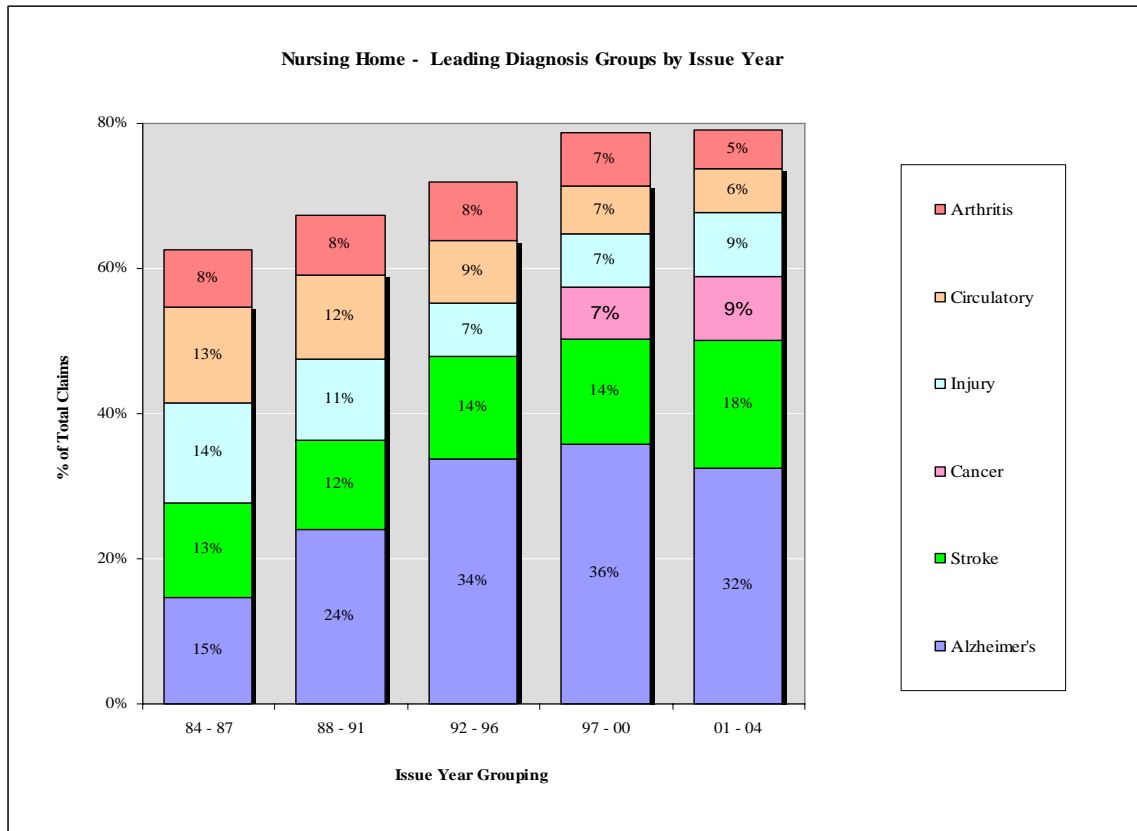
**Nursing Home, Home Health Care/ADC/Other Claims: Issue Year and Diagnosis Summary (Appendix G-9)**

Appendix G-9 compares claims experience by diagnosis group and issue year.

The earliest issue year group (1984-1987) has a large percentage of the data with an Other\Unknown diagnosis group for both Nursing Home and Home Health Care claims. A shift from Nursing Home to Home Health Care claim utilization is evident in the report. For the most recent issue period (2001-2004), the percentage of claims that are Home Health Care is 71% where the prior period (1997-2000), Home Health Care represents 61% of claims.

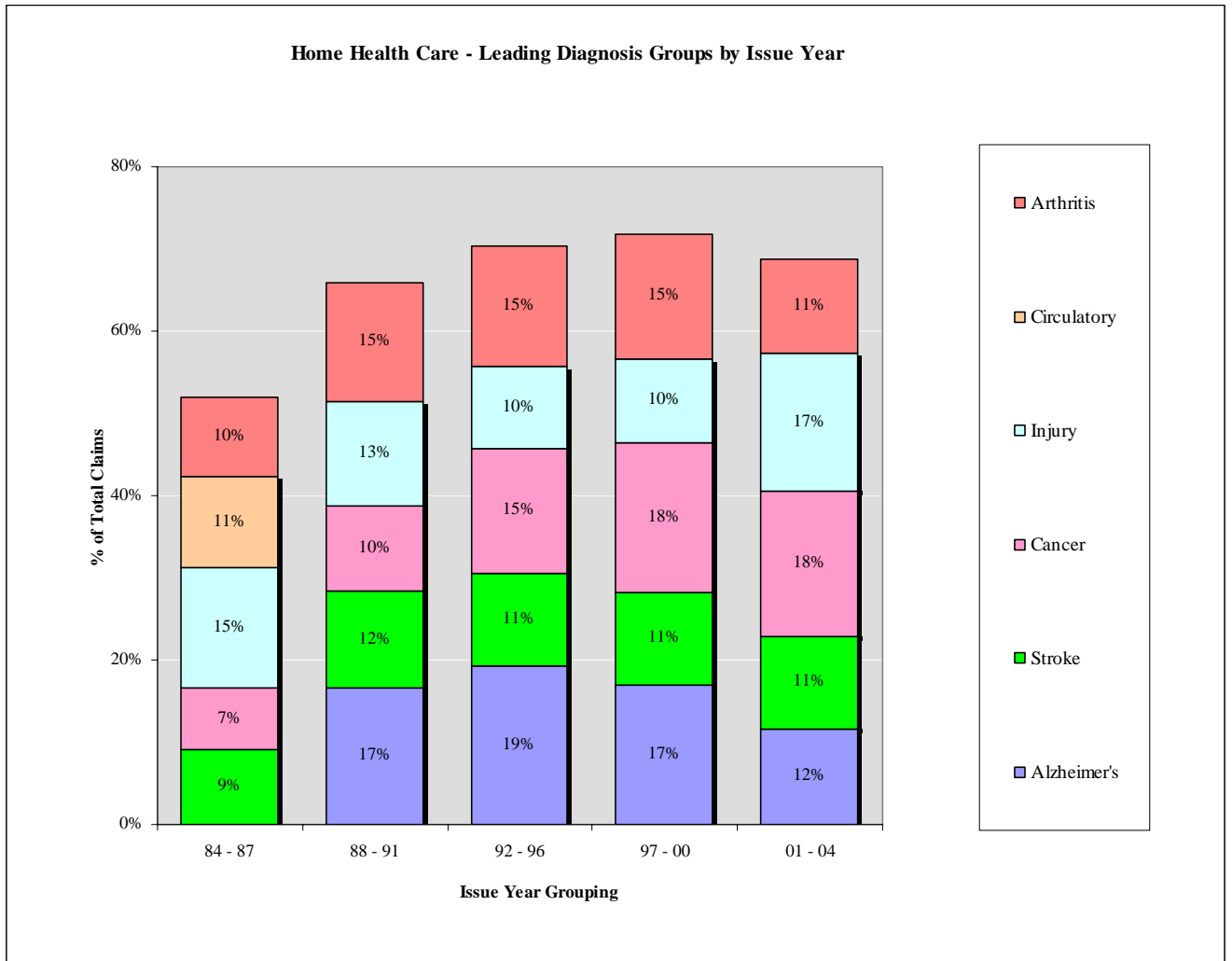
For Nursing Home claims, the most prevalent diagnosis groups for issue year group 1988-1991 are Alzheimer’s, Stroke and Circulatory. For the issue year groups 1992-1996, 1997-2000 and 2001-2004, the top two most prevalent diagnosis groups are also Alzheimer’s and Stroke. Arthritis has increased from the fifth most prevalent in the 1984-1987 and 1988-1991 issue-year groups to fourth in the 1992-1996 issue-year group. However, Arthritis dropped to sixth in the 1997-2000 issue-year group and dropped to seventh in the most recent issue period of 2001-2004. Cancer claim activity ranked third in the two most recent issue-year groupings. These trends may be associated with younger issue ages.

**FIGURE 25: The Chart Below Shows the Trends of Five Leading Diagnosis Groups by Issue Year Grouping for Nursing Home Claims**



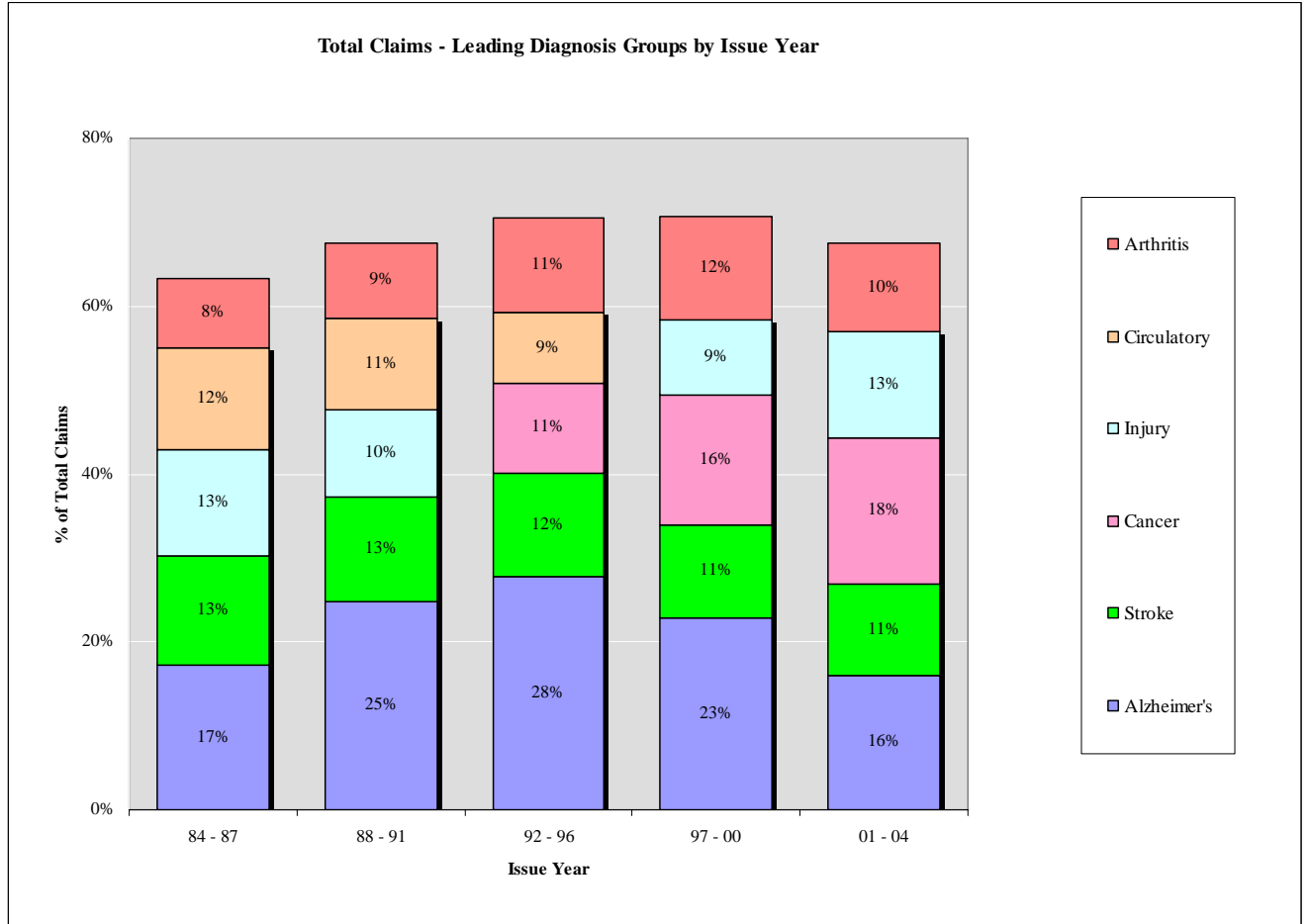
For Home Health Care claims, the most prevalent diagnosis groups for issue-year group 1988-1991 were Alzheimer’s, Injury and Arthritis. For the issue-year group 1992-1996, the most prevalent were Alzheimer’s, followed by Cancer and Arthritis. For 1997-2000, Cancer is the most prevalent followed by Alzheimer’s. For 2001-2004, Cancer is also the most prevalent, but the next most prevalent is Injury. The increased Injury prevalence may be due to the impact of underwriting selection which reduces the likelihood of a chronic condition being the cause of claim in the early policy durations so that Injury/Accident becomes a more common cause of claim.

**FIGURE 26: The Chart Below Shows the Trends of Five Leading Diagnosis Groups by Issue Year Grouping for Home Health Care Claims**



For Total claims, the most prevalent diagnosis groups for the 1984-1987 issue year group are Alzheimer's, Stroke and Injury. For issue year group 1988-1991, Circulatory edged out Injury as the third highest diagnosis group. For the issue-year group 1992-1996, the most prevalent was Alzheimer's, followed by Stroke and Cancer. For 1997-2000, Alzheimer's was the most prevalent, followed by Cancer and Arthritis. For 2001-2004, Cancer is now the most prevalent, followed by Alzheimer's and Injury.

**FIGURE 27: The Chart Below Shows the Trends of Five Leading Diagnosis Groups by Issue Year Grouping for Total Claims**





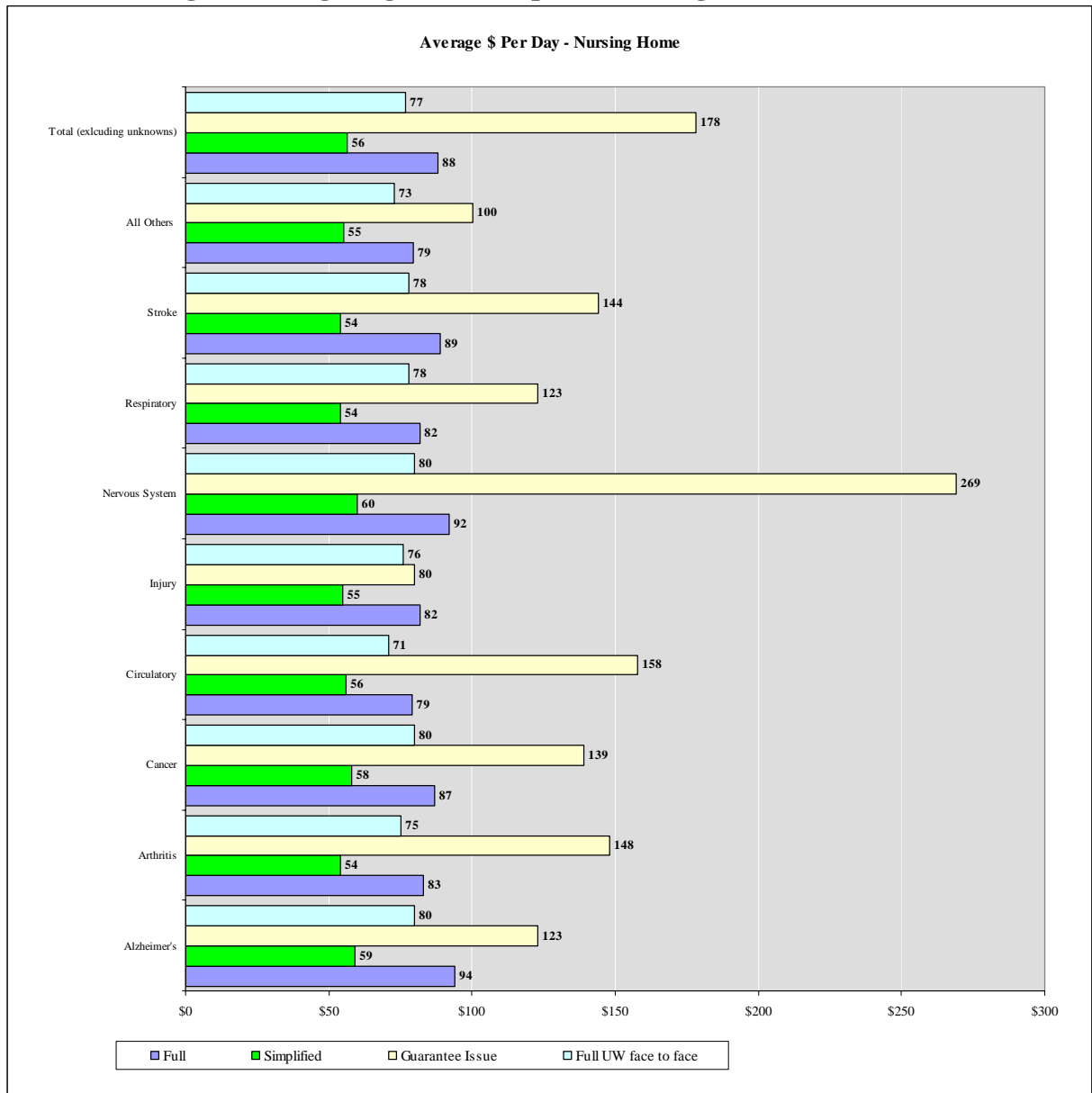
**Nursing Home, Home Health Care/ADC/Other Claims: Underwriting Type and Diagnosis Summary (Appendix G-10)**

Appendix G-10 compares claims experience by diagnosis group and underwriting type. The “Total” in each graph excludes claims where the diagnosis is coded as Other/Unknown.

The underwriting categories of Full Medical and Simplified have the most credible data, whereas the Full Medical plus Face-to-Face has 6,332 claims and the Guarantee Issue (“GI”) and Actively-at-Work Required only has 1,168 claims.

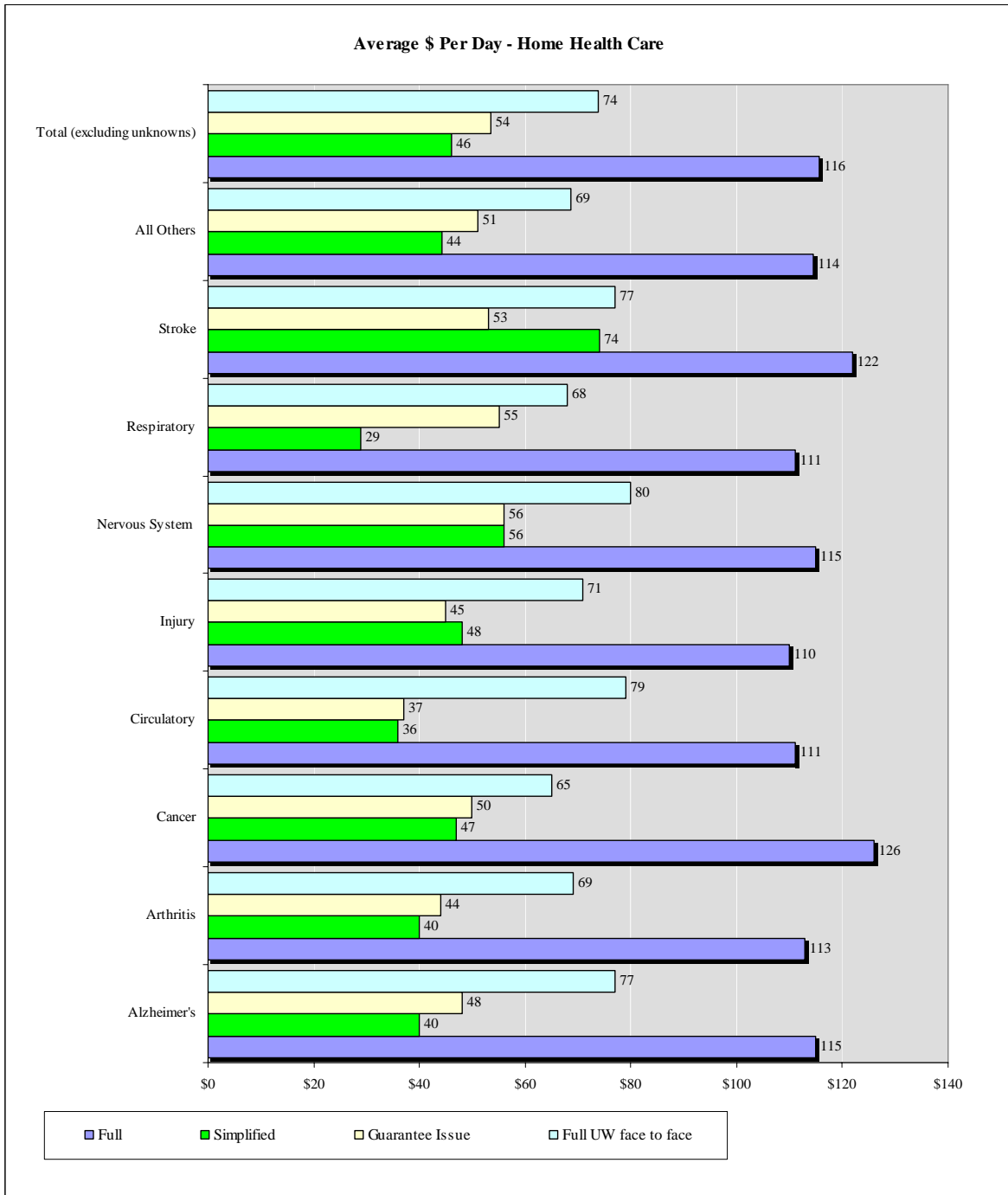
For Nursing Home claims with Simplified underwriting, the average claim payment and average days on claim are lower than claims with Full Medical underwriting. The Full Medical plus Face-to-Face has lower average claim payments and average days on claim than Full Medical. Guarantee Issue has significantly higher average cost per day of all underwriting categories and across all diagnosis groups in Figure 28 below.

**FIGURE 28: The Chart Below Shows the Average \$ per Day for the Eight Leading Diagnosis Groups for Nursing Home Claims**



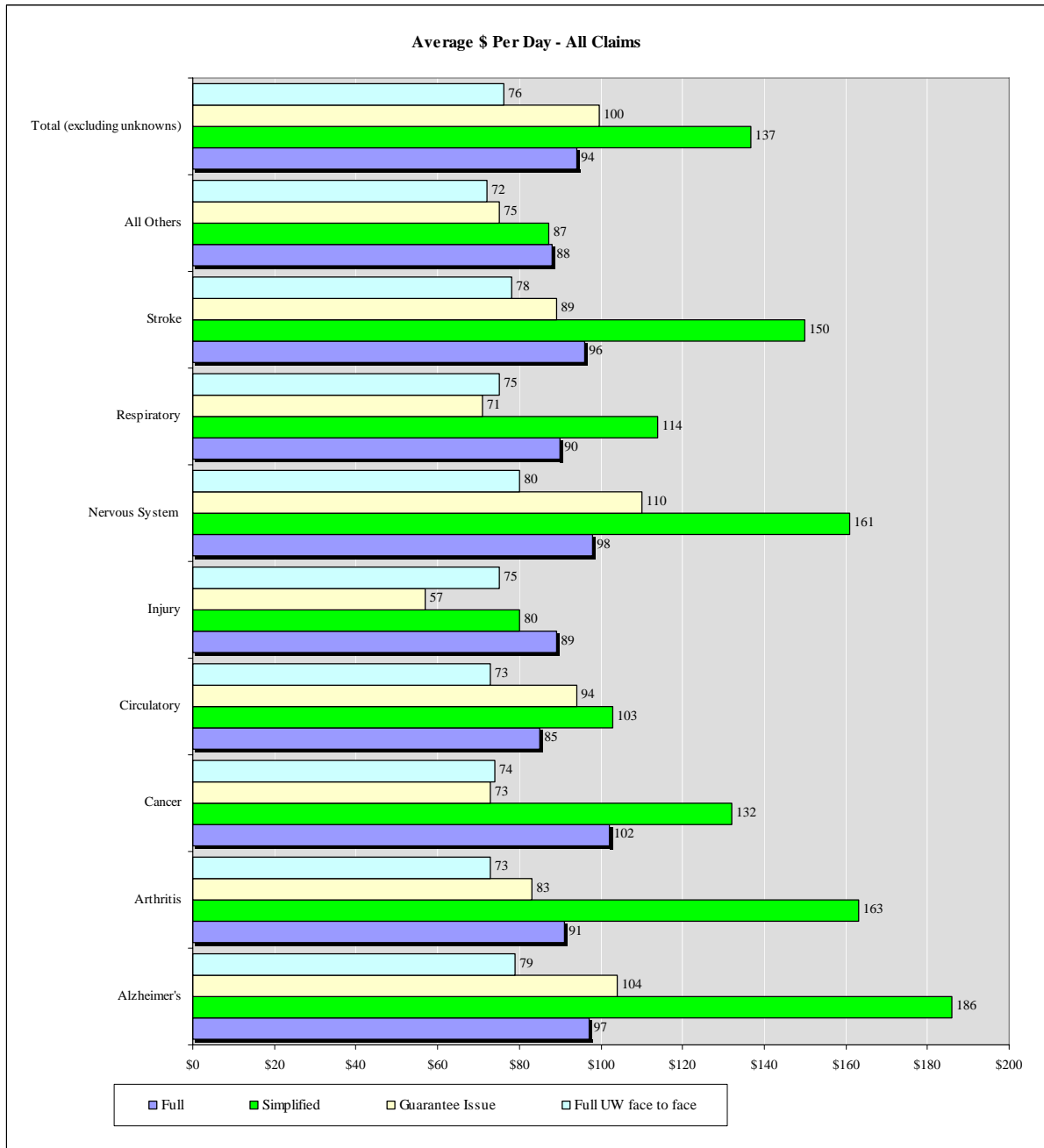
For Home Health Care claims, Simplified underwriting also had lower average claim payment and average days on claim than Full underwriting. The Simplified underwriting average claim payments and average days on claim may be influenced by lower issue limits on benefit amounts and benefit periods. The Simplified Underwriting category is based upon 1,696 claims. Unlike the Nursing Home Claims, Guarantee Issue claims (2,271 claims) are lower than both Full Underwriting and Full Underwriting with Face-To-Face.

**FIGURE 29: The Chart Below Shows the Average \$ per Day/Visit for the Eight Leading Diagnosis Groups for Home Health Care**



For Total claims with Simplified underwriting, the average claim payment and average days on claim are lower than claims with Full Medical underwriting. The Full Medical plus Face-to-Face has lower average claim payments and average days on claim than Full Medical. Guarantee Issue has significantly higher average cost per day of all underwriting categories and across all diagnosis groups in Figure 30 below.

**FIGURE 30: The Chart Below Shows the Average \$ per Day/Visit for the Eight Leading Diagnosis Groups for Total Claims**



**Nursing Home, Home Health Care/ADC/Other Claims: Benefit Period Type and Diagnosis Summary (Appendix G-11)**

Appendix G-11 compares claims experience by diagnosis group and benefit period limitation.

For Nursing Home claims, 14% of claims have an unlimited benefit period. By diagnosis group, Alzheimer's, Stroke and Arthritis have the highest percentage of claims with an unlimited benefit period. For almost all diagnosis groups, the average duration of claim is longer for unlimited benefit periods.

For Home Health Care claims, 16.0% of claims have an unlimited benefit period. By diagnosis group, Arthritis, Alzheimer's and Cancer have the highest percentage of claims with an unlimited benefit period. Overall, the limited benefit period (169.6 days) has slightly larger average claim duration than the unlimited benefit period (141.6 days). By diagnosis groups, the average duration of claim is significantly longer for limited benefit periods for Circulatory, Respiratory and Stroke.

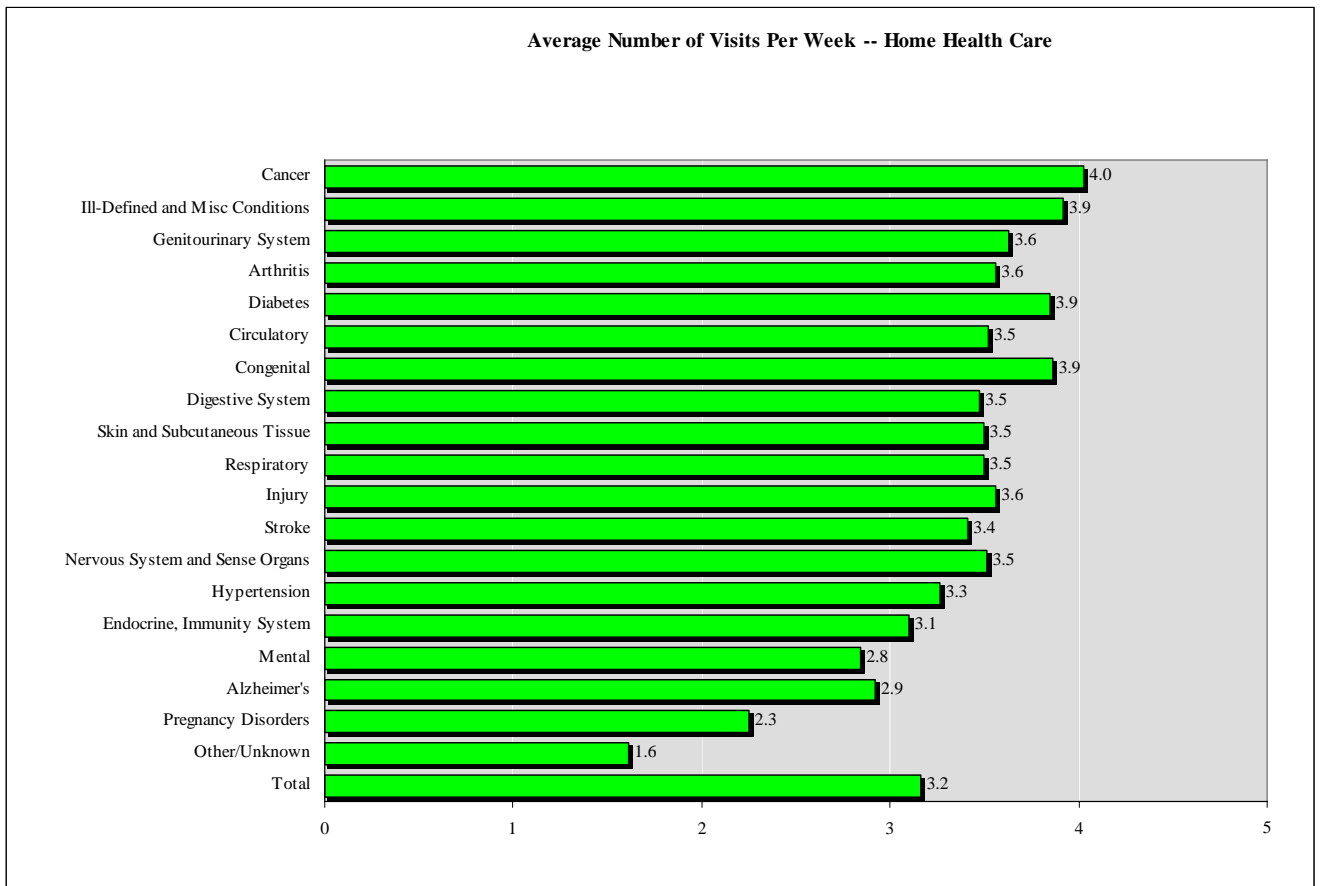
For Total claims, 11% of claims have an unlimited benefit period. By diagnosis group, Arthritis, Alzheimer's and Cancer have the highest percentage of claims with an unlimited benefit period. In aggregate, claims with an unlimited benefit period had a longer average duration (508 days) than those with a limited benefit period (339 days). Alzheimer's and Mental disorders had the longest average duration.

**Average Number of Home Health Care Visits per Week by Diagnosis (Appendix G-12)**

Appendix G-12 shows the average number of Home Health Care visits per week by diagnosis group.

Compared with the prior report, the average number of visits per week decreased from 4.2 to 3.2 and the range of differences by diagnosis group is much more compressed. Cancer had the highest average visits per week at 4.03. The diagnosis group with the fewest average number of visits per week (excluding categories with less than 100 claims and Unknown claims) is Mental with an average of 2.84 visits.

**FIGURE 31: The Chart Below Illustrates the Average Number of Visits per Week by Diagnosis Groups Home Health Care Claims**

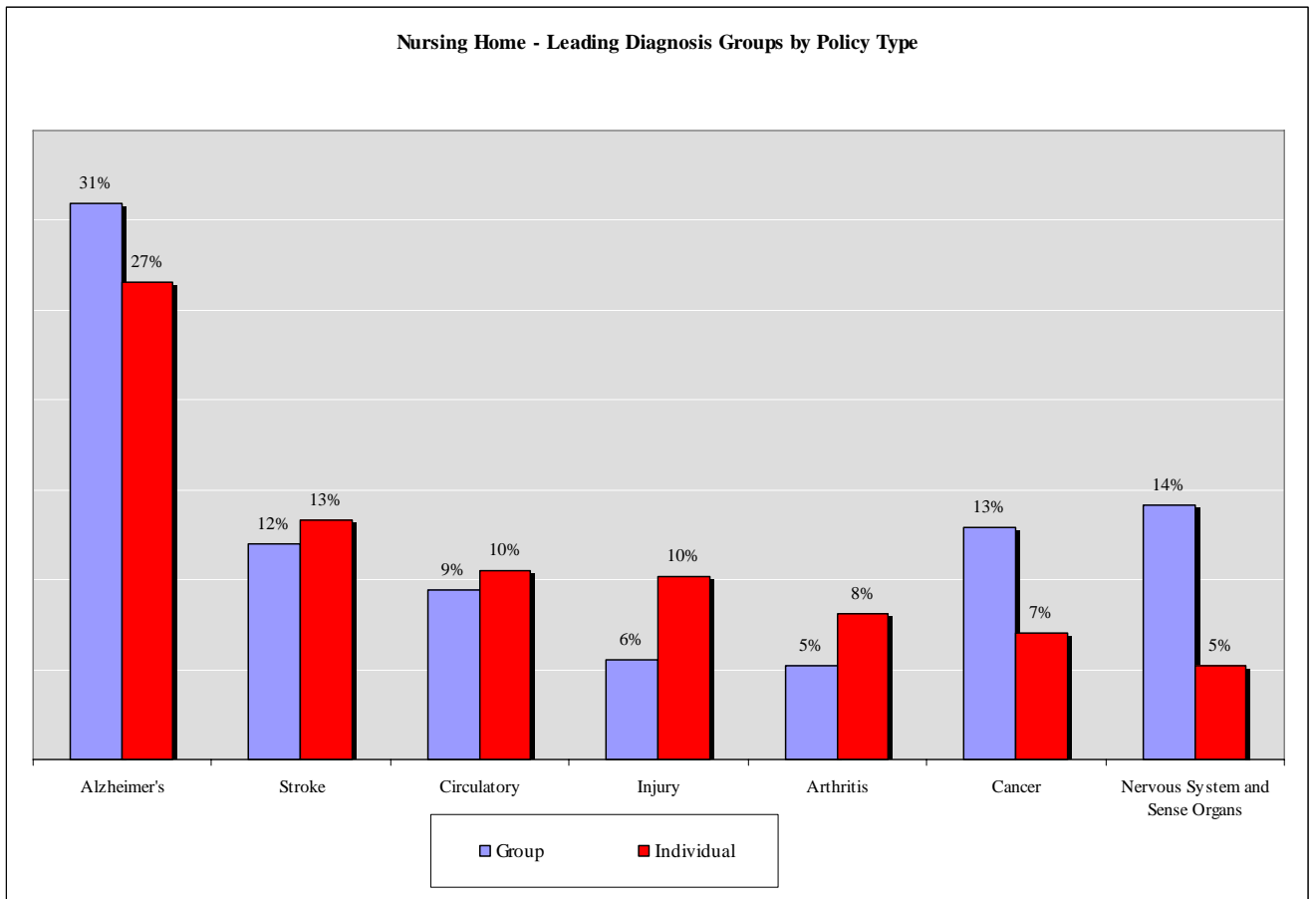


**Nursing Home, Home Health Care/ADC/Other Claims: Individual and Group Diagnosis Summary (Appendix G-13)**

Appendix G-13 compares claims data based upon the type of plan, either Group or Individual.

For Nursing Home data, Alzheimer’s was the most prevalent diagnosis for both Group (31%) and Individual (27%) claims. For Group claims, following Alzheimer’s, the leading diagnosis codes were Nervous Systems (14%) and Cancer (13%). For Individual claims, Alzheimer’s was followed by Stroke (13%) and Circulatory (10%). The average duration of claim was larger for Individual claims (438 days) than it was for Group claims (362 days). However, Group claims (\$128/day) were considerably more expensive than for Individual claims (\$78/day).

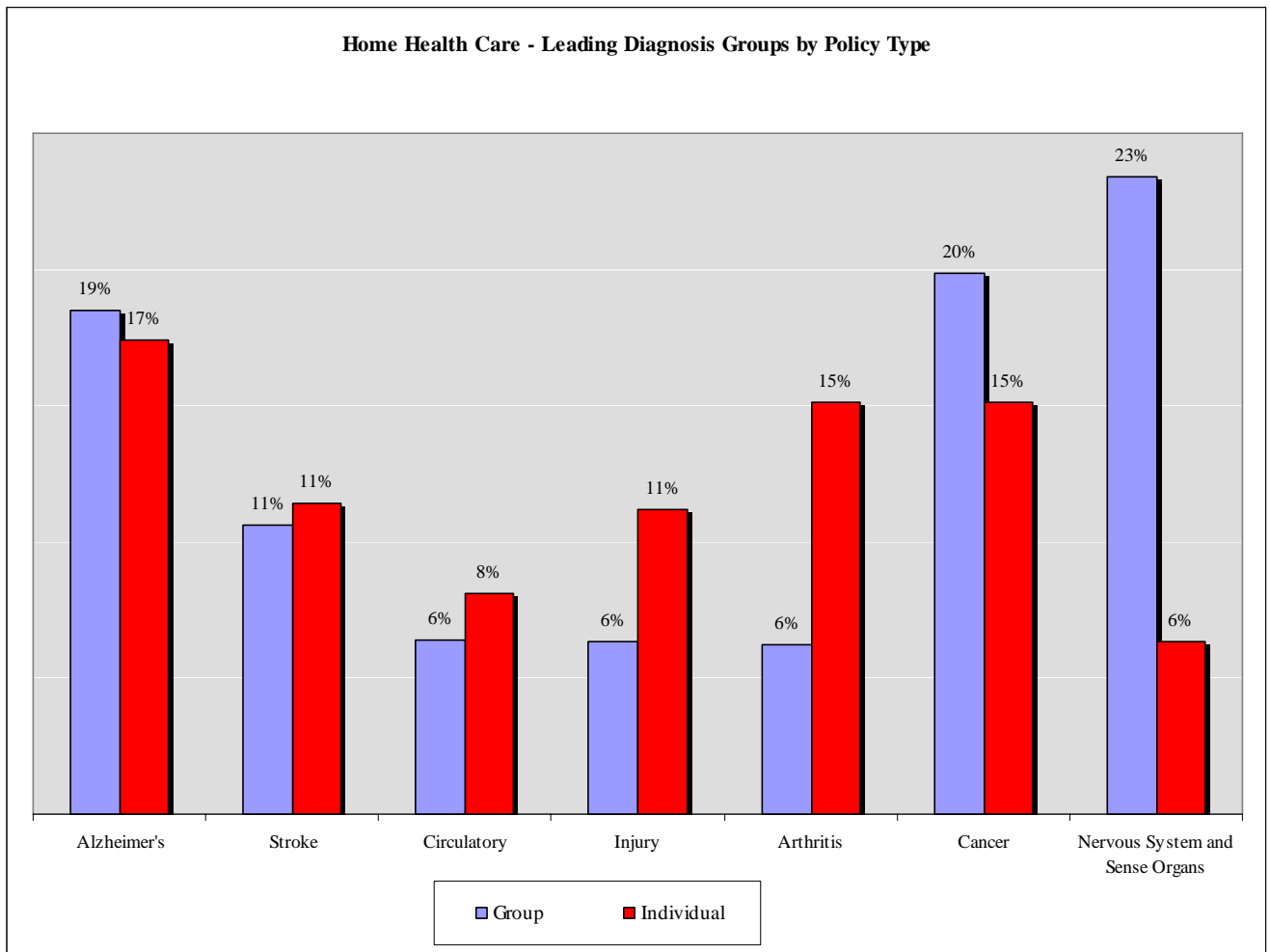
**FIGURE 32: The Chart Below Shows the Leading Diagnosis Groups by Policy Type for Nursing Home Claims**





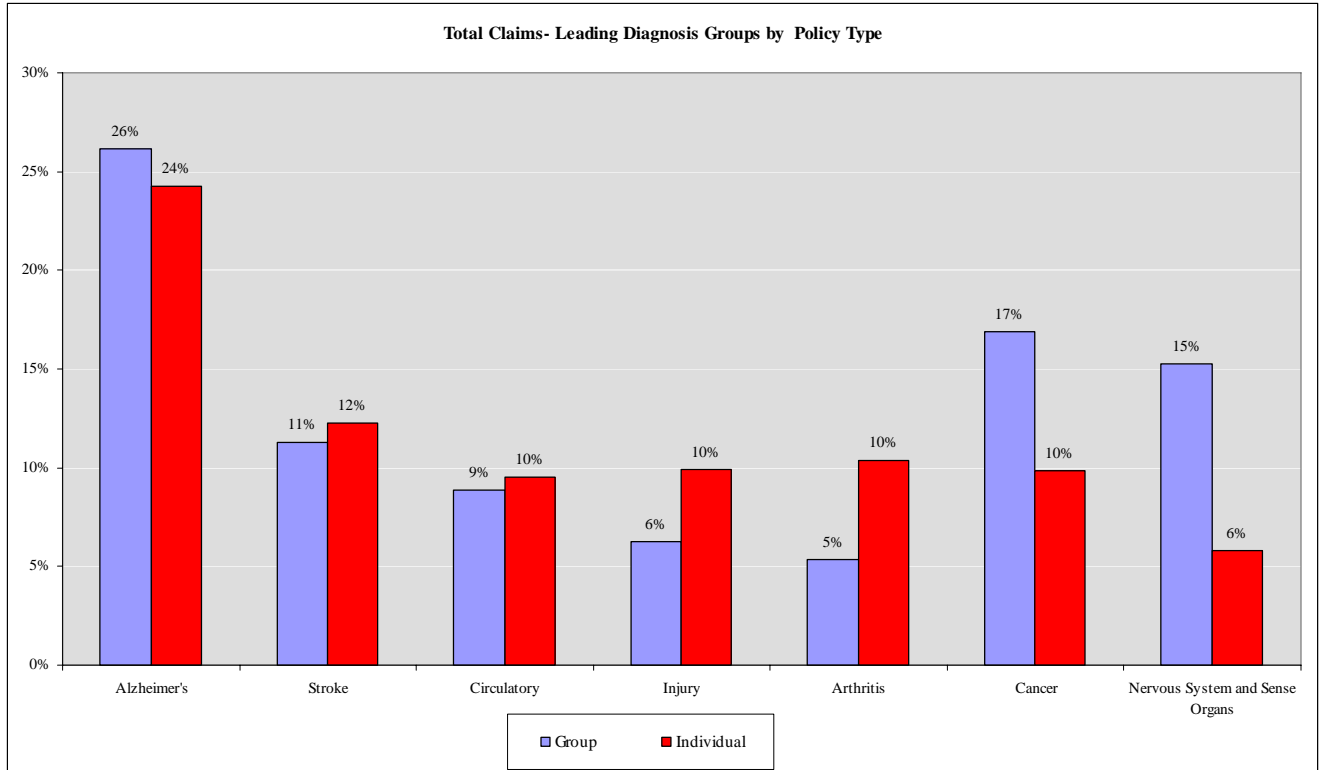
For Home Health Care data, Nervous System (23%) was the largest diagnosis segment for Group claims and Alzheimer's was the most prevalent diagnosis for Individual claims (17%). For Group claims, following Alzheimer's, the leading diagnosis codes were Cancer (20%) and Alzheimer's (19%). For Individual claims, Alzheimer's is followed by Arthritis (15%) and Cancer (15%). The average duration of claim was smaller for Individual claims (156 days) than it was for Group claims (214 days). However, Group claims (\$73/day) had considerably lower average cost per day than for Individual claims (\$111/day).

**FIGURE 33: The Chart Below Shows the Leading Diagnosis Groups by Policy Type for Home Health Care Claims**



For Total claims, Alzheimer’s was the most prevalent diagnosis for both Group (26%) and Individual (24%) claims. For Group claims, following Alzheimer’s, the leading diagnosis codes were Cancer (17%) and Nervous Systems (15%). For Individual claims, Alzheimer’s was followed by Stroke (12%), Arthritis (10%) and Injury (10%). The average duration of claim was smaller for Individual claims (368 days) than it was for Group claims (391 days). Also, Group claims (\$106/day) were more expensive than Individual claims (\$94/day) on average.

**FIGURE 34: The Chart Below Shows the Leading Diagnosis Groups by Policy Type for All Claims**

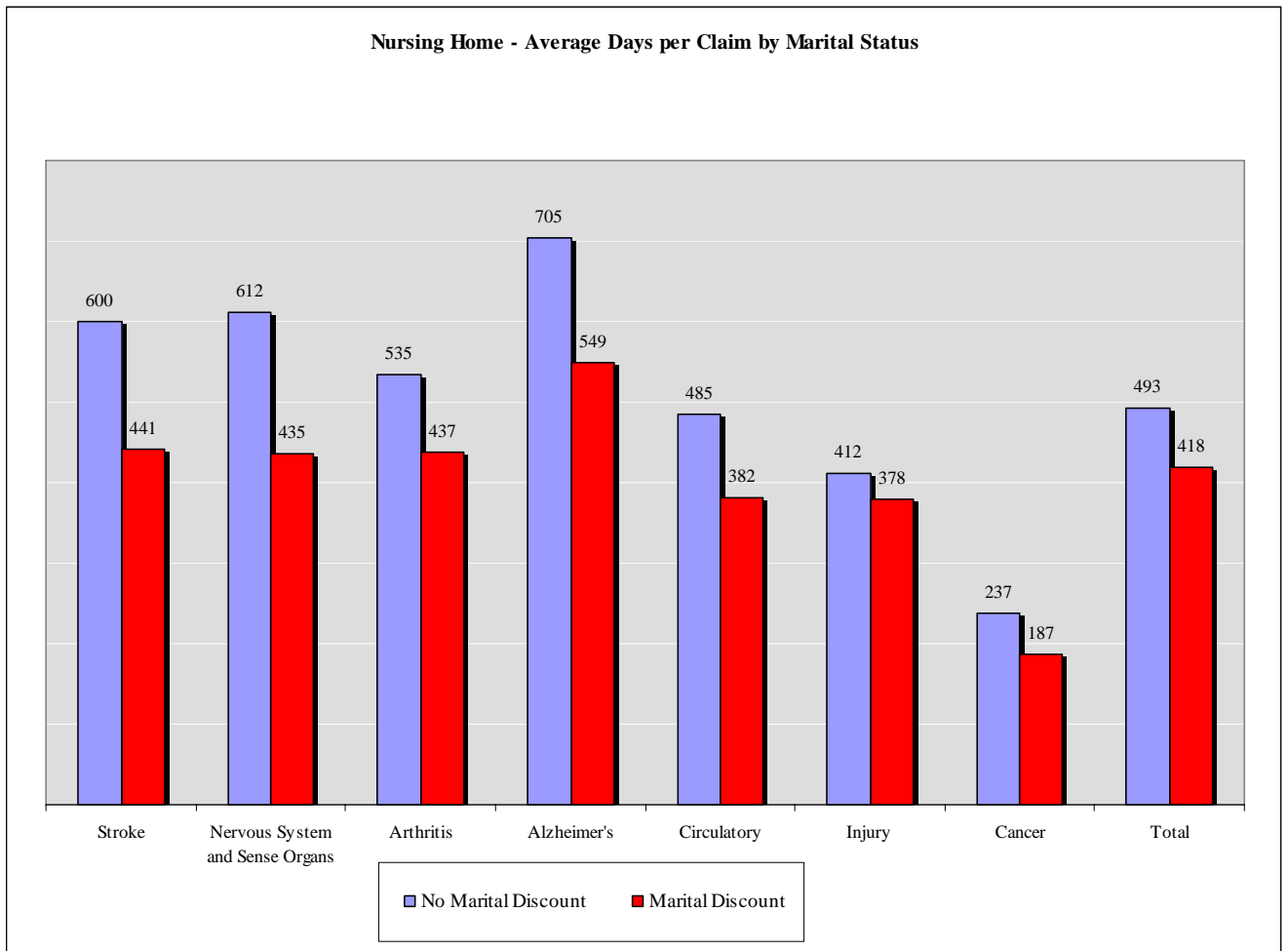


**Nursing Home, Home Health Care/ADC/Other Claims: Marital Discount Diagnosis Summary (Appendix G-14)**

Appendix G-14 compares claims data based upon the marital status of the claimant for individual policies only.

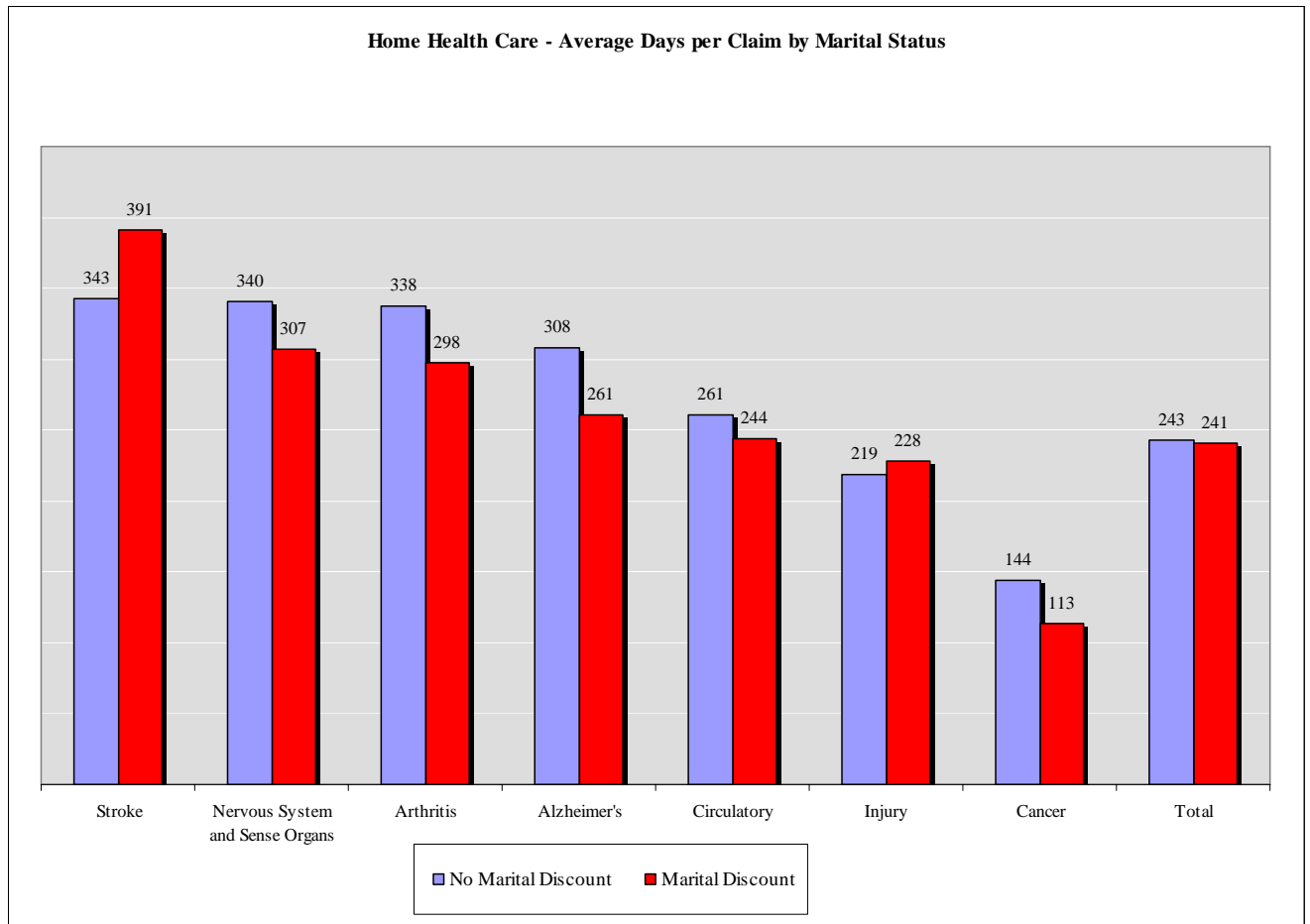
The graph below illustrates an overall trend in Nursing Home data that claimants without a marital discount spend longer on claim than claimants with a marital discount. For each of the major diagnosis groups shown, the average number of days per claim is higher for claimants without a marital discount. In total, Nursing Home claims without a marital discount spend an average of 493 days on claim, while Nursing Home claims with a marital discount spend an average of 418 days on claim. However, the average cost per day for Nursing Home claims without a marital discount (\$92/day) is less than Nursing Home claims with a marital discount (\$102/day).

**FIGURE 35: The Chart Below Shows the Average Days per Claim of Each Prominent Diagnosis Group by Marital Status for Nursing Home Claims**



The data for Home Health Care claims demonstrates a different pattern than the data from Nursing Home claims. For Home Health Care, the overall average number of days on claim is virtually identical for both claimants without a marital discount (243 days/claim) and with a marital discount (241 days/claim). The average cost per day is also similar, as claimants with no marital discount cost an average of \$97 per day while claimants with a marital discount cost an average of \$90 per day. Stroke and Injury claims are higher for claimants with a marital discount.

**FIGURE 36: The Chart Below Shows the Average Days/Visits per Claim of Each Prominent Diagnosis Group by Marital Status for Home Health Care Claims**



## SECTION III - MORTALITY

This section presents the mortality experience of long term care insurance in the United States for issue years 1984–2004. The data includes a total of 198,633 deaths, 158,424 deaths from active lives (“non-claim”) and 40,209 deaths from disabled lives (“on claim”).

The data presented in this section includes only terminations due to death. The data from those companies who did not identify that cause of termination is excluded from this section. Because there is no death benefit on most policies, some terminations due to death may be recorded as lapses and included in the voluntary lapse section. Thus, it is likely that deaths are understated and lapses are overstated.

### Total Mortality Rates – Active and Disabled Lives

The mortality data for this report includes a significantly larger amount of exposure (by 72%) than was available for the prior report. The data extends to twenty durations, compared to eighteen durations in the prior report. The following table shows a comparison of the total active and disabled life mortality data and rates by duration between the three reports. Mortality rates are not reported in the text for cells with less than 100 deaths, but are reported in the appendix.

**Figure 1**  
**Mortality Rates Compared to Prior Reports**  
**Active and Disabled Lives**

Duration	Exposure			Total Mortality Rates		
	1999 Report	2001 Report	2004 Report	1999 Report	2001 Report	2004 Report
1	2,103,538	3,059,165	4,995,326	0.6%	0.4%	0.3%
2	1,539,708	2,250,352	3,581,793	0.8%	0.7%	0.5%
3	1,160,648	1,685,380	2,800,737	1.0%	1.0%	0.7%
4	869,031	1,303,449	2,187,658	1.2%	1.2%	0.9%
5	619,747	1,021,243	1,718,591	1.4%	1.4%	1.1%
6	411,843	772,324	1,311,043	1.6%	1.6%	1.3%
7	252,200	594,370	1,047,574	2.0%	1.8%	1.5%
8	173,020	451,612	852,532	2.5%	2.3%	1.7%
9	123,212	334,506	673,020	2.7%	2.6%	1.9%
10	71,857	251,808	533,112	3.4%	2.8%	2.0%
11	43,392	166,589	409,519	3.5%	3.3%	2.3%
12	19,569	107,416	283,000	3.5%	3.9%	2.8%
13	7,892	54,094	194,794	3.7%	3.8%	3.0%
14	1,145	25,457	132,845		3.3%	3.7%
15	2	10,239	67,767		3.8%	5.4%
16		3,082	28,624		3.9%	7.1%
17		776	10,465			9.3%
18		14	3,813			10.5%
19			1,255			11.9%
20			389			
<b>Total</b>	<b>7,396,804</b>	<b>12,091,877</b>	<b>20,833,856</b>	<b>1.1%</b>	<b>1.1%</b>	<b>1.0%</b>

The overall average mortality rate is slightly lower than the prior report, as are the rates through duration 13. The rates at the higher durations (14 and greater) are greater than the prior report, but data is still limited at those durations. The change in the mortality rates by duration appears to be more gradual in the current report, as seen in Figure 2.

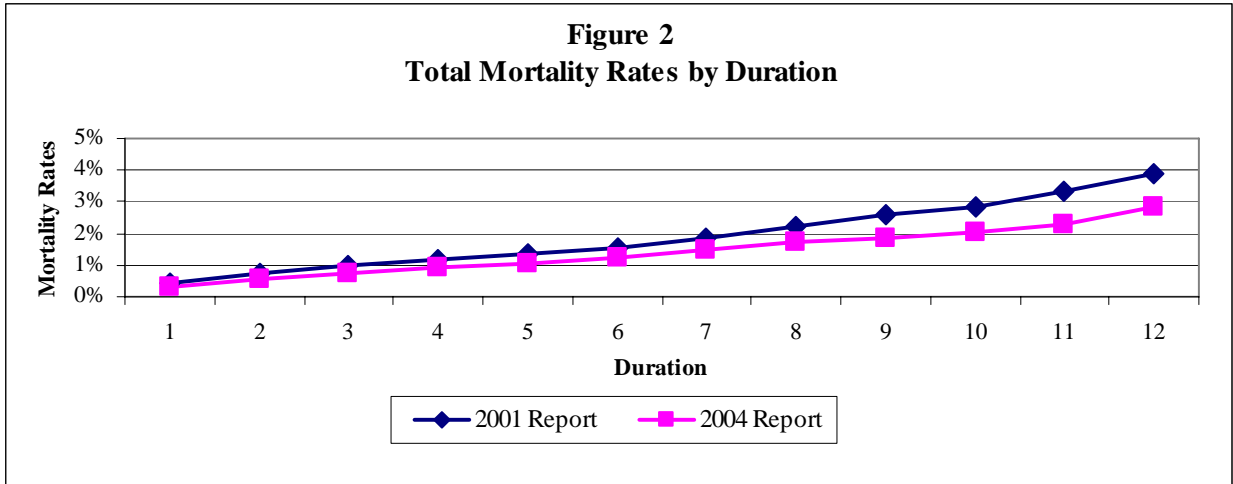
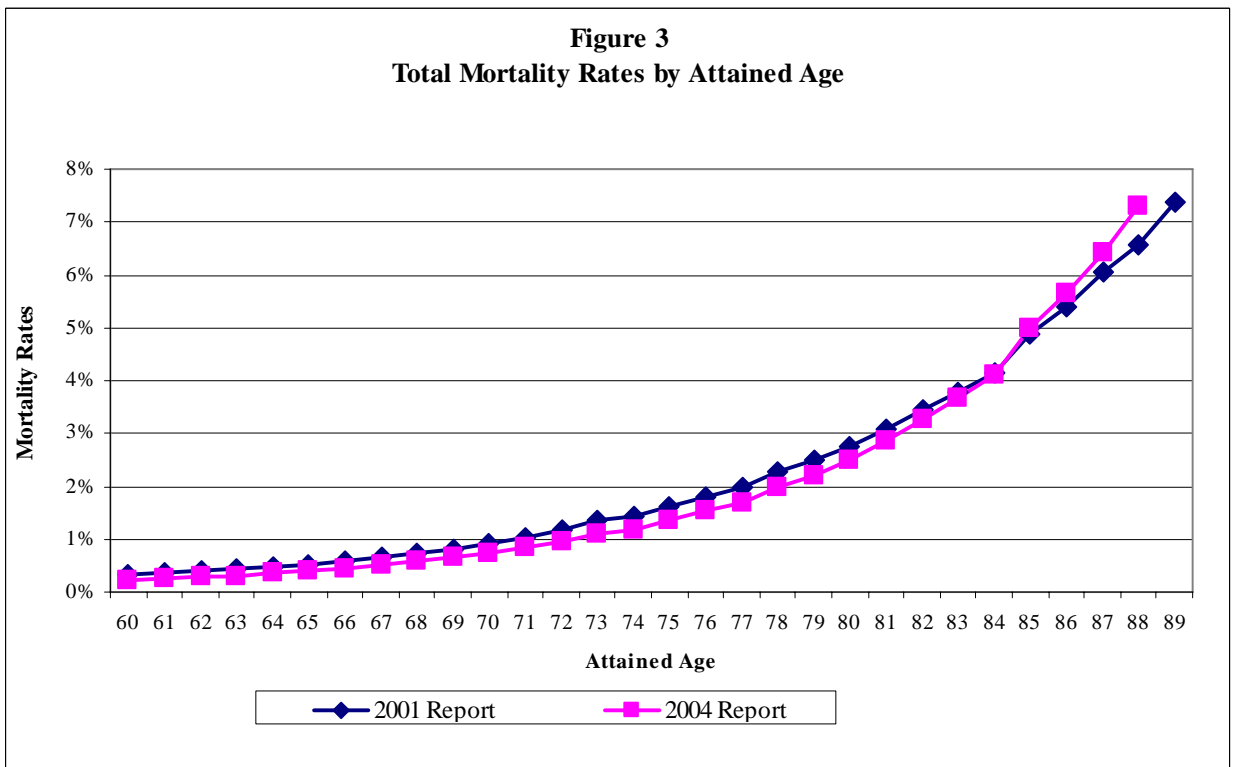


Figure 3 compares the mortality rates on an attained age basis between the two reports. Compared to the prior report, the mortality rates in the current report appear to be slightly lower for attained ages less than 80, increasing more sharply at attained ages above 85. Appendix H-1 has detailed mortality data and rates by attained age for the two reports.



**Mortality Rates by Gender:** The following table shows the overall mortality data by gender as well as in total. The total mortality rate is about 1.0%, with a female rate of about 0.8% and a male rate of about 1.1%. These rates have all decreased slightly since the prior report.

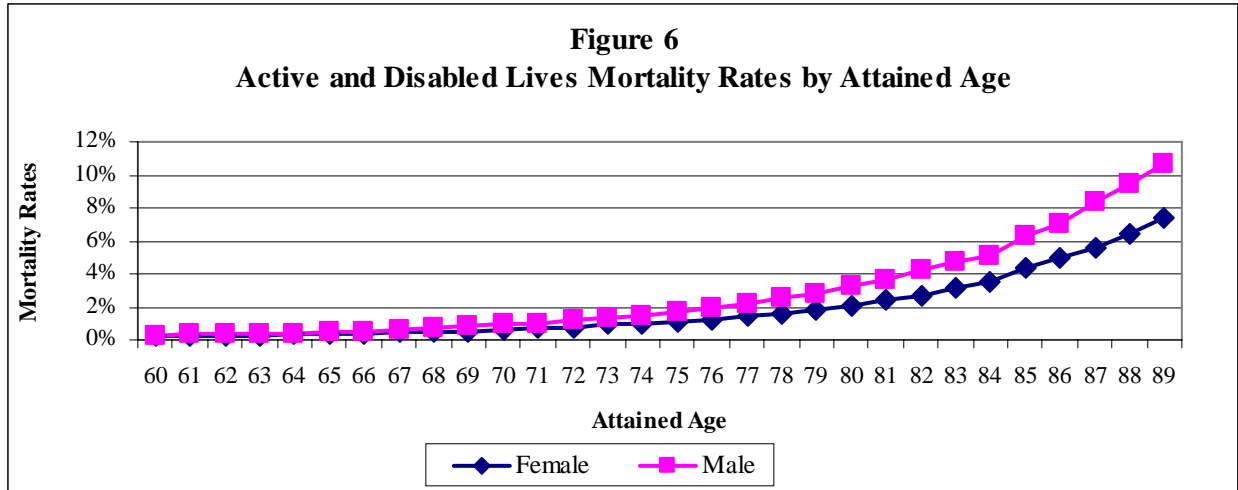
**Figure 4**  
**Total Mortality Rates by Gender**  
**Active and Disabled Lives**

	2001 Report			2004 Report		
	Exposure	Deaths	Mortality Rate	Exposure	Deaths	Mortality Rate
Female	7,273,800	70,788	1.0%	12,354,459	104,168	0.8%
Male	4,818,077	66,675	1.4%	8,479,397	94,465	1.1%
<b>Total</b>	<b>12,091,877</b>	<b>137,463</b>	<b>1.1%</b>	<b>20,833,856</b>	<b>198,633</b>	<b>1.0%</b>

**Mortality by Attained Age:** Figure 5 shows the mortality by attained age cohort and demonstrates that mortality rates are lower at younger ages and increase at older ages, as would be expected. There are very few deaths under age 40, leading to mortality rates of about 0%. Mortality rates for males are slightly higher than females for all attained age cohorts. Figure 6 is a graph that shows the female and male mortality rates from attained ages 60 to 89.

**Figure 5**  
**Mortality Rates by Attained Age**  
**Active and Disabled Lives**

Attained Age Cohort	Female		Male		Total	
	Exposure	Mortality Rate	Exposure	Mortality Rate	Exposure	Mortality Rate
0-29	190,580	0.0%	149,347	0.0%	339,927	0.0%
30-39	504,466	0.0%	443,598	0.1%	948,064	0.0%
40-49	940,323	0.1%	719,044	0.1%	1,659,367	0.1%
50-59	1,832,136	0.1%	1,245,735	0.2%	3,077,872	0.2%
60-69	3,693,251	0.4%	2,572,589	0.5%	6,265,840	0.4%
70-79	3,896,291	1.1%	2,648,583	1.6%	6,544,874	1.3%
80-89	1,243,302	3.3%	682,085	4.8%	1,925,387	3.8%
90+	54,111	10.6%	18,414	14.9%	72,525	11.7%



**Experience Compared to Industry Mortality:** Figure 7 shows a comparison of the combined active and disabled life LTC mortality to three industry tables – the 1994 Group Annuity Mortality Static Table (1994 GAM), the Annuity 2000 Table (A2000) and the ultimate portion of the composite nonsmoker / smoker 2001 Valuation Basic Table Ultimate (Ultimate 2001 VBT). The 2001 VBT table is commonly used as the expected mortality for inter-company life insurance mortality experience studies.

**Figure 7**  
**Ratio of Total LTC Mortality to Industry Tables**  
**Active and Disabled Lives**

Attained Age Cohort	1994 GAM	A2000	Ultimate 2001 VBT
0-29	36%	36%	25%
30-39	56%	63%	42%
40-49	57%	55%	40%
50-59	45%	45%	31%
60-69	37%	52%	34%
70-79	47%	62%	45%
80-89	59%	74%	57%
90+	81%	98%	83%
<b>Total</b>	<b>51%</b>	<b>66%</b>	<b>47%</b>

Overall, LTC mortality is 47% to 66% of the industry tables, but ranges from 25% to 98% by attained age cohorts. Appendix H-2 has more detailed information by gender and shows that female LTC mortality is 50% to 70% of industry tables and male LTC mortality is 45% to 65% of industry tables.



**Male vs. Female Mortality:** Figure 8 shows the male versus female mortality ratios for the LTC experience, as well as the three industry tables. Male experience mortality is about 30% higher than female, while male industry mortality is approximately 40% to 50% higher than female mortality. The difference between female and male mortality generally appears to decrease with increasing age for both experience and industry mortality.

**Figure 8**  
**Ratio of Male to Female Mortality**  
**Active and Disabled Lives**

Attained Age Cohort	LTC			Ultimate
	LTC	1994 GAM	A2000	2001 VBT
0-29	194%	228%	185%	216%
30-39	187%	177%	155%	137%
40-49	158%	163%	183%	139%
50-59	162%	187%	180%	121%
60-69	147%	172%	164%	144%
70-79	150%	163%	158%	151%
80-89	146%	146%	129%	156%
90+	141%	127%	106%	153%
<b>Total</b>	<b>132%</b>	<b>146%</b>	<b>137%</b>	<b>139%</b>

**Individual vs. Group Mortality:** The table below examines the mortality for Individual and Group business.

**Figure 9**  
**Mortality Rates by Policy Type**  
**Active and Disabled Lives**

Attained Age Cohort	Individual			Group		
	Exposure	Deaths	Mortality Rate	Exposure	Deaths	Mortality Rate
0-29	9,655	2	0.0%	330,272	56	0.0%
30-39	50,071	27	0.1%	897,993	330	0.0%
40-49	262,664	205	0.1%	1,396,703	1,011	0.1%
50-59	1,626,892	1,939	0.1%	1,450,980	2,752	0.2%
60-69	5,404,652	21,214	0.4%	861,188	5,565	0.6%
70-79	6,238,878	78,198	1.3%	305,996	5,323	1.7%
80-89	1,895,782	72,404	3.8%	29,604	1,144	3.9%
90+	71,442	8,388	11.7%	1,083	75	6.9%
<b>Total</b>	<b>15,560,036</b>	<b>182,377</b>	<b>1.2%</b>	<b>5,273,820</b>	<b>16,256</b>	<b>0.3%</b>

The overall average Individual mortality rate is significantly higher than the overall average Group mortality rate. By attained age cohort, however, the Individual mortality is generally better than the Group mortality, except for ages 90 and above. As Figure 9 shows, the exposure is significantly different by attained age cohort for Individual versus Group. The difference between overall Group and overall Individual mortality is due to the difference in the ages of the two populations.

## **Mortality Rates – Active Lives Only**

The mortality rates in this portion of this section are for active lives only. Over 99% of the total active and disabled life exposure is from the active lives only. Analysis is also done on select versus ultimate mortality rates.

**Overall Mortality Rates by Gender:** Figure 10 shows mortality data by gender for the active life mortality data. The overall mortality rate for active lives is about 0.8%, with a female rate of about 0.7% and the male rate of about 0.9%. These rates have all decreased since the prior report.

**Figure 10**  
**Overall Mortality Rates by Gender**  
**Active Lives Only**

	2001 Report			2004 Report		
	Exposure	Deaths	Mortality Rate	Exposure	Deaths	Mortality Rate
Female	7,204,224	59,975	0.8%	12,233,615	79,963	0.7%
Male	4,788,636	58,860	1.2%	8,425,888	78,461	0.9%
<b>Total</b>	<b>11,992,860</b>	<b>118,835</b>	<b>1.0%</b>	<b>20,659,503</b>	<b>158,424</b>	<b>0.8%</b>

**Experience Compared to Industry Mortality:** LTC mortality for actives lives is lower than many of the industry mortality tables commonly used in pricing and valuation. Figure 11 shows a comparison of the total active life LTC mortality to the 1994 GAM, A2000 and Ultimate 2001 VBT.

**Figure 11**  
**Ratio of LTC Mortality to Industry Tables**  
**Active Lives Only**

Attained Age Cohort	Ultimate		
	1994 GAM	A2000	2001 VBT
0-29	36%	36%	25%
30-39	54%	60%	40%
40-49	55%	53%	38%
50-59	42%	42%	29%
60-69	34%	48%	31%
70-79	40%	52%	38%
80-89	44%	56%	43%
90+	61%	74%	62%
<b>Total</b>	<b>41%</b>	<b>53%</b>	<b>38%</b>

The LTC active life mortality is only 38% to 53% of the industry tables, down from 47% to 66% when the disabled lives were included. The greatest changes occurred at the higher attained ages (70+). Appendix H-3 has more detailed information by gender and shows that female active life LTC mortality is 40% to 50% of industry tables and male active life LTC mortality is 40% to 55% of industry tables.

**Select Mortality Compared to the 2001 VBT Select Table:** The 2001 VBT table was created with a 25-year select period, since the submitted data for that table supported such development and it was believed that a 25-year select period was the best representation of current life experience. The 25-year select period reflects the long-term impact of selection on mortality rates. Since all of the LTC mortality experience is from durations less than 20 and most of the business was underwritten, it should be expected that the LTC active life mortality would be low when compared to the ultimate 2001 VBT table. When comparing active life LTC experience mortality to the Ultimate 2001 VBT, the overall ratio is only 38%, as shown in Figure 11, indicating that there is mortality selection.

Figure 12 shows the LTC active life mortality compared to the select 2001 VBT mortality by duration. When comparing active life LTC experience mortality to the Select 2001 VBT, the overall ratio jumps up to 77%, demonstrating a better fit to the select mortality rates.

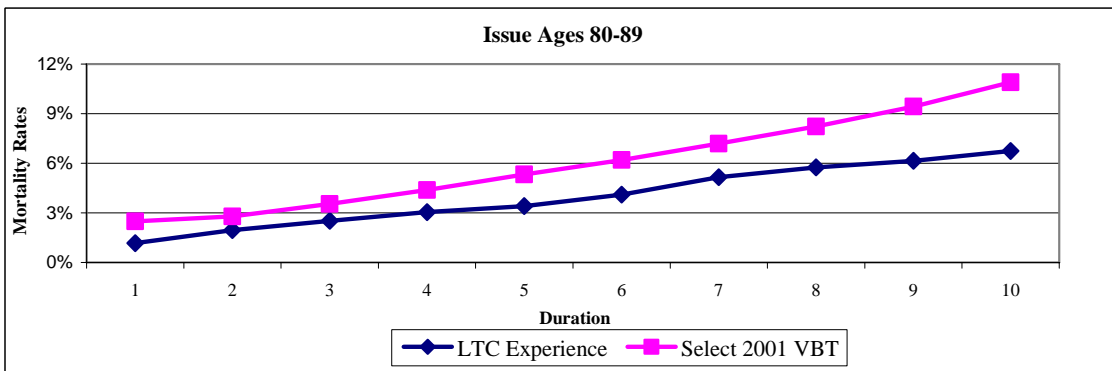
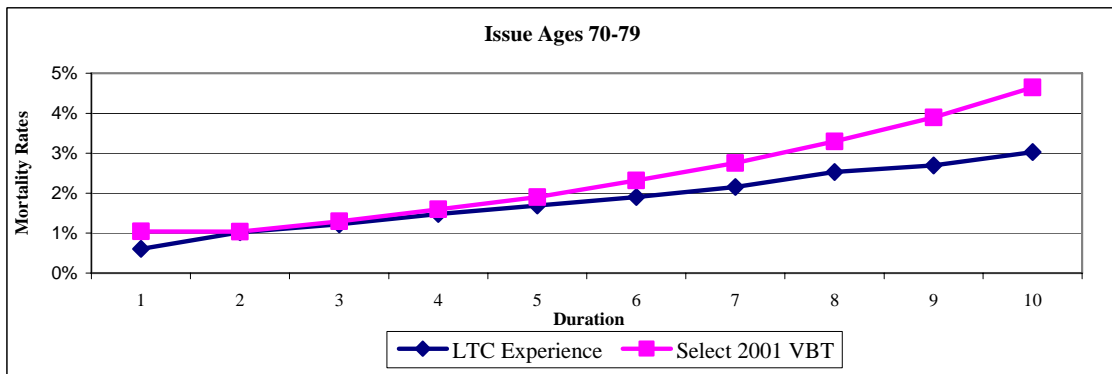
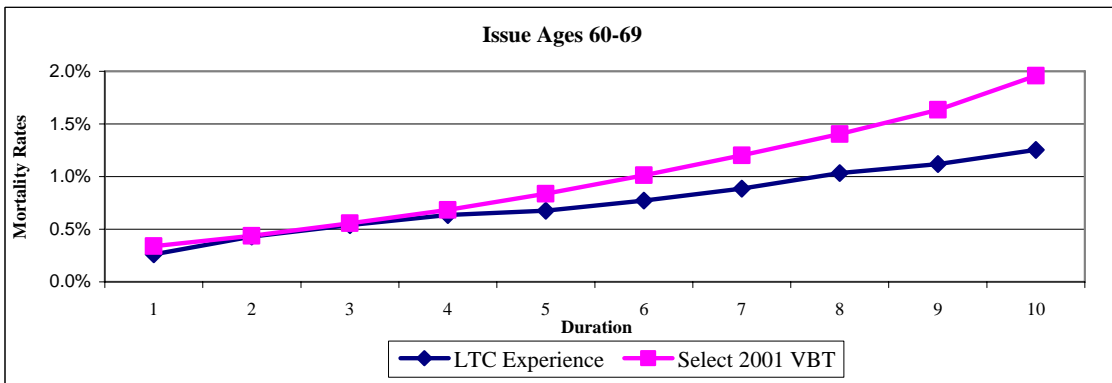
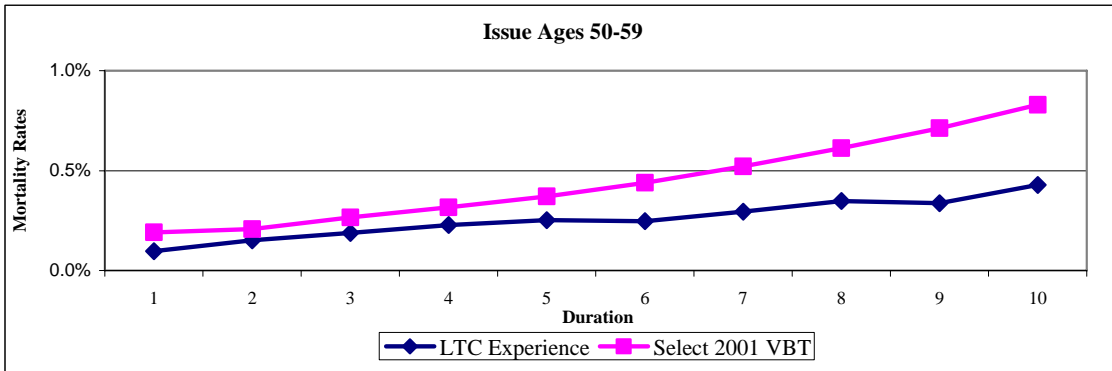
**Figure 12**  
**Mortality Rates Compared to Select 2001 VBT**  
**Active Lives Only**

Duration	2004 Report		Select 2001 VBT Mortality Rate	Ratio
	Exposure	Mortality Rate		
1	4,990,818	0.3%	0.5%	59%
2	3,571,317	0.5%	0.5%	92%
3	2,785,817	0.6%	0.7%	90%
4	2,169,853	0.8%	0.9%	88%
5	1,699,712	0.9%	1.1%	81%
6	1,292,719	1.0%	1.3%	76%
7	1,030,251	1.1%	1.5%	75%
8	836,615	1.3%	1.8%	74%
9	659,016	1.4%	2.0%	67%
10	521,224	1.5%	2.4%	64%
11	399,728	1.7%	2.8%	61%
12	275,590	2.1%	3.4%	62%
13	189,553	2.3%	3.9%	59%
14	129,185	2.9%	4.4%	65%
15	65,485	4.3%	5.6%	76%
16	27,401	5.6%	6.5%	87%
17	9,983	7.7%	7.5%	103%
18	3,627	8.8%	8.5%	104%
19	1,224	9.9%	9.1%	109%
20	384			
<b>Total</b>	<b>20,659,503</b>	<b>0.8%</b>	<b>1.0%</b>	<b>77%</b>

The Select 2001 VBT mortality rates were weighted by the 2004 report exposure, recognizing both the issue age and duration. Selection appears to wear off over time (around duration 17); however, data at the higher durations is still extremely limited.

Figure 13 contains graphs that compare the active life LTC experience mortality rates to the Select 2001 VBT rates by issue age cohort. (The scales on the graphs are not the same for each age cohort.) The LTC experience appears to be much lower and flatter than the Select 2001 VBT.

**Figure 13**  
**LTC Mortality vs Select 2001 VBT, Issue Age Cohorts**  
**Active Lives Only**



**Mortality Selection Period Comparison:** Figure 14 shows the comparison of total active life LTC mortality by attained age: (1) assuming no select period (“Aggregate/All Durations”) and (2) assuming a 10-year select period (“Ultimate/Durations 11+”).

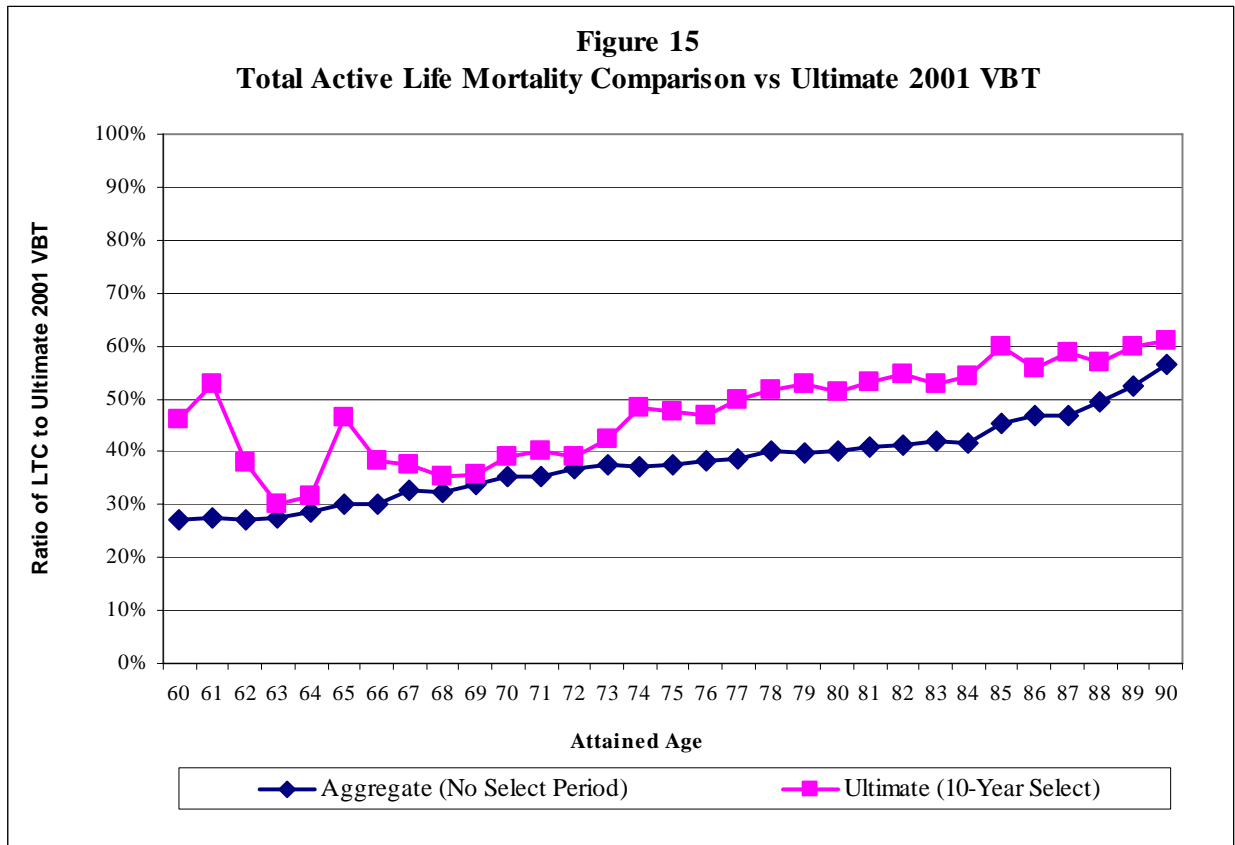
**Figure 14**  
**Total Mortality - With and Without Selection**  
**Active Lives Only**

Attained Age	Aggregate (All Durations) Select Period = 0			Ultimate (Durations 11+) Select Period = 10		
	Exposure	Deaths	Mortality Rate	Exposure	Deaths	Mortality Rate
50	224,366	208	0.09%	5,610	7	0.12%
51	240,776	274	0.11%	5,974	15	0.25%
52	259,192	318	0.12%	6,385	10	0.16%
53	277,442	340	0.12%	6,981	13	0.19%
54	297,341	372	0.13%	7,624	19	0.25%
55	320,810	462	0.14%	8,229	23	0.28%
56	339,276	478	0.14%	8,610	22	0.26%
57	346,064	538	0.16%	8,133	37	0.45%
58	368,102	614	0.17%	8,473	27	0.32%
59	401,966	757	0.19%	8,885	21	0.24%
60	435,873	907	0.21%	9,625	34	0.35%
61	456,743	1,054	0.23%	9,676	43	0.44%
62	494,153	1,249	0.25%	9,916	35	0.35%
63	536,704	1,523	0.28%	10,374	32	0.31%
64	615,015	1,990	0.32%	11,188	40	0.36%
65	690,478	2,567	0.37%	12,181	70	0.57%
66	723,378	2,962	0.41%	13,536	70	0.52%
67	749,959	3,598	0.48%	15,093	83	0.55%
68	768,089	3,997	0.52%	16,831	95	0.56%
69	785,064	4,602	0.59%	19,259	119	0.62%
70	790,949	5,262	0.67%	23,250	171	0.74%
71	779,578	5,712	0.73%	26,997	224	0.83%
72	755,861	6,382	0.84%	31,810	284	0.89%
73	723,930	6,823	0.94%	36,050	383	1.06%
74	688,802	7,041	1.02%	43,955	587	1.34%
75	646,483	7,366	1.14%	53,059	767	1.45%
76	598,931	7,609	1.27%	56,588	879	1.55%
77	548,124	7,684	1.40%	58,603	1,066	1.82%
78	498,260	8,008	1.61%	59,726	1,237	2.07%
79	451,172	7,940	1.76%	59,916	1,397	2.33%
80	392,090	7,699	1.96%	58,022	1,451	2.50%
81	332,713	7,414	2.23%	54,079	1,570	2.90%
82	278,060	6,974	2.51%	48,553	1,602	3.30%
83	229,237	6,407	2.79%	43,253	1,530	3.54%
84	186,652	5,722	3.07%	38,239	1,525	3.99%
85	143,571	5,289	3.68%	33,496	1,629	4.86%
86	105,917	4,396	4.15%	28,192	1,390	4.93%
87	77,005	3,531	4.59%	23,698	1,367	5.77%
88	54,578	2,909	5.33%	19,859	1,225	6.17%
89	37,697	2,338	6.20%	17,263	1,229	7.12%
90	25,057	1,810	7.22%	13,280	1,038	7.82%

Removing the early duration experience does have an effect on the ultimate level of mortality, indicating that there is a selection period. The selection period appears to be at least ten durations, but given the limited exposure at the higher durations, it is difficult to determine when the selection period ends.

**Mortality Compared to the Ultimate 2001 VBT Table:** Figure 15 shows the comparison of total active life LTC mortality, with and without a select period, to the ultimate 2001 VBT mortality.

The LTC ultimate mortality, assuming a 10-year select period, does not show a smooth increase, probably due to the limited exposure data. Also, LTC ultimate mortality ratio, assuming a 10-year select period, is significantly less than 100%, indicating that the select period may be longer than 10 years.



Appendix H-4 has detailed mortality rate calculations by attained age for the LTC mortality, by gender and in total, with and without a select period.

**Trend of Active Life Mortality by Exposure Period:** The mortality data was divided into six exposure periods and examined to discover if there were any discernible trends. This is NOT the same as issue year; for example, a policy issued in 1997 would have its first three durations in the 1996–1999 exposure period, durations four and five in the 2000–2001 exposure period and durations six through eight in the 2002–2004 exposure period.

Appendix H-5 shows the active life deaths and mortality rates in total and by exposure periods by gender and in total for attained ages 40 through 99.

Figure 16 contains graphs for two different attained age cohorts that show the total active life attained age mortality rates by exposure period. (The scales are not the same on both graphs.) Mortality appears to be improving; however, the 2002-2004 exposure period had higher mortality rates than several of the other exposure periods.



**Figure 16**  
**Total Mortality Rates by Exposure Period**  
**Active Lives Only**

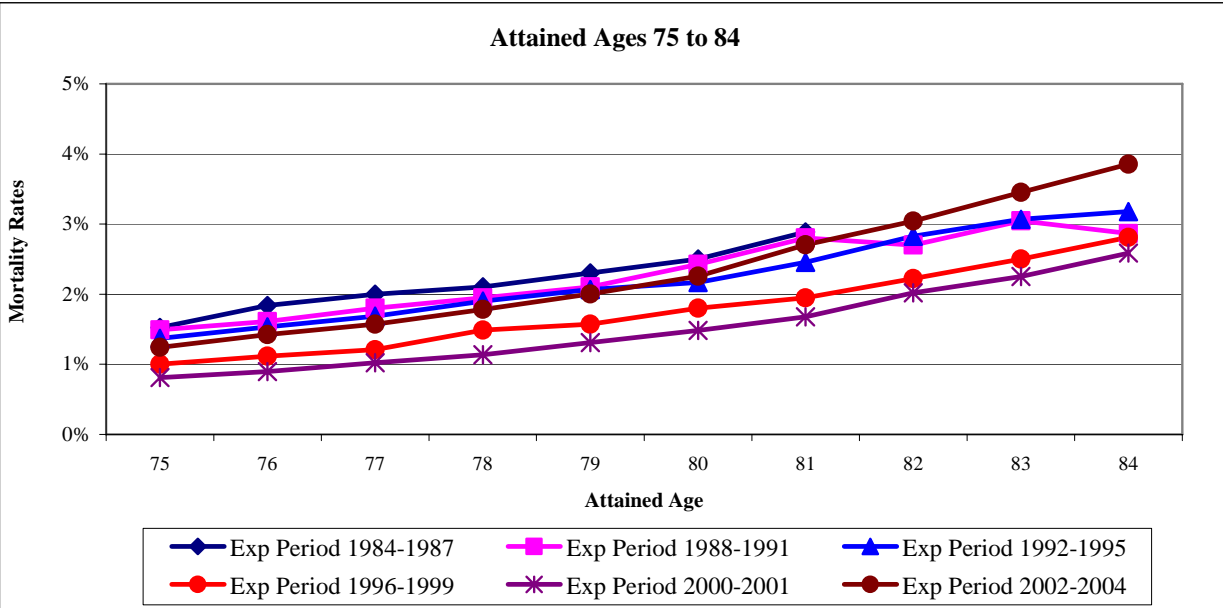
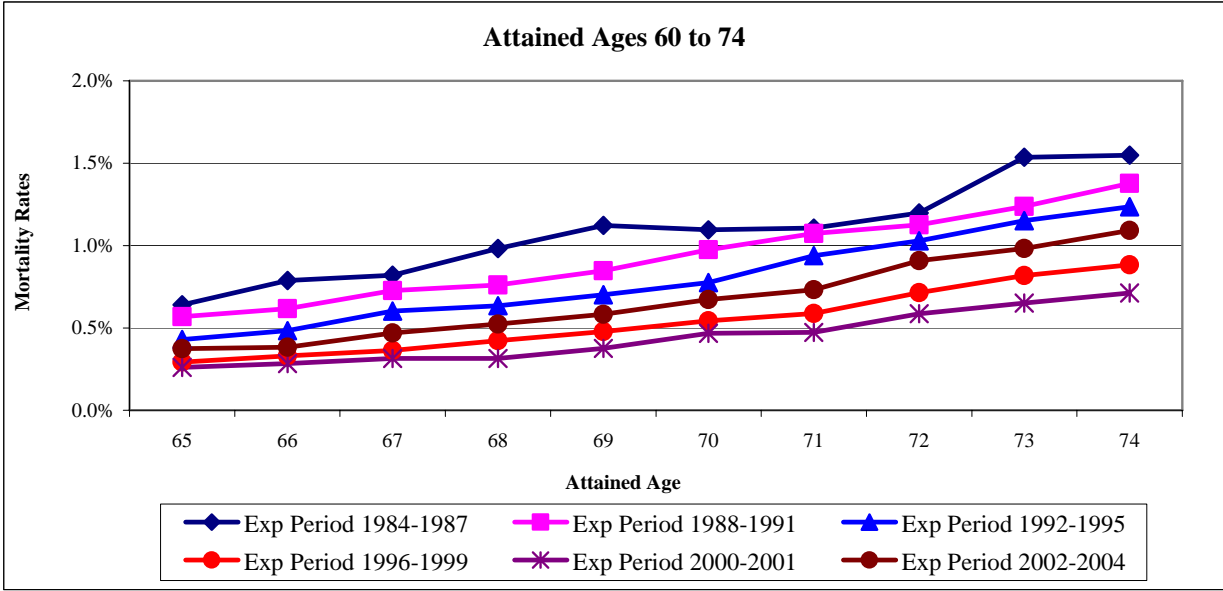


Figure 17 shows a comparison of both the 1987-1991-exposure period and the 1992-1999-exposure period to the 2000-2004-exposure period by attained age cohort. There appears to be a small amount of improvement in mortality below age 80 when compared to the earlier timeframes, but it seems to be worsening at the higher ages. Perhaps there is more accurate reporting of deaths at higher attained ages in the more recent exposure period.

**Figure 17**  
**Average Annual Mortality Change**  
**Active Lives Only**

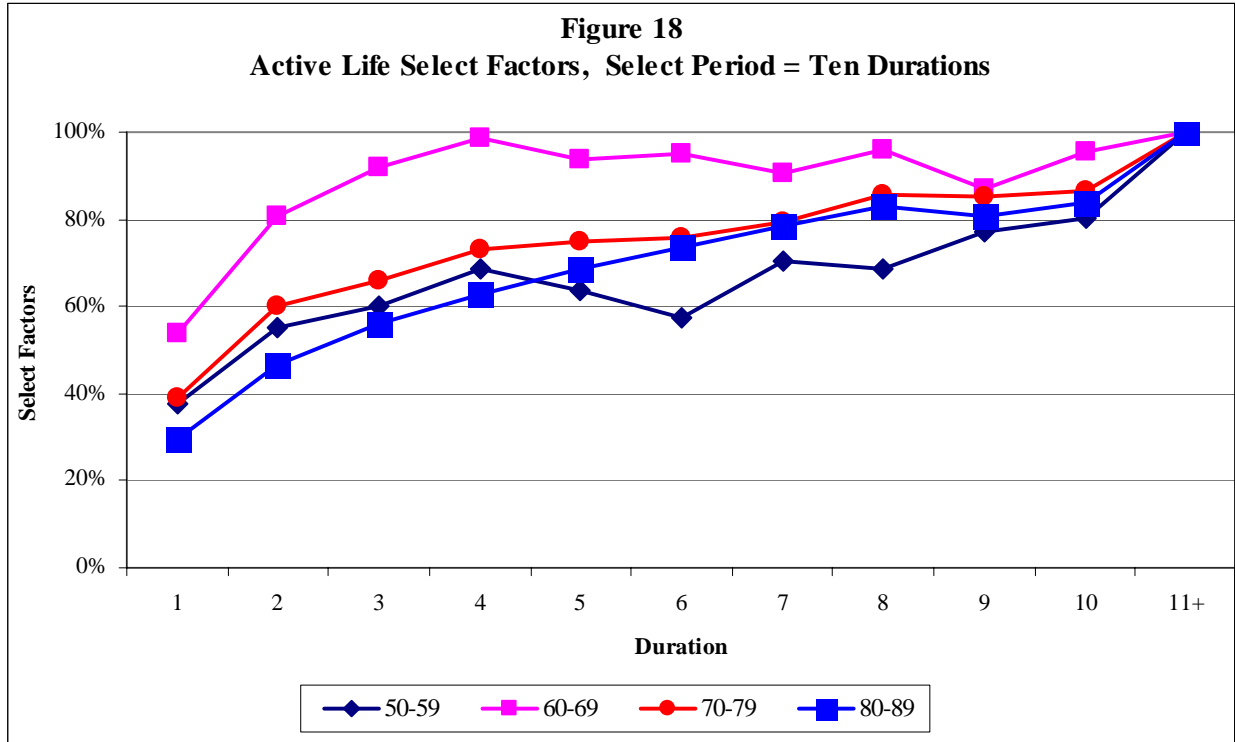
Exposure Period 1987-1991 to Exposure Period 2000-2004			
Attained Age Cohort	Female	Male	Total
0-29	-4%	-4%	-4%
30-39	-5%	-10%	-8%
40-49	-4%	-6%	-5%
50-59	-8%	-8%	-8%
60-69	-5%	-6%	-5%
70-79	-1%	-4%	-3%
80-89	2%	-1%	1%
90+	7%	9%	8%
<b>Total</b>	<b>-2%</b>	<b>-4%</b>	<b>-3%</b>

Exposure Period 1992-1999 to Exposure Period 2000-2004			
Attained Age Cohort	Female	Male	Total
0-29	-17%	-5%	-9%
30-39	-4%	-10%	-7%
40-49	-1%	-4%	-3%
50-59	-4%	-3%	-3%
60-69	-4%	-4%	-4%
70-79	0%	-3%	-1%
80-89	3%	0%	2%
90+	7%	5%	6%
<b>Total</b>	<b>-1%</b>	<b>-3%</b>	<b>-2%</b>

**Active Life Mortality Selection:** Appendix H-6 has tables of mortality rates by attained age cohorts and selection factors by gender and in total. The select factors are calculated as a ratio of a given duration to the mortality rates that may be considered ultimate. The three sets of assumptions are: 1) durations one through eight select, nine and higher ultimate; 2) durations one through nine select, 10 and higher ultimate; and 3) durations one through 10 select, 11 and higher ultimate.

Figure 18 shows selection factors, assuming a select period of nine durations, with ultimate mortality for durations 11 or higher. For most attained age cohorts, it appears that the selection period may be duration nine or higher. Attained ages 60 through 69 appear to be an outlier, where the selection period appears to be only about four durations.

Issue-age-based selection factors would be determined by grading between the attained age cohorts.



### Mortality Rates – Disabled Lives Only

The mortality rates in this portion of this section are for disabled lives only. Rates are shown split by gender as well as in total.

**Overall Mortality Rates by Gender:** Figure 19 shows the disabled life mortality data. The overall mortality rate is about 23%, with a female rate of about 20% and the male rate of about 30%. All of these rates have increased significantly since the prior report. There is a larger amount of exposure data in the 2004 Report, leading to more credibility.

**Figure 19**  
**Overall Mortality Rates by Gender**  
**Disabled Lives Only**

	2001 Report			2004 Report		
	Exposure	Deaths	Mortality Rate	Exposure	Deaths	Mortality Rate
Female	69,576	10,813	15.5%	120,844	24,205	20.0%
Male	29,441	7,815	26.5%	53,509	16,004	29.9%
<b>Total</b>	<b>99,016</b>	<b>18,628</b>	<b>18.8%</b>	<b>174,353</b>	<b>40,209</b>	<b>23.1%</b>

**Experience Compared to Industry Mortality:** The disabled life LTC mortality is compared to the Society of Actuaries Table 95, which is a disabled life mortality table based on a disability income insurance definition of disability. SOA Table 95 excludes deaths from mental nervous disorders, AIDS and pregnancy; it also does not provide data for age groups above age 75.

People receiving long-term care are generally older and more disabled than people receiving disability income benefits. It is not surprising that the LTC mortality is significantly higher than SOA Table 95, as can be seen in Figure 20.

**Figure 20**  
**Ratio of LTC Mortality to SOA Table 95**  
**Disabled Lives Only**

Age at Claim	Female	Male	Total
Under 50	127%	88%	105%
50-54	272%	200%	238%
55-59	431%	248%	347%
60-64	391%	370%	382%
65-69	326%	391%	350%
70-74	241%	336%	274%
<b>Total</b>	<b>278%</b>	<b>345%</b>	<b>303%</b>

Appendix H-7 has detailed data and rates for the disabled life LTC mortality, as well as comparisons to SOA Table 95 by age and duration, gender and in total.

**Disabled Life Mortality vs. Active Life Mortality:** Disabled lives represent a very small portion of total exposure, less than one percent. Overall, the disabled lives mortality rate is about thirty times the active lives mortality rate, as seen in Figure 21.

**Figure 21**  
**Comparison of Active Lives Mortality Rates to Disabled Lives Mortality Rates**

Attained Age Cohort	Active Lives			Disabled Lives			Disabled / Active
	Exposure	Deaths	Mortality Rate	Exposure	Deaths	Mortality Rate	
0-29	339,884	58	0.0%	44	0	0.0%	0
30-39	947,694	344	0.0%	370	13	3.5%	97
40-49	1,658,231	1,170	0.1%	1,137	46	4.0%	57
50-59	3,075,336	4,361	0.1%	2,536	330	13.0%	92
60-69	6,255,455	24,449	0.4%	10,385	2,330	22.4%	57
70-79	6,482,090	69,827	1.1%	62,783	13,694	21.8%	20
80-89	1,837,520	52,679	2.9%	87,866	20,869	23.8%	8
90+	63,293	5,536	8.7%	9,232	2,927	31.7%	4
<b>Total</b>	<b>20,659,503</b>	<b>158,424</b>	<b>0.8%</b>	<b>174,353</b>	<b>40,209</b>	<b>23.1%</b>	<b>30</b>

Appendix H-8 has detailed calculations and comparisons of the active and disabled life mortality rates by attained age, gender and in total.

**Impact of Marital Discount on Mortality Rates**

This new portion of this section examines the impact of marital discounts on the mortality rates. Data for Group policies is excluded from this analysis as none of the reported Group business has marital discounts. Only active lives data is included since little of the disabled lives data has marital discounts. Information regarding marital discounts was not available on all of the mortality data for this report and that data is included in the “unknown” category. From this viewpoint, Figure 22 demonstrates that the overall mortality on business with a marital discount would appear to be about a little less than half that of mortality on business without a discount.

**Figure 22**  
**Summary of Data Underlying Marital Discount Analysis**  
**Individual-Type Policies Only**  
**Active Lives Only**

Marital Discount Category	Exposure	Deaths	Mortality Rate
Has Discount	3,396,891	9,294	0.3%
No Discount	6,113,710	33,824	0.6%
Unknown	5,886,635	99,993	1.7%
<b>Total</b>	<b>15,397,236</b>	<b>143,111</b>	<b>0.9%</b>

The tables in Figures 23 and 24 compare data that included information regarding marital discounts. Any data that did not include this information (i.e. “Unknown”) has been excluded from these analyses.

**Figure 23**  
**Impact of Marital Discount on Mortality Rates by Duration**  
**Individual-Type Policies Only**  
**Active Lives Only**

Duration	Has Discount			No Discount		
	Exposure	Deaths	Mortality Rate	Exposure	Deaths	Mortality Rate
1	999,591	933	0.09%	1,080,092	1,254	0.12%
2	712,385	1,233	0.17%	858,232	1,806	0.21%
3	538,280	1,352	0.25%	729,243	2,073	0.28%
4	395,203	1,495	0.38%	615,377	2,189	0.36%
5	279,416	1,266	0.45%	525,971	2,068	0.39%
6	178,502	929	0.52%	454,980	2,258	0.50%
7	116,014	652	0.56%	390,994	2,408	0.62%
8	77,631	495	0.64%	331,103	2,532	0.76%
9	49,335	360	0.73%	270,202	2,087	0.77%
10	28,347	246	0.87%	222,867	2,024	0.91%
11	14,632	190	1.30%	186,995	1,978	1.06%
12	5,665	73	1.29%	151,826	2,120	1.40%
13	866	24	2.77%	118,294	2,178	1.84%
14	547	23	4.20%	86,938	2,384	2.74%
15	476	23	4.83%	53,178	2,058	3.87%
16				22,865	1,208	5.28%
17				9,326	700	7.51%
18				3,621	314	8.67%
19				1,224	121	9.88%
20				384	64	16.65%
<b>Total</b>	<b>3,396,891</b>	<b>9,294</b>	<b>0.27%</b>	<b>6,113,710</b>	<b>33,824</b>	<b>0.55%</b>

While the overall average mortality on business with a marital discount appears to be much lower than that on business without a marital discount, the relationship changes if the mortality rates are compared by duration. When viewed this way, the mortality rates are similar. The marital discount was generally not offered on the older business, so there is limited data for the mortality on business with a marital discount at the later durations.

If the mortality rates from the business with a discount are weighted at each duration by the exposures of the business without a discount, the total mortality rate for business with a discount would be approximately 0.6%, which is almost the same as the total mortality rate for business without a discount.

Figure 24 shows the mortality rates by marital discount by gender. It appears that the mortality rate differential is greater on female mortality than male mortality.

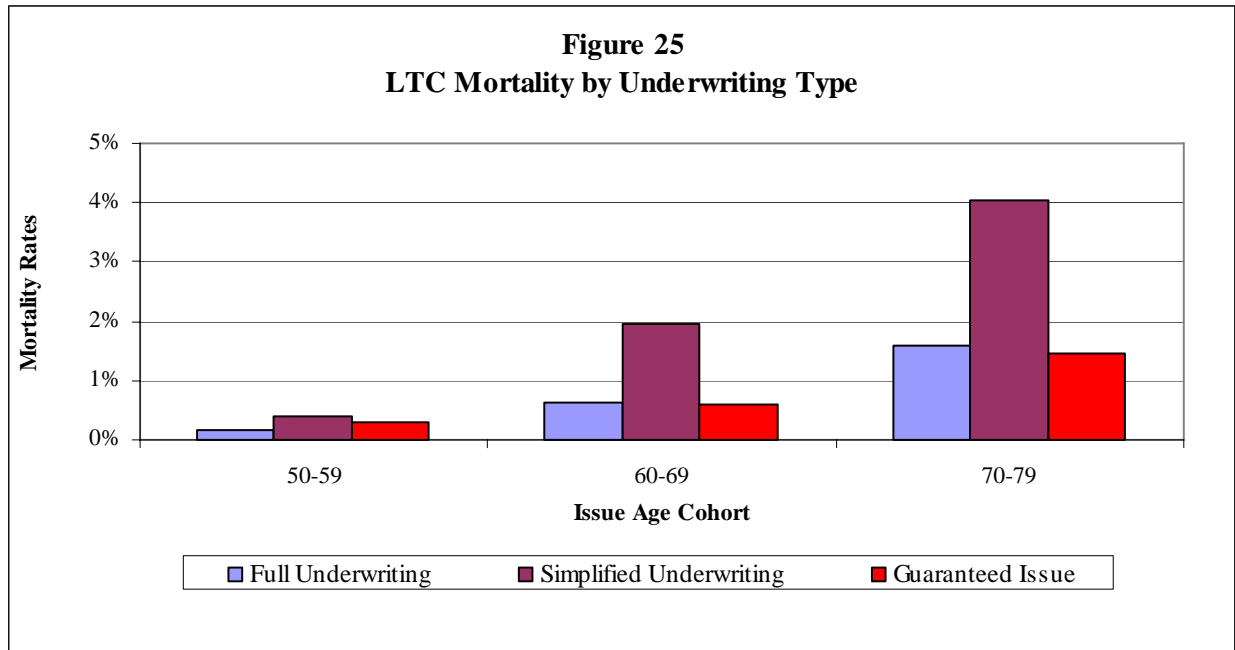
**Figure 24**  
**Impact of Marital Discount on Mortality Rates by Gender**  
**Individual-Type Policies Only**  
**Active Lives Only**

Duration	Female		Male		Total	
	Has Discount	No Discount	Has Discount	No Discount	Has Discount	No Discount
1	0.06%	0.10%	0.13%	0.14%	0.09%	0.12%
2	0.12%	0.19%	0.23%	0.25%	0.17%	0.21%
3	0.17%	0.26%	0.34%	0.34%	0.25%	0.28%
4	0.26%	0.32%	0.50%	0.43%	0.38%	0.36%
5	0.30%	0.36%	0.62%	0.46%	0.45%	0.39%
6	0.35%	0.44%	0.71%	0.60%	0.52%	0.50%
7	0.40%	0.51%	0.74%	0.82%	0.56%	0.62%
8	0.45%	0.65%	0.84%	0.98%	0.64%	0.76%
9	0.58%	0.65%	0.90%	1.01%	0.73%	0.77%
10	0.64%	0.77%	1.12%	1.16%	0.87%	0.91%
11	0.98%	0.88%	1.66%	1.39%	1.30%	1.06%
12	0.75%	1.18%	1.91%	1.79%	1.29%	1.40%
13	1.73%	1.58%	4.32%	2.33%	2.77%	1.84%
14	2.88%	2.40%	6.50%	3.40%	4.20%	2.74%
15	3.61%	3.32%	6.99%	4.97%	4.83%	3.87%
16		4.53%		7.01%		5.28%
17		6.77%		9.43%		7.51%
18		7.71%		11.91%		8.67%
19		9.30%		11.98%		9.88%
20		17.06%		15.06%		16.65%
<b>Total</b>	<b>0.19%</b>	<b>0.48%</b>	<b>0.37%</b>	<b>0.70%</b>	<b>0.27%</b>	<b>0.55%</b>

Appendix H-9 has detailed mortality calculations for business with marital discounts versus business without marital discounts.

## Mortality by Underwriting Type

This portion of this section examines the mortality by three different types of underwriting: full, simplified and guaranteed issue. Figure 25 compares the experience of each of the underwriting types by issue age cohort.



The guaranteed issue type has lower mortality than the simplified underwriting at all ages. The guaranteed issue type is mostly Group business with actively-at-work requirements. This may indicate that actively-at-work requirements may be more effective than simplified underwriting techniques with regard to mortality.

Figure 25 differs from prior reports in that issue age cohort 80-89 is not shown. The exposure for this cohort is very limited, as can be seen in Appendix H-10, which shows mortality data and calculations by issue age for each of the underwriting types.



## SECTION IV - VOLUNTARY LAPSE

### Introduction

This section presents the voluntary lapse experience of long term care insurance in the United States for issue years 1984-2003. The 2004 issues were not utilized as the exposure ceased December 31, 2004. The data presented in this section includes terminations for all reasons except death.

The data from nine contributing companies who did not distinguish between deaths and lapses has been excluded from this section and from the mortality section. In the section showing total termination rates, which include both lapses and deaths, the data from all contributing companies is included. To avoid using data with low statistical credibility, data from any cell with fewer than 100 lapses has been omitted from the charts and tables in this report. Complete data may be found in the accompanying appendices.

Figure 1 below summarizes the overall lapse rates from this report and the two prior reports, along with the accompanying exposures. There has been a significant increase in the amount of exposure available for each successive report. In particular, the exposure available for this report is almost twice as large as the exposure available for the prior report. The data now extends to the first 20 durations. The lapse rates at every duration after the first two are lower in each successive report, particularly at the later durations. The overall lapse rate at all durations combined has dropped from 7.6% to 5.5%.

**Figure 1**

Duration	Exposure			Lapse Rate		
	1999 Report	2001 Report	2004 Report	1999 Report	2001 Report	2004 Report
1	1,905,567	3,226,158	4,882,198	10.6%	11.4%	9.2%
2	1,432,141	2,337,392	3,756,285	7.9%	8.3%	6.7%
3	1,095,890	1,732,848	2,923,066	6.9%	6.6%	5.2%
4	829,992	1,337,757	2,283,573	6.1%	5.6%	4.2%
5	600,594	1,033,030	1,786,252	5.4%	4.9%	3.6%
6	403,210	785,779	1,362,587	5.1%	4.3%	3.2%
7	252,336	599,946	1,093,387	5.0%	3.9%	2.9%
8	174,517	455,764	892,586	4.9%	3.8%	2.6%
9	124,395	330,422	700,917	4.7%	3.5%	2.4%
10	73,041	249,703	554,514	5.4%	3.8%	2.5%
11	44,109	165,322	427,552	5.8%	4.4%	2.3%
12	19,900	106,367	298,328	7.4%	4.7%	2.3%
13	8,029	52,175	202,792	8.2%	5.5%	2.2%
14	1,156	24,494	140,862	11.5%	7.6%	2.5%
15	1	9,853	72,280		8.5%	2.8%
16		2,765	31,328		9.6%	3.2%
17		773	11,336			3.5%
18		1	4,182			4.4%
19			1,385			
20			468			
<b>Total</b>	<b>6,964,878</b>	<b>12,450,549</b>	<b>21,424,025</b>	<b>7.6%</b>	<b>7.4%</b>	<b>5.5%</b>

One factor contributing to the drop in total lapse rate from the prior report is that, in the 2004 Report, only 23% of the total exposure is in duration 1, compared to 26% of the total in the 2001 Report. However, the relative levels of exposure for the two reports are within 1% of each other at each duration. If the lapse rates from the 2004 Report are weighted at each duration by the exposures from the 2001 Report, the total lapse rate would be 5.7%, still well below the prior report's total lapse rate of 7.4%.

Another contributing factor is that the additional years of data (i.e., after 2001) submitted from companies that also supplied data to the prior report show lower overall lapse rates than those in the data for years 2001 and prior. The impact of the additional years of data alone is an approximate 1% reduction in the overall lapse rate.

A third contributing factor is that the data submitted by new contributors (i.e., those that did not supply data to the prior report) shows overall lapse rates that are significantly lower than those in the prior report. The addition of this data from new contributors accounts for most of the remaining difference between the reported overall lapse rates in this report and the prior reports.

### **Summary of Findings**

This section summarizes the major findings of this Voluntary Lapse section. Note that these are only summaries; exceptions to these general trends, and additional discussion of the results observed, can be found in the sections that follow.

#### **Lapse Rates by Duration**

Lapse rates drop quickly from an initial level of about 9% until duration 13, after which they begin to slowly rise. Lapse rates in this report are lower at every duration than those in prior reports.

#### **Lapse Rates by Policy Type (Individual vs. Group)**

Individual lapse rates drop from an initial level of 8% to just above 2% at duration 9, and then begin to slowly rise. Group lapse rates start out higher, but after duration 10 drop below 2%.

#### **Lapse Rates by Issue Year Cohort**

Lapse rates for Individual policies generally are lower as the issue year becomes more recent. Group insurance lapse rates show no clear pattern by issue year cohorts.

#### Lapse Rates by Issue Age and Attained Age Cohorts

Issue age cohorts show a consistent pattern of higher lapse rates as the issue age gets older. Lapse rates are much higher at attained ages below 40 than at other ages.

#### Lapse Rates by Type of Underwriting

For both Group and Individual insurance, the data show a consistent pattern of higher lapse rates for the less stringent form of underwriting.

#### Lapse Rates by Gender

In total, lapse rates do not differ greatly by gender.

#### Lapse Rates by Elimination Period

Individual insurance clearly shows a trend toward lower lapse rates as the elimination period becomes longer. For Group insurance, the trends are much less clear.

#### Lapse Rates by Benefit Period

For both Individual and Group insurance, the lapse rate for coverage with an unlimited benefit period is slightly higher than the rate for limited coverage at almost all durations.

#### Lapse Rates by Benefit Escalator Clause

Lapse rates for policies with no benefit escalator clause are higher than for policies with such a clause, though the difference becomes small at the later durations.

#### Lapse Rates by Premium Payment Mode

Policies with monthly or quarterly payment frequencies have slightly higher rates of lapse in the early durations than policies with semiannual or annual payment frequencies. Those who pay monthly by electronic funds transfer generally have lower lapse rates than those who pay monthly by other methods.

#### Lapse Rates by Policy Quarter

Lapse rates are highest in the quarter containing the coverage anniversary. The pattern of lapse rates in each quarter varies significantly with the frequency of premium payment, indicating that the premium-paying decision is a major driver of lapse rates.

#### Lapse Rates by Distribution Type

Lapse rates for business sold by Enrollers or through Direct Response are significantly higher in the first few years than the rates for Agent-sold business.

#### Individual Insurance Lapse Rates by Marital Premium Discount

The lapse rates for policies with a discount are quite close to those for policies without one at the early durations. After 5 or 6 years, there is a slight divergence with a higher lapse rate for policies with a marital discount.

## **Definition of Terms**

*Duration:* Duration is calculated as the number of years between the termination date and issue date. The participating company provides both dates. In calculating the duration, a one-month grace period after the coverage anniversary is assumed. For example, if coverage terminates between 1 and 13 months after the issue date, the duration is 1. If coverage terminates between 14 and 25 months after the issue date, the duration is 2, and so forth.

*In Force:* Coverage is considered in force if the termination reason code is specified as in force at the end of the observation period. In force business includes coverage issued from 1984 to 2003. The observation periods are calendar years 1984 through 2004.

*Lapse:* An individual's coverage is considered lapsed if it was terminated by the individual's 2004 coverage anniversary with one of the following reason codes:

- Terminated for non payment of premiums
- Terminated for expiration of benefits
- Terminated as a result of termination of the group
- Terminated as a result of conversion
- Terminated for other reasons

Coverage is not considered lapsed if:

- Terminated as a result of death
- Terminated after the 2004 coverage anniversary

*Lapse Rates:* Lapse rates in this report are calculated as the number of lapses divided by the total lives exposed (in force). Each active life at the start of the experience period contributes a full year to the exposure. Lapses, therefore, contribute a full year to both the numerator and denominator of the lapse rate calculation.

Lapse rates are calculated by dividing the sum of all of the contributing companies' lapses by the sum of all of the contributing companies' exposure. The division to calculate a lapse rate is performed as a last step. Therefore, companies with larger exposure receive greater weight than companies with smaller exposure.

In this report, lapse rates are broken out by the following categories:

- Policy Duration
- Policy Type (Individual versus Group)
- Issue Year Cohort & Policy Type
- Issue Age Cohort
- Attained Age
- Type of Underwriting & Policy Type
- Gender
- Elimination Period
- Benefit Period (limited versus unlimited)
- Benefit Escalator Clause
- Premium Payment Mode
- Policy Quarter
- Distribution Type
- Marital Premium Discount

## **Discussion**

Appendices F-1 through F-11 contain detailed data on exposures and lapses for each of the breakdowns discussed in this report. These discussions contain graphs and tables developed using the data in the appendices that highlight observed patterns and trends. Important note: many cells contain only a small number of lapses, generating results that can not be considered credible. In the following graphs and tables, data from any cell with fewer than 100 lapses has been omitted. Complete data may be found in the appendices accompanying this report.

### **Lapse Rates by Issue Year Cohort, Policy Type and Duration (Appendix F-1)**

Figure 2 shows lapse rates by duration for all issue years and policy types. The lapse rates drop quickly from an initial level of about 9% until duration 13, after which they begin to slowly rise.

For comparison purposes, the lapse rates reported in the prior two reports are also shown. Lapse rates in the current report are lower than those in the prior reports, especially at the later durations.

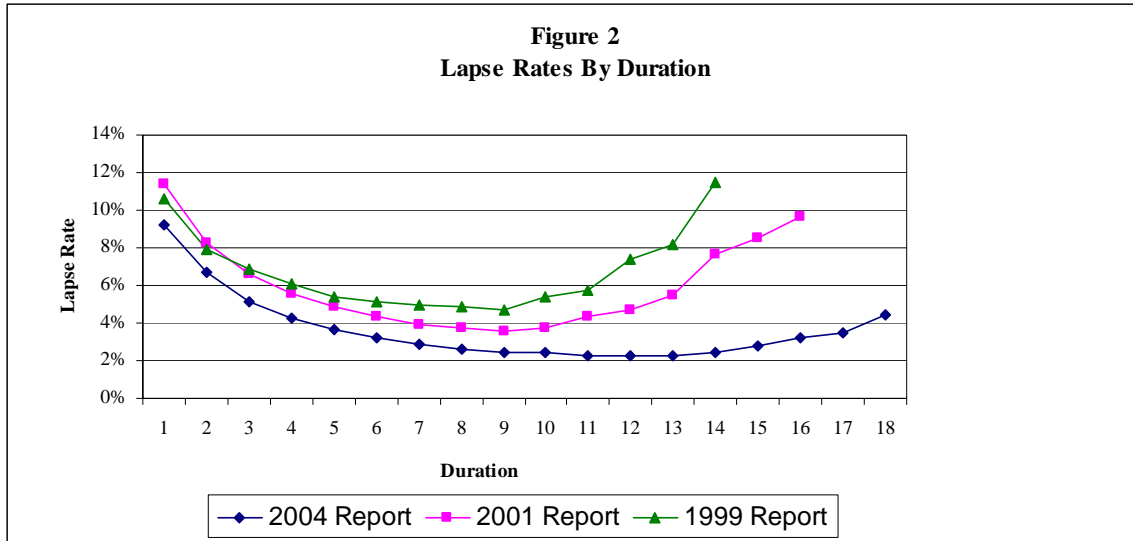
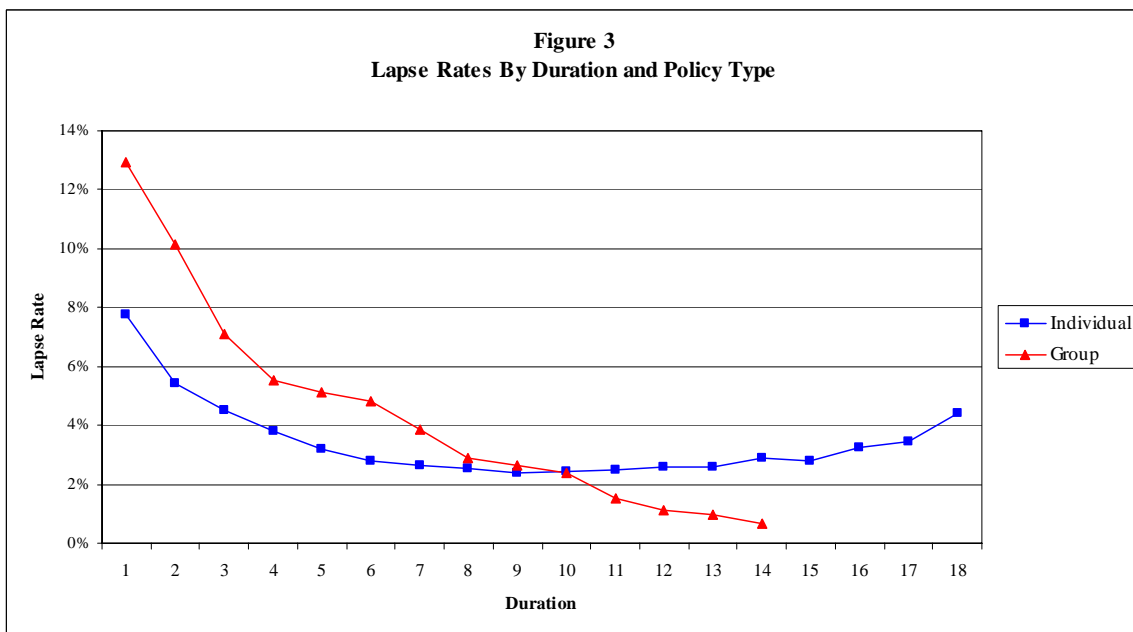


Figure 3 shows the pattern of lapse rates by duration for Individual policies and Group policies. The Group insurance lapse rates start at a higher level, but decrease more rapidly than Individual insurance lapse rates. After the 10<sup>th</sup> duration, Group lapse rates become lower than those of Individual policies. Interestingly, the Individual lapse rates begin to slowly rise after duration 9, while the Group lapse rates continue to fall to a level below 1%.

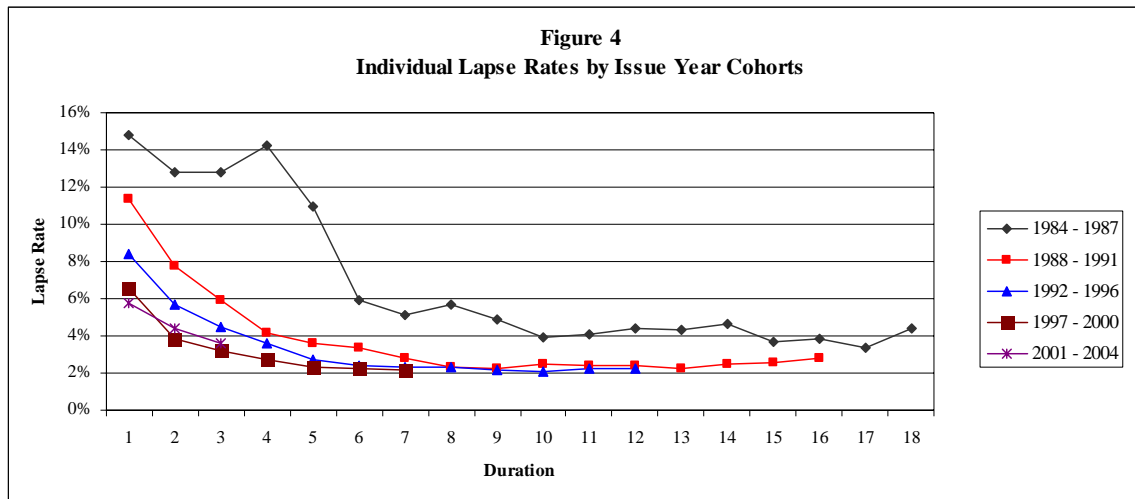
In the prior report, Individual lapse rates were also observed to increase after duration 9. The Committee found evidence that this pattern was at least partly caused by unreported deaths being recorded as lapses.



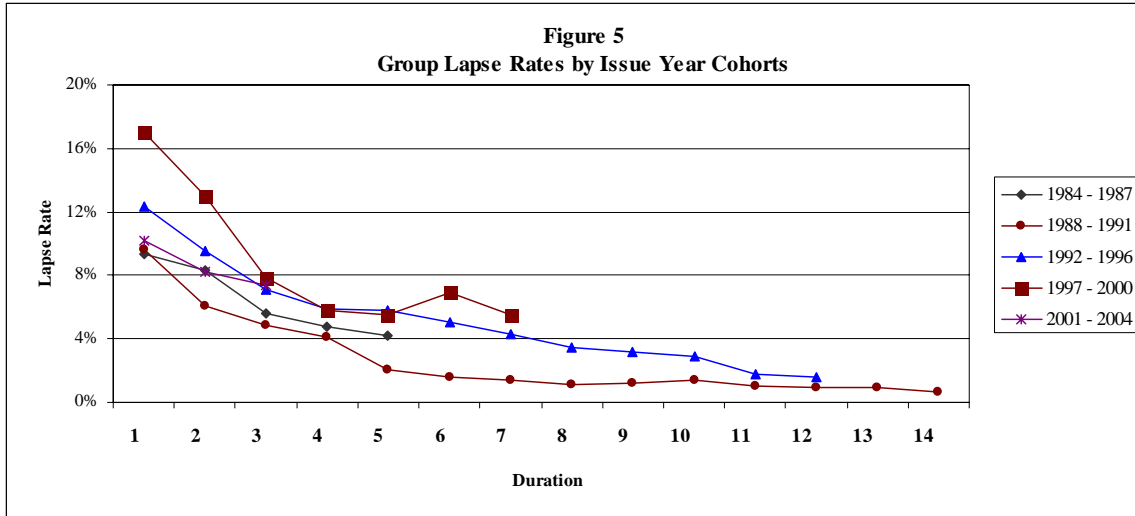
Figures 4 and 5 show lapse experience by issue year cohort for Individual and Group policies, respectively.

Lapse rates for Individual policies generally are lower as the issue year becomes more recent. It is possible the higher lapse rates on the older Individual issues could be a result of rate increases that have been made on some of these policies, or could reflect conversions from older policy forms to newer ones. Another possible explanation is that the insured population for the earlier issue year cohorts is older, and unreported deaths are contributing to the observed lapse rate. The peak in the data at duration 4 for issue years 1984–1987 is likely an anomaly of the data, as no other explanation is apparent.

From Figure 3, the overall ultimate Individual lapse rate appears to be somewhat above 2%. If one is pricing new business today, it is important to note that business issued in 1997 and later appears to be heading more quickly toward ultimate lapse rates that are much closer to 2%.

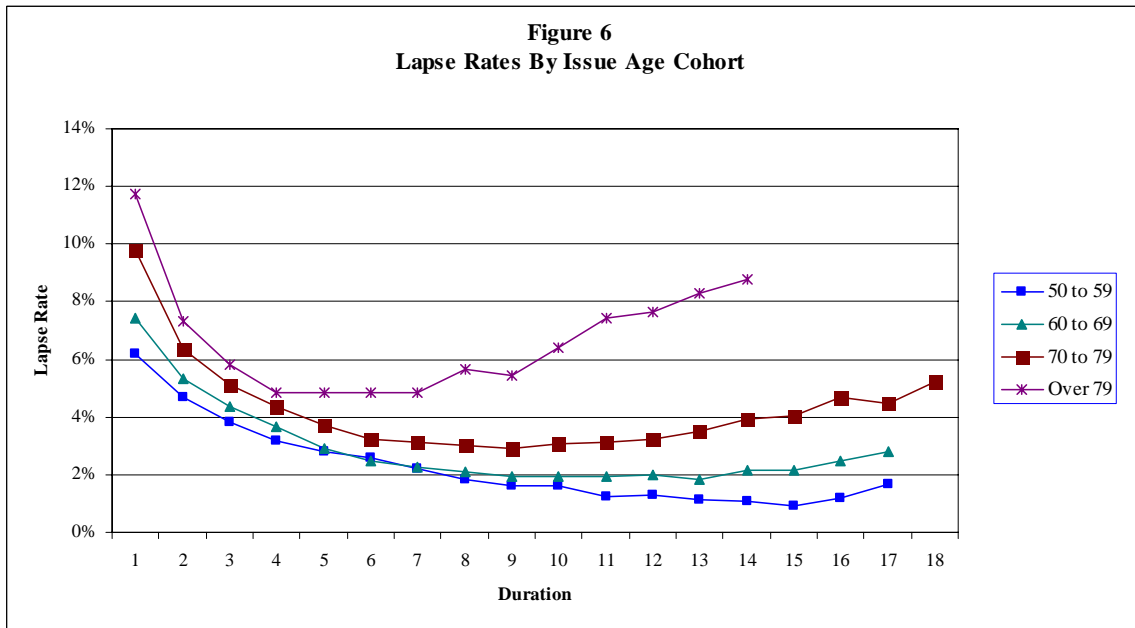


As shown in Figure 5, group insurance lapse rates show no clear pattern by issue year cohorts except that the lapse rates for the first two years of the 1997–2000 cohort are higher than those of the others at most durations.



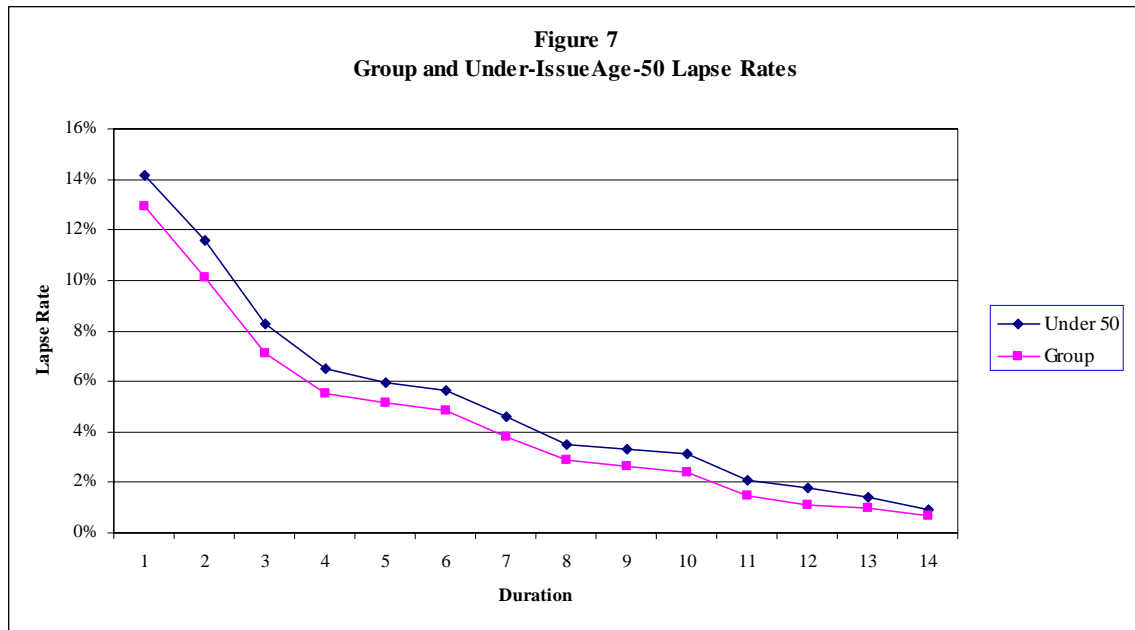
**Lapse Rates by Issue Age Cohort, Attained Age, and Duration (Appendix F-2)**

Figure 6 shows the pattern by duration for various issue age cohorts. The issue age cohorts show a consistent pattern of higher lapse rates as the issue age gets older. In addition, there is a distinct pattern of higher reported lapse rates at the later durations for the oldest issue ages. This pattern is likely at least partly attributable to unrecorded deaths being counted as lapses.



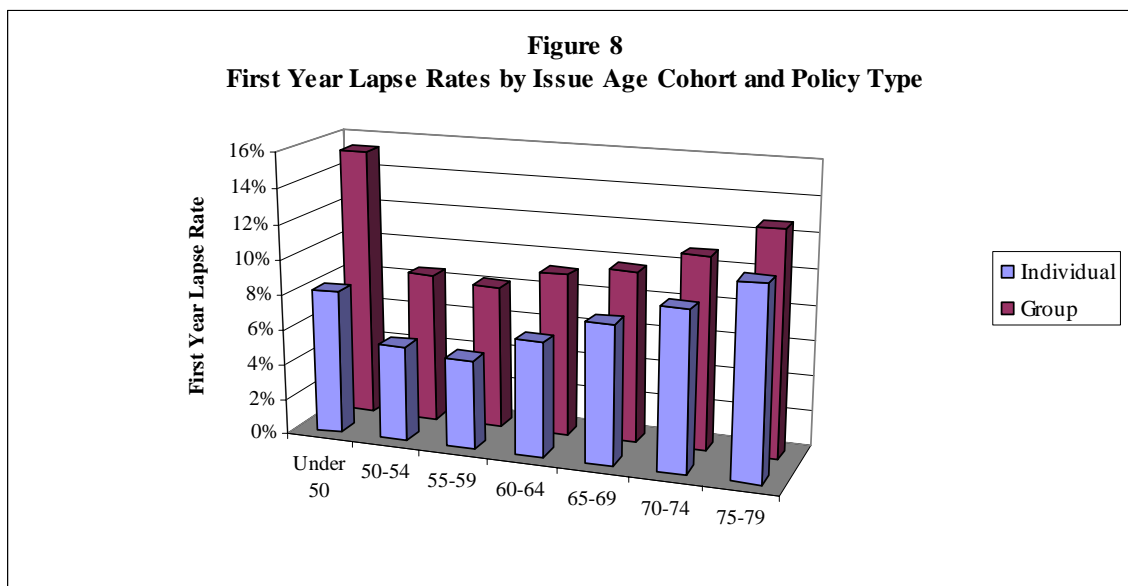


The pattern for the “Under 50” issue age cohort is significantly different from that of all of the older issue age cohorts, and has been omitted from Figure 6 so that the remaining patterns may be seen more clearly. The “Under 50” lapse rates closely track the pattern of Group insurance experience shown in Figure 3. This can be seen in Figure 7 below, which shows the “Under 50” lapse rates relative to the Group insurance lapse rates for all issue age cohorts. This is consistent with the fact that Group insurance has the dominant share of the long term care market at issue ages below 50. In fact, Group insurance contributes over 86% of the exposure in Appendix F-2A for the “Under 50” issue age cohort versus less than 25% of the exposure overall.



The pattern shown in Figure 6 for issue ages 50 and above of higher initial lapse rates as the issue age cohort gets older is generally consistent for both Individual insurance and Group insurance. However, initial lapse rates for the youngest issue age cohort, those below 50, are significantly higher than those for the age 50-54 cohort. Figure 8 shows these patterns for both Individual and Group insurance.

One possible explanation for the higher initial lapse rates under issue age 50 is that, at those ages, there is a higher portion of business sold on a guaranteed-issue or simplified-issue basis. As will be seen in the next section, those issued with these less stringent forms of underwriting do show higher early lapse rates than those who go through full underwriting. Another possible explanation is that the youngest insureds are more likely to second-guess the need for coverage of a financial need that seems unlikely to happen until much later in their life.



Appendix F-2B shows lapse rates split by attained age, rather than issue age, and by policy type. This breakdown by attained age is new to this report.

Figure 9 shows overall lapse rates at each attained age between 30 and 96. With the exception of a small but distinct “bump” at age 64, the lapse rates are remarkably level for attained ages in the 50’s, 60’s, 70’s and 80’s. When the experience is split by policy type, the age 64 bump appears in both Individual and Group experience. This seems likely to be the result of the financial assessment and planning activities that often take place around that time in their lives. The additional lapses are hopefully not the result of a mistaken belief that enrolling in Medicare at age 65 will cover a person’s long-term care insurance needs.

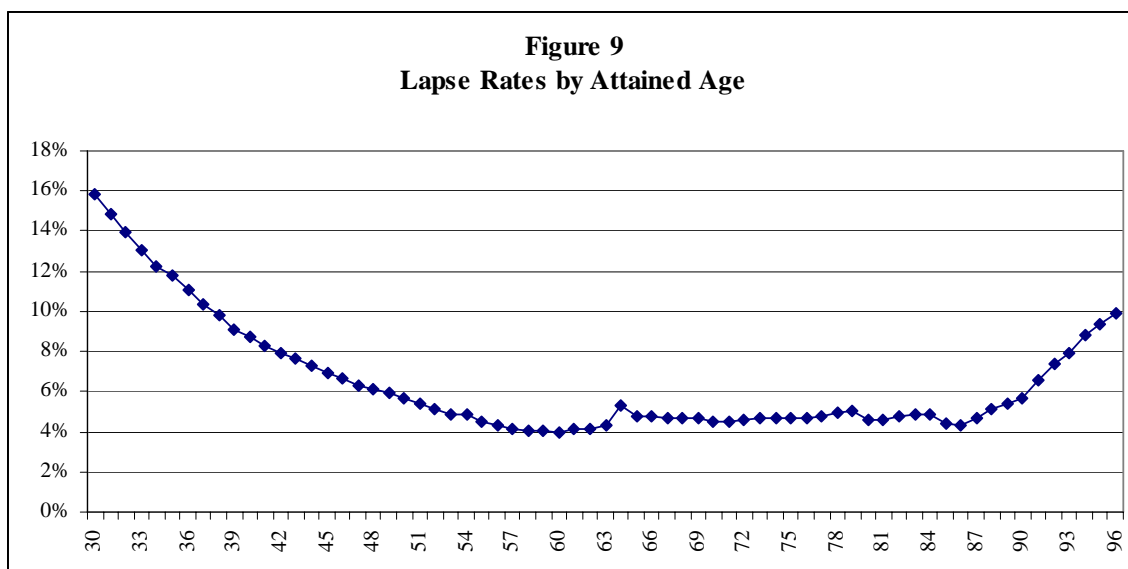
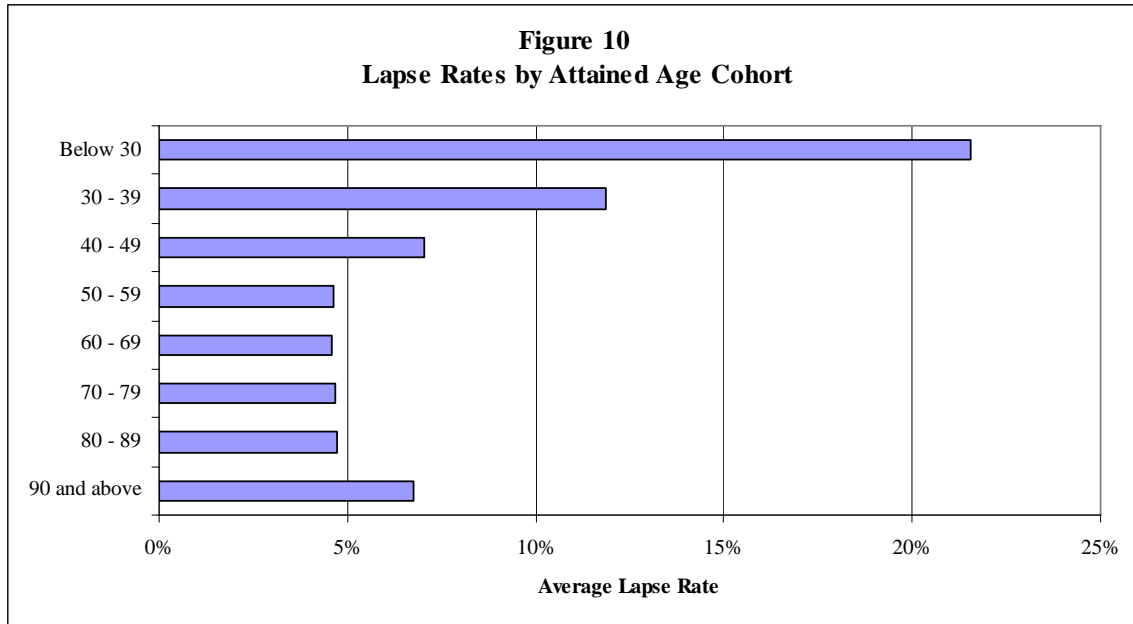


Figure 10 summarizes the results into decennial attained age cohorts, highlighting the level nature of the overall lapse rate between ages 50 and 89. The higher reported lapse rates at ages 90 and above may be at least partly the result of unreported deaths.



**Lapse Rates by Type of Underwriting, Policy Type, and Duration (Appendix F-3)**

Appendix F-3 shows lapse rates broken down by type of underwriting, policy type and duration, and further splits the Group Policy Type into Employee and Non-Employee portions.

Figures 11 and 12 show lapse rates by type of underwriting for Group and Individual policies, respectively. Figure 12 does not include any data on guaranteed-issue policies, since Appendix F-3 contains little data for guaranteed-issue experience of Individual policies. For both Group and Individual insurance, the data shows a consistent pattern of higher lapse rates for the less stringent form of underwriting, particularly in the earlier durations. The greater persistency associated with stricter underwriting might be explained by the fact that those who endured a more rigorous underwriting process presumably did so because they felt the value of the insurance was worth it. Those receiving guaranteed issue (Group) or simplified issue (Individual) have a simpler enrollment process and may be more inclined to reconsider their decision to purchase the coverage. Also, people who buy Group plans or apply under simplified issue (which may lack preferred risk discounts) may re-write to more attractive Individual plans containing marital, preferred health or other discounts.

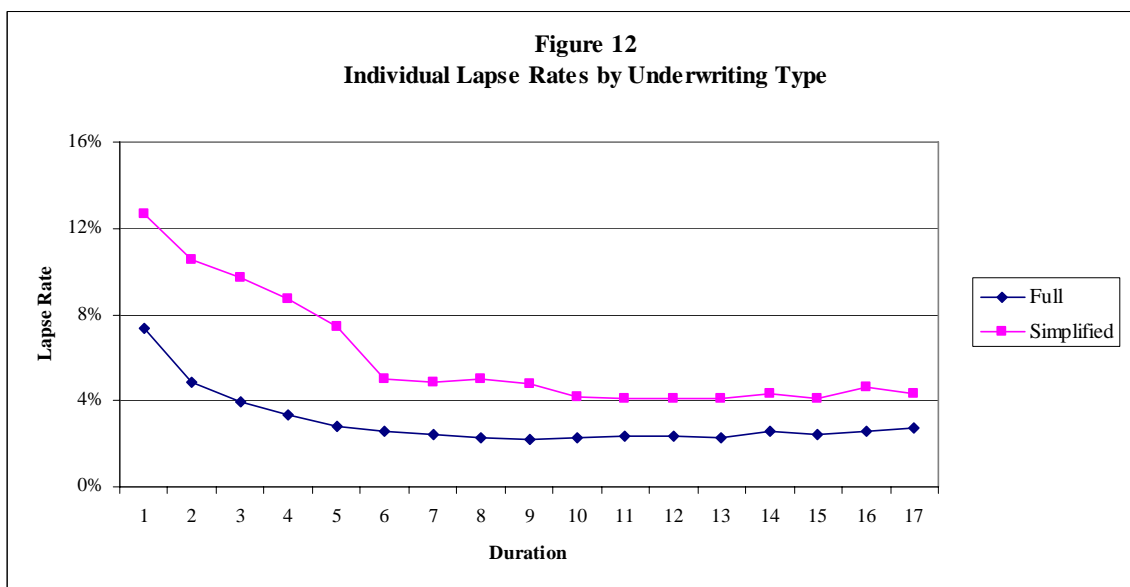
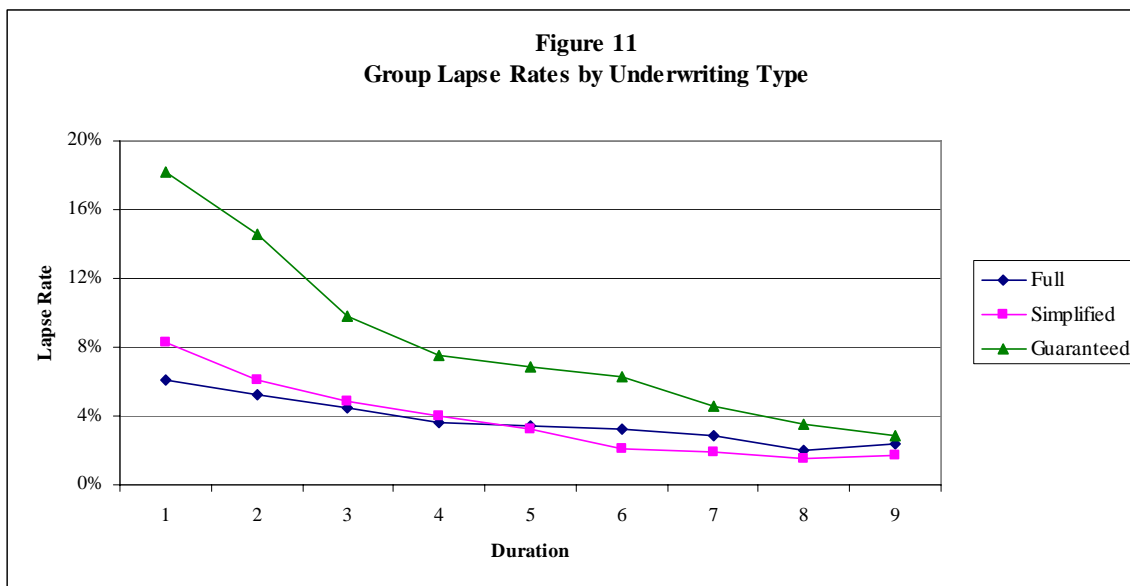


Figure 13 shows first year lapse rates and exposures by underwriting type for Group insurance experience split into employee and non-employee portions.

As expected, the vast majority of the guaranteed-issue exposure represents experience on employee lives. However, there is a surprisingly large amount of employee experience that had full underwriting, and a surprisingly small amount of non-employee experience with full underwriting. It is also surprising to see more than twice as much Group non-employee experience coded as guaranteed-issue than coded as full underwriting.

The reported first year lapse rate for the guaranteed-issue employees is much higher than for the other underwriting methods, but the rate for guaranteed-issue non-employees is much lower. Given these surprising patterns, and since there is some degree of judgment that must be used when coding underwriting type, caution should be used when interpreting these reported results.

**Figure 13**  
**Group First Year Exposures and Lapse Rates**  
**By Underwriting Type**  
**Split by Employee and Non-Employee**

	First Year Exposure		First Year Lapse Rate	
	Group Employee	Group Non-Employee	Group Employee	Group Non-Employee
Full	406,658	19,932	5.7%	14.9%
Simplified	77,003	114,881	3.8%	11.4%
Guaranteed	676,697	40,836	19.0%	4.5%
Other		12,632		11.8%
Total	1,160,358	188,281	13.3%	10.3%

**Lapse Rates by Gender (Appendix F-4)**

Exposures coded for gender are about 59% female and 41% male. Note the “all genders” totals do not match the totals of some of the other tables. This is because records with unknown genders have been excluded entirely from Appendix F-4.

In total, lapse rates do not differ greatly by gender. However, the reported lapse rate for males becomes increasingly less than the rate for females at the oldest durations. This pattern is shown in Figure 14 below.

**Figure 14**  
**Lapse Rates By Gender**

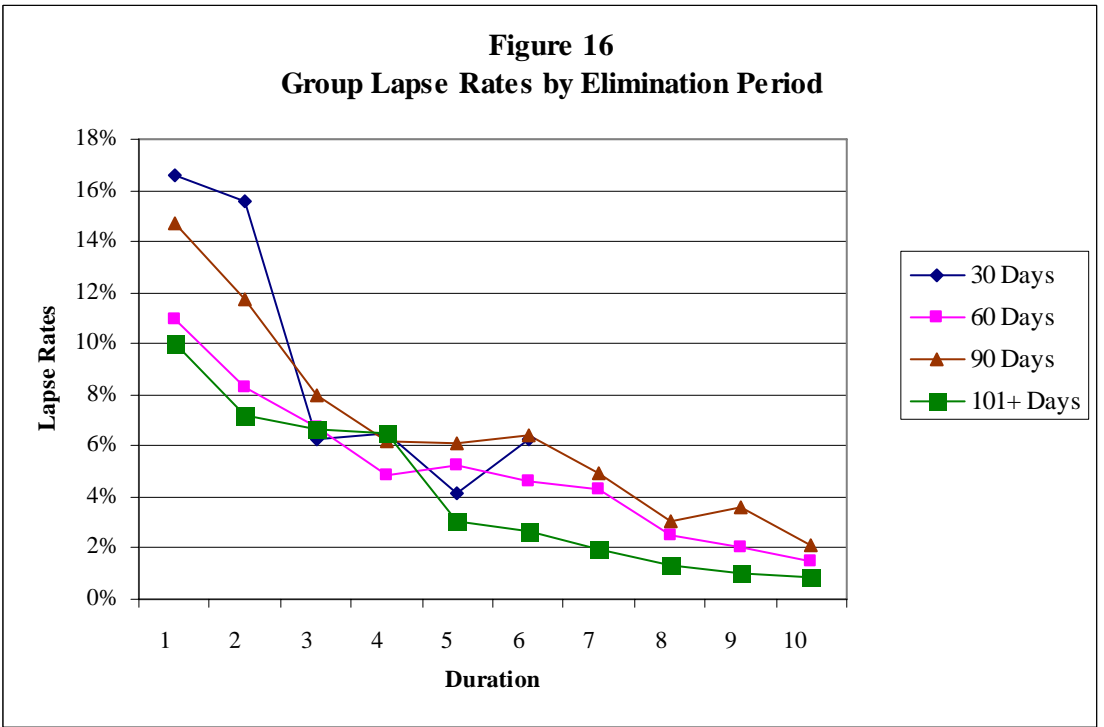
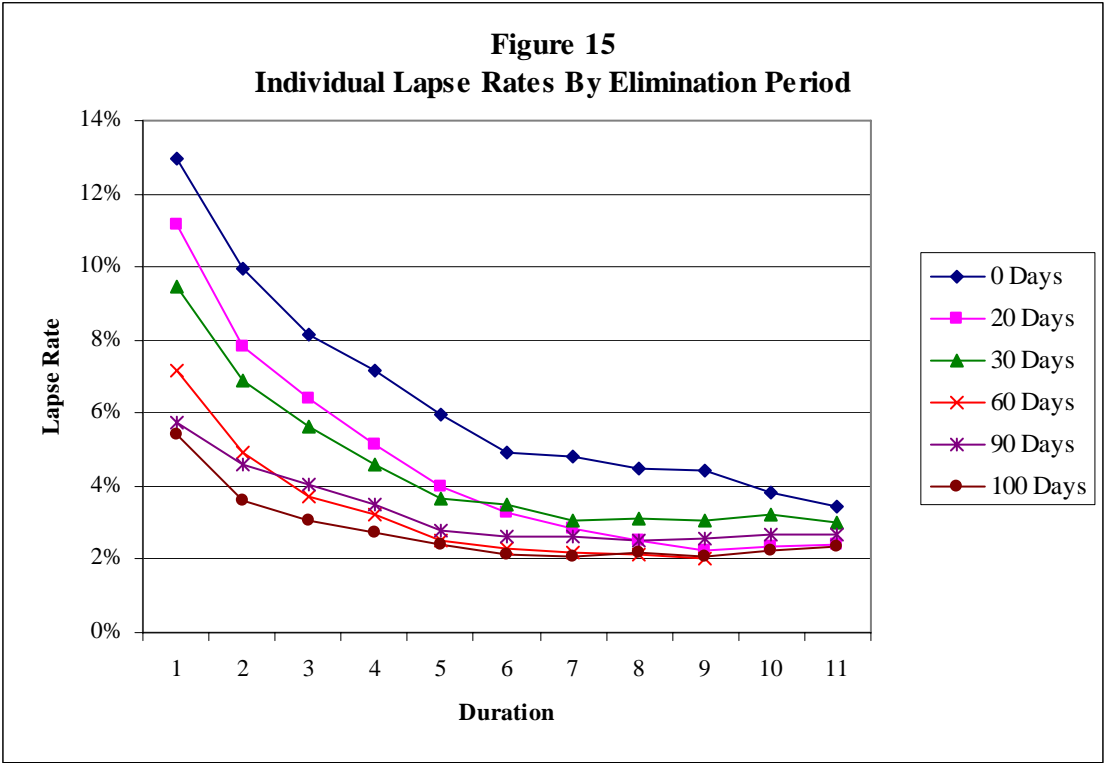
<u>Duration</u>	<u>Male</u>	<u>Female</u>	<u>Difference</u>
1	9.1%	9.2%	-0.1%
2	6.6%	6.7%	-0.1%
3	5.1%	5.2%	-0.1%
4	4.2%	4.3%	-0.1%
5	3.7%	3.6%	0.1%
6	3.3%	3.2%	0.1%
7	2.9%	2.8%	0.1%
8	2.6%	2.6%	0.0%
9	2.5%	2.4%	0.1%
10	2.4%	2.5%	-0.1%
11	2.2%	2.3%	-0.1%
12	2.1%	2.4%	-0.3%
13	2.0%	2.4%	-0.4%
14	2.1%	2.7%	-0.6%
15	2.5%	3.0%	-0.5%
16	2.6%	3.5%	-0.9%
17	2.9%	3.7%	-0.8%
Total	5.5%	5.4%	0.1%

**Lapse Rates by Elimination Period (Appendix F-5)**

Appendix F-5 shows lapse rate experience by elimination period, policy type and duration.

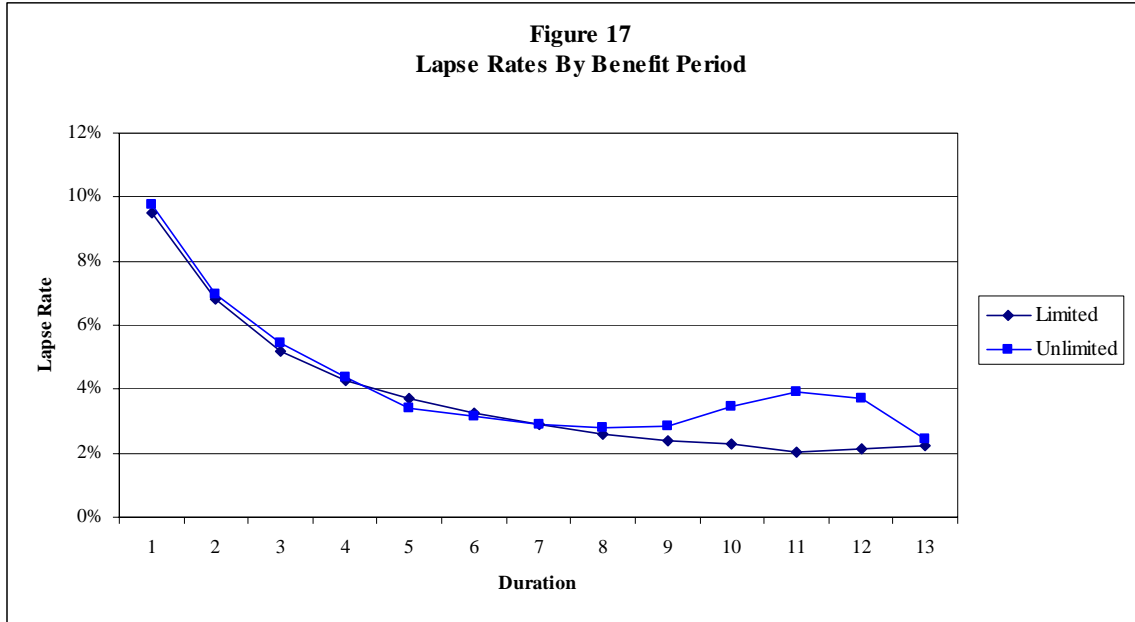
First year lapse rates by elimination period for Individual insurance only are shown in Figure 15. The data clearly shows a trend toward lower lapse rates as the elimination period becomes longer. The pattern of lower lapse rates for policies with longer elimination periods generally continues through the first five durations with the differences narrowing after that. The higher lapse rates for the short elimination period business could be related to the affordability of this more-expensive coverage. Another possible explanation is that more rate increases have been made to business with little or no elimination period.

Figure 16 shows the pattern of lapse rates by elimination period for Group insurance only. For Group insurance, the trends are much less clear than for Individual insurance. With the exception of the 60-day elimination period data, there is a general trend toward lower lapse rates for longer elimination periods in the early years.



**Lapse Rates by Benefit Period, Policy Type, and Duration (Appendix F-6)**

Figure 17 shows the lapse rates contained in Appendix F-6A for policies with limited lifetime benefits versus those with unlimited lifetime benefits. The data reveal no consistent pattern between the two categories of benefit period. This is slightly different from the findings of the 2006 Report of LTC Persistency Experience jointly sponsored by LIMRA and the SOA, where policies with unlimited benefits showed lower lapse rates than those with limited benefits until duration 9. (See the Introduction section for a link to this report).

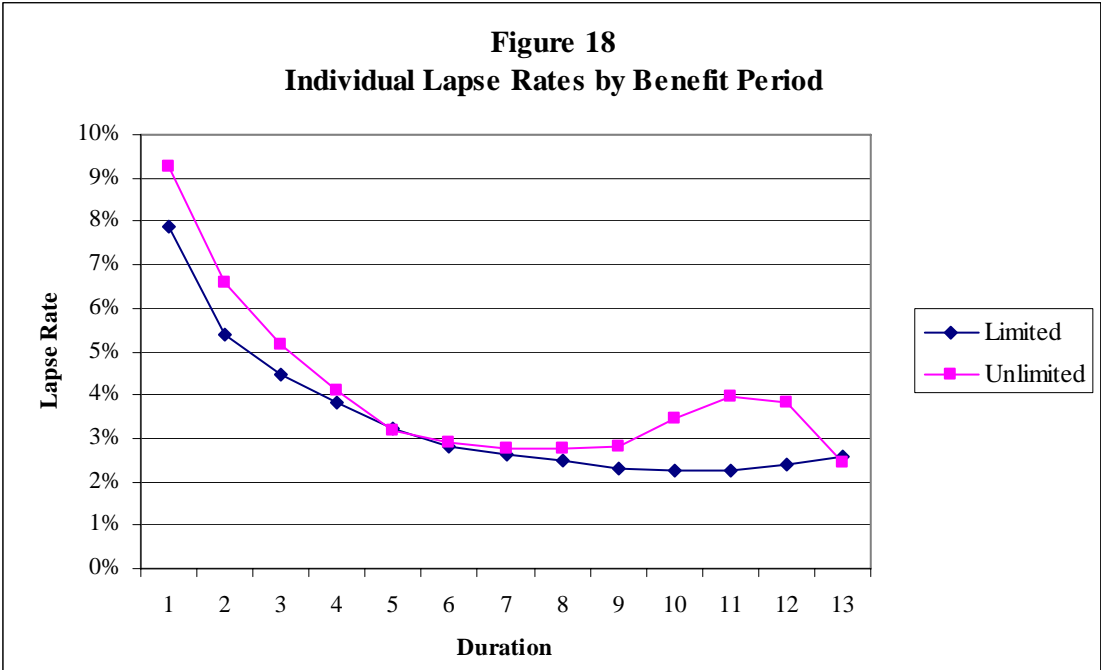


A slightly different picture emerges if the Individual and Group businesses are separated. For both Individual and Group, the lapse rate for unlimited is slightly higher than the rate for limited business at almost all durations. This is shown in Figures 18 and 19 below.

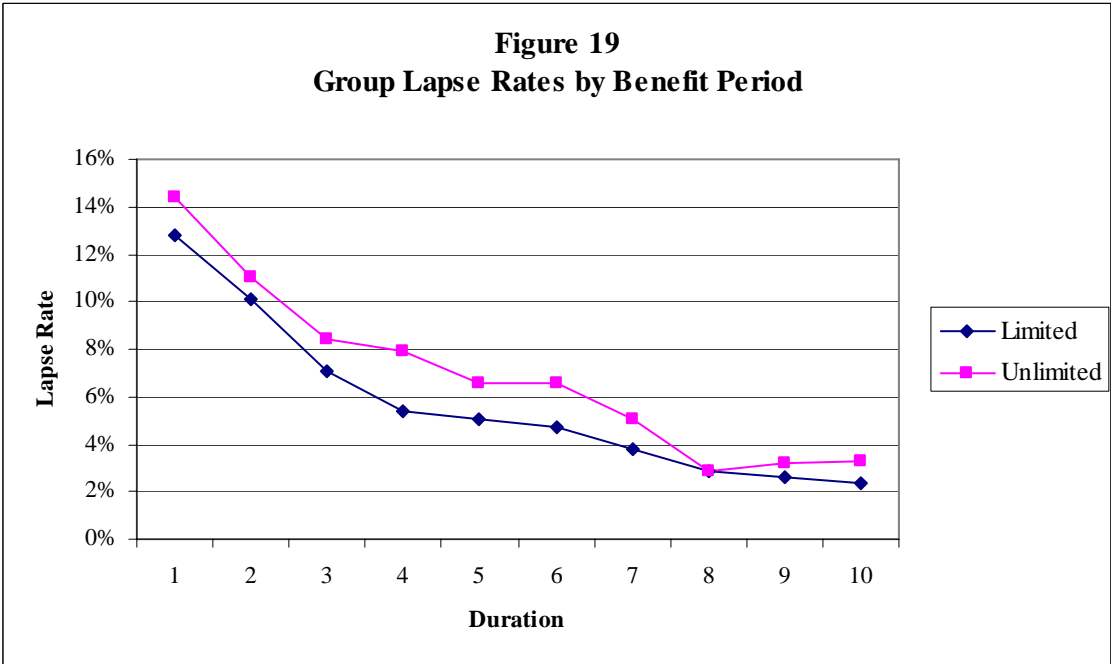
The higher lapse rates for unlimited plans could be driven by affordability, or could be the result of rate increases that have been made on some of the business sold with an unlimited benefit period. In this event, some insureds could have chosen to switch to more affordable coverage with a limited benefit period.



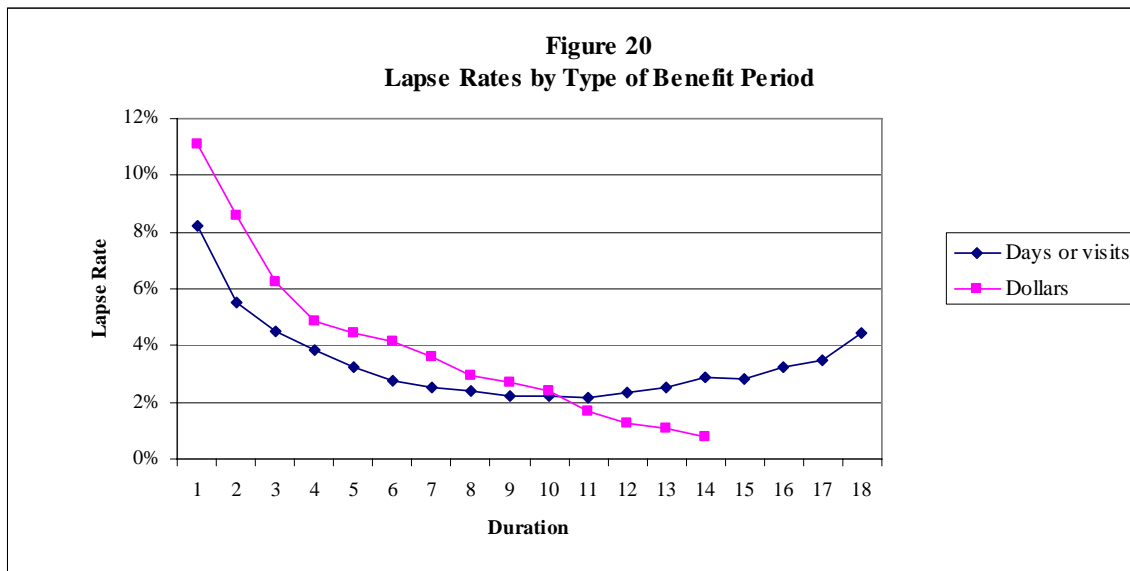
**Figure 18**  
**Individual Lapse Rates by Benefit Period**



**Figure 19**  
**Group Lapse Rates by Benefit Period**



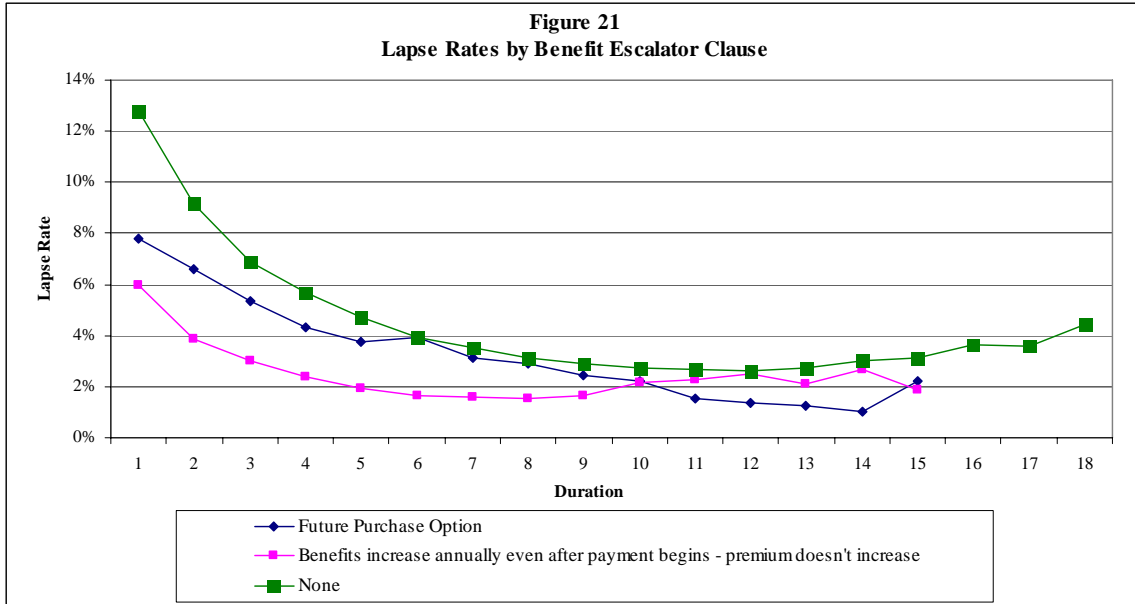
Appendix F-6B breaks the “Limited” category policies into those, whose limits are expressed in terms of dollars, and those expressed in terms of days or visits, and these are compared in Figure 20. At durations 1 through 9, the lapse rate for policies with limits expressed in terms of dollars are higher than for those expressed in terms of days. After duration 10, this relationship is reversed. This pattern is at least partly explained by the relative amounts of Individual and Group exposure in each of these categories. A comparison of Figures 20 and 3 suggests that most of the “Days or visits” exposure is Individual, and that most of the “Dollars” exposure is Group. This is, in fact, the case: the “days or visits” data is almost all Individual; the “dollars” data is approximately two-thirds Group.



**Lapse Rates by Benefit Escalator Clause (Appendix F-7)**

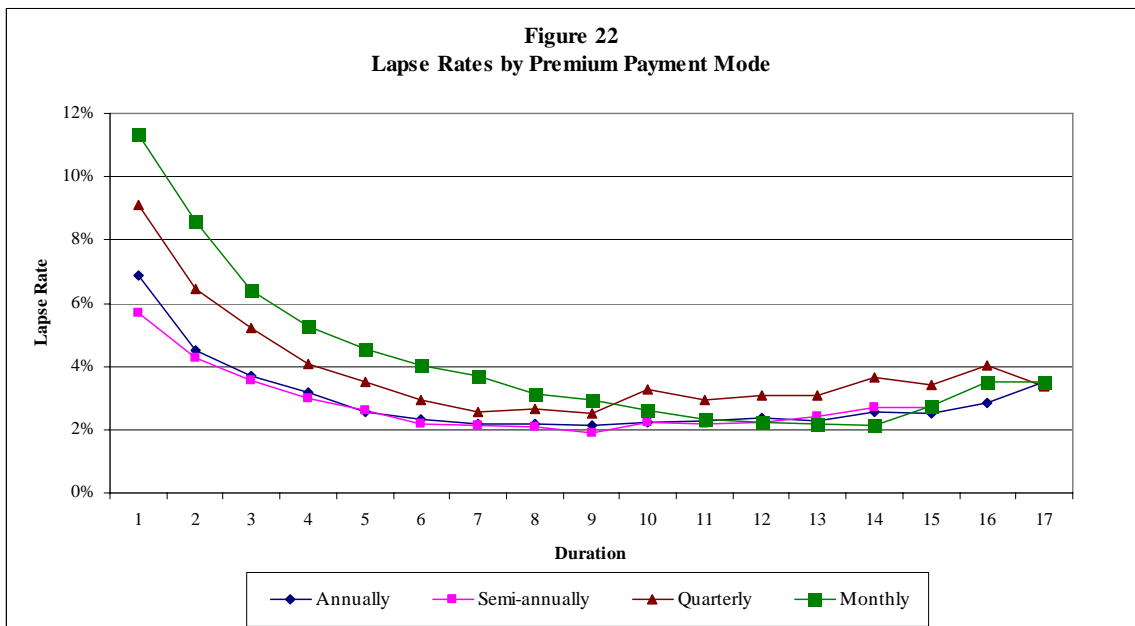
Lapse data split by type of benefit escalator clause is shown in Appendix F-7. Figure 21 below shows that the lapse rates for policies with no benefit escalator clause are higher than for policies with such a clause, though the difference becomes smaller at the later durations. Note that the prior report had seven categories of benefit escalator clause, but for this report, we collected data on only the three categories shown on Figure 21 and an “other” category. This is because there was very little exposure reported for the other four categories.

It has been speculated that policies with a future purchase option feature may experience increasing lapse rates after a number of years, as the increasing cost to keep benefit levels up-to-date becomes harder to pay. No such trend is apparent, at least through the first 15 durations.



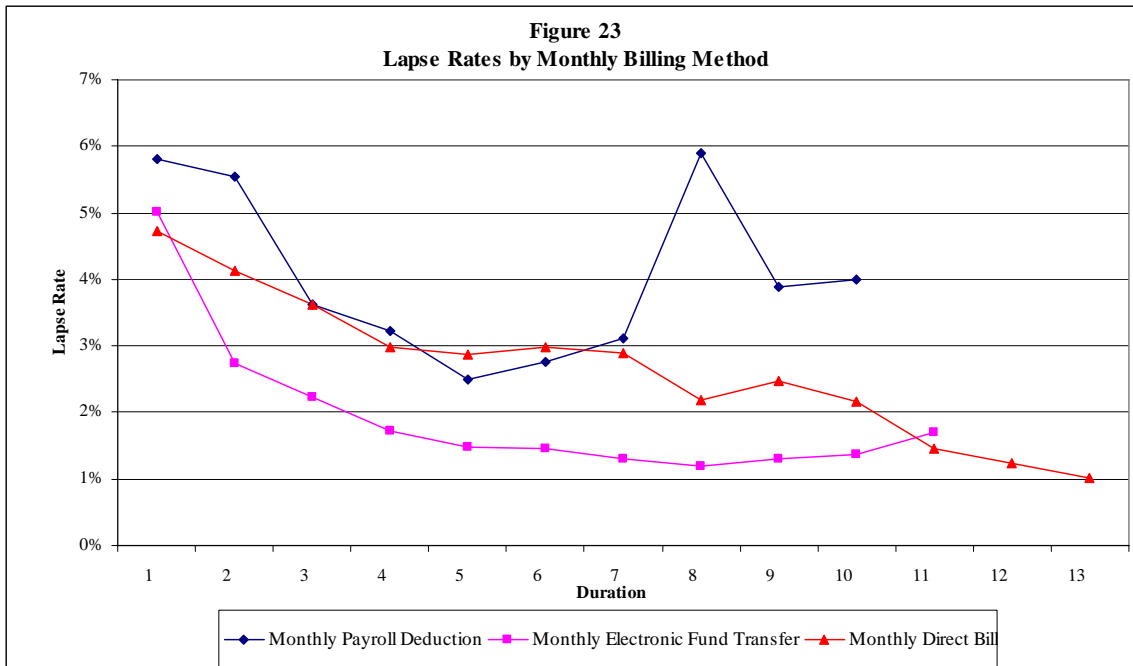
**Lapse Rates by Premium Payment Mode (Appendix F-8)**

Figure 22 shows the pattern of lapse rates for four different frequencies of premium payment. No large differences in the ultimate rates of lapse between premium payment modes are apparent, though the data does suggest that policies with a monthly or quarterly payment frequency have higher rates of lapse in the early durations.



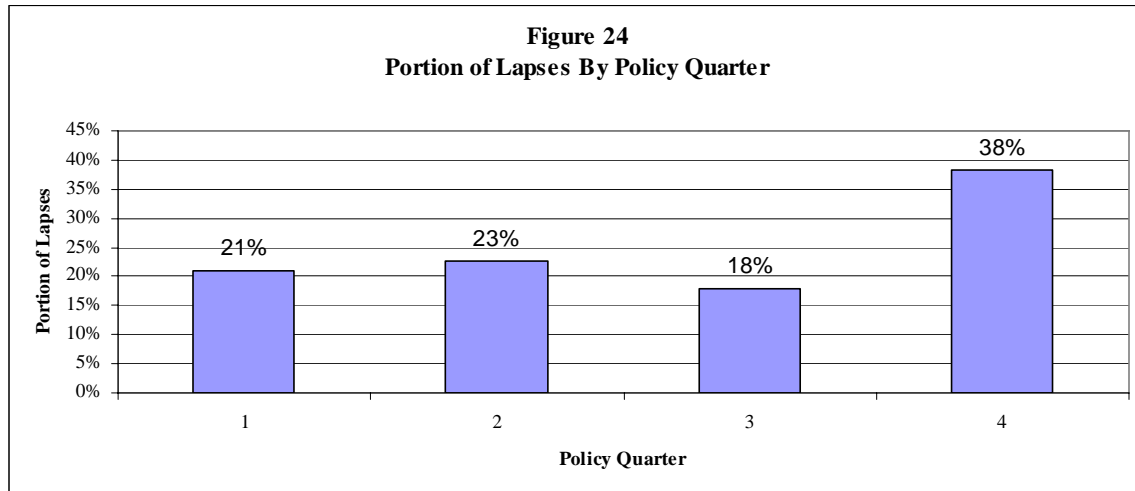
Lapse rate data was requested by billing type, as well as billing mode. For the monthly billing mode, there was a limited amount of data reported by billing type, though the most common type coded was “unknown.” Figure 23 shows lapse rates by monthly billing type for those types reported.

Lapse rates for the first 10 durations are generally lower for EFT than for direct-billed policies. This could be a result of the automatic nature of the EFT payment method, compared to the need to write a check each month. Interestingly, the lapse rates for the other “automatic” monthly payment method, payroll deduction, are not significantly different than those for direct-billed policies for the first seven durations. This comparison could be distorted because by definition the payroll deduction cohort is all Group insurance, which Figure 3 shows has higher overall early lapse rates than Individual insurance. Also, there could be additional lapses that occur at the time an employee changes jobs and must move off of payroll deduction.



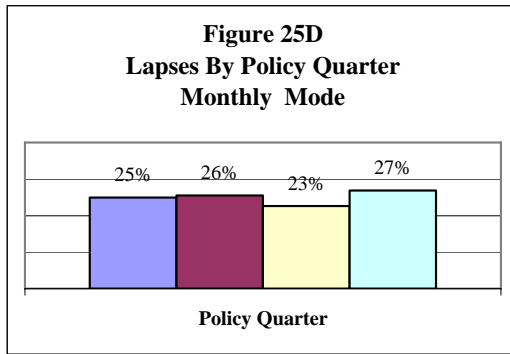
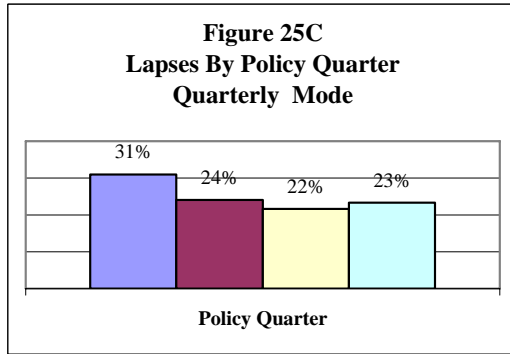
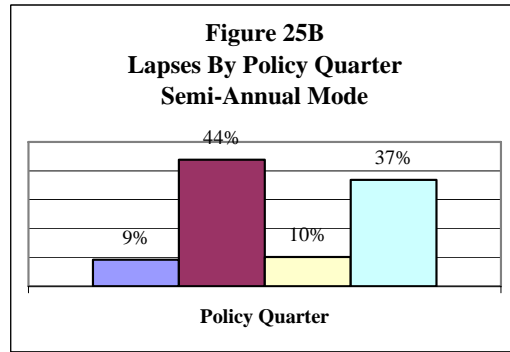
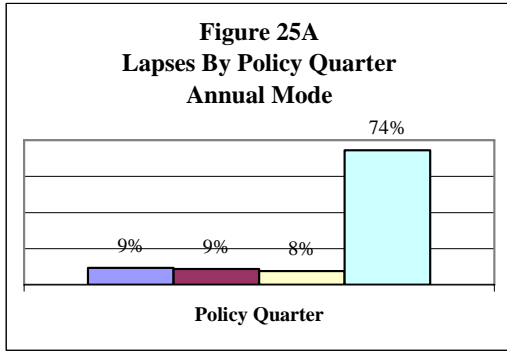
### **Lapse Rates by Policy Quarter (Appendix F-9)**

Figure 24 shows that 38% of all lapses occur on or near the policy anniversary. Note that because of the definition of duration, the reported fourth quarter lapse rate includes lapses that occur in the month prior to anniversary, the month of anniversary and the month following anniversary.



In the first year, 43% of all lapses occur in the fourth quarter. In the following years, between 35% and 38% of all lapses occur in the fourth quarter.

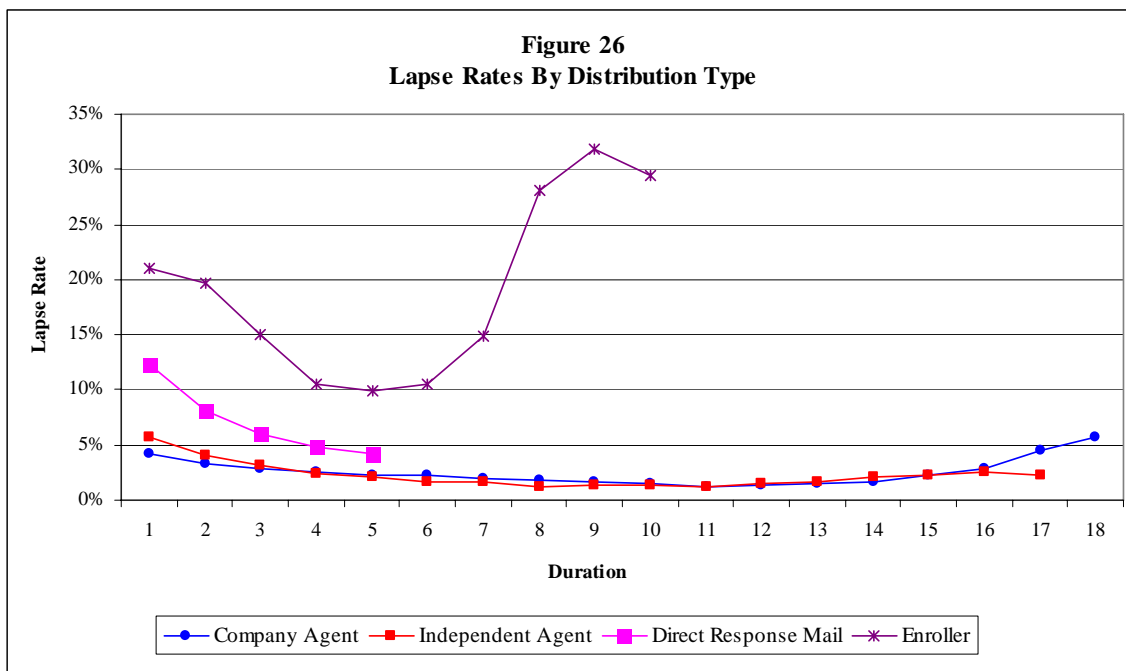
The observed pattern of lapse by policy quarter varies significantly with the frequency of premium payment, indicating clearly that the premium-paying decision is a major driver of lapse rates. This is illustrated in Figures 25A, B, C and D below that summarizes the data used to create Figure 24 into its annual, semi-annual, quarterly and monthly premium mode components.



**Lapse Rates by Distribution Type (Appendix F-10)**

Lapse rates by distribution type are shown in Figure 26. The lapse rates for business sold through Enrollers are significantly higher than for other distribution types. This is in direct contrast to the results of the prior report where Enroller lapse rates were generally lower than those of other distribution types. When interpreting these results, it should be noted that the volume of data submitted for the Enroller distribution type is vastly different for the two reports. The prior report had over 600,000 life-years of exposure, and an overall lapse rate of 2.23%; the current report shows less than 100,000 life-years of exposure, and an overall lapse rate of 18.1%. This drop in the amount of exposure is unique to Enrollers – the exposures for Company Agent, Independent Agent and Direct Response are all larger for the current report.

The lapse rates for Direct Response business are significantly higher in the first few years than the rates for Agent-sold business. One possible explanation for this difference is that the face-to-face agent contact results in a more effective persuasion of the need for the insurance protection, resulting in fewer insureds re-thinking their decision over the next few years.



**Lapse Rates by Marital Premium Discount (Appendix F-11)**

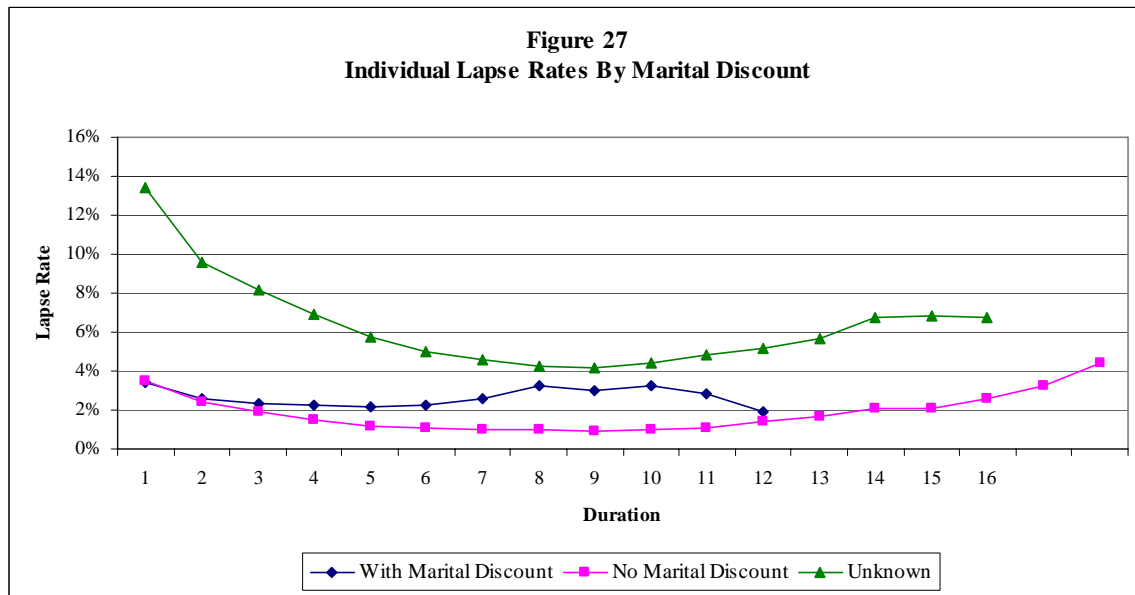
Appendix F-11 shows lapse rates by the presence of a marital premium discount and gender. This breakdown by marital discount is new to this report.

Note that Appendix F-11 contains data for only Individual policies, since virtually no Group business had a marital discount present. Also, records coded with a gender of “unknown” have been omitted.

Figure 27 shows lapse rates by presence of a marital discount. The lapse rates for policies with a discount are quite close to those for policies without one at the early durations. After 5 or 6 years, there is a slight temporary divergence with a higher lapse rate for policies with a marital discount.

This result differs markedly from the results reported in the 2006 Report of LTC Persistency Experience jointly sponsored by LIMRA and the SOA. In that report, lapse rates for policies with a marital discount were significantly lower in the first six durations than lapse rates for policies without one. Since this is the first Intercompany Experience Report for which we have requested data split by the presence of a marital discount, caution is urged when interpreting and using the results.

Lapse rates for the marital discount category “unknown” are distinctly higher in the early durations. The amount of exposure for this category is actually the largest, and the amount of exposure for the “with marital discount” category is the smallest. The data coded as “unknown” is, on average, older than the data coded as with or without a marital discount. This could, at least in part, explain the higher early lapse rates, since Figure 4 shows that early duration Individual insurance lapse rates are higher for the older issue year cohorts.



For those policies with a marital discount, female exposure is 8% higher than male exposure. Interestingly, for those without a marital discount, female exposure is almost twice as large as the exposure for males. This suggests that relatively more unmarried females than married ones have identified a need for long-term care insurance.

Figure 28 shows that the relative rate of lapse between genders differs by the presence of a marital discount. For policies with a marital discount, the male lapse rate tends to become higher than the female lapse rate over time; for those without a marital discount, the opposite is true.



**Figure 28**  
**Ratio of Male to Female Lapse Rate**

Duration	With Marital Discount	No Marital Discount
1	103%	100%
2	106%	96%
3	109%	97%
4	111%	92%
5	114%	92%
6	125%	88%
7	127%	90%
8	137%	86%
9	134%	81%
10	156%	87%
<b>Total</b>	<b>109%</b>	<b>94%</b>

## **SECTION V – TOTAL TERMINATIONS**

### **Introduction**

This section presents experience on total termination rates, which includes both lapses and deaths. Insurance issued in years 1984 – 2003 is included in this report. The 2004 issues were not utilized as the exposure ceased December 31, 2004. Data from all contributing companies, including those who did not distinguish between deaths and lapses, are included in these tables.

The total termination data used for this report includes twice as much exposure as was available for the previous report. The data extends to the first twenty durations, compared to the first seventeen for the previous report, and is summarized in the table below. Termination rates are not reported for cells with less than 100 terminations.

The overall average total termination rate is 6.8%. Total termination rates have continued to drop over time and are lower at every duration than they were in the previous report, mostly driven by voluntary lapses rather than mortality. In reviewing these results, it is important to keep in mind that the current report includes three additional years of data, as well as several new data contributors to both earlier and more recent exposure periods. These new contributors and the larger amount of data available explain a significant portion of the decline in both voluntary lapses and total terminations.

Duration	Exposure			Total Termination Rates		
	1999 Report	2001 Report	2004 Report	1999 Report	2001 Report	2004 Report
1	2,065,387	3,384,376	5,843,101	12.9%	12.9%	10.2%
2	1,522,749	2,426,151	4,488,025	9.5%	9.5%	7.4%
3	1,148,949	1,783,849	3,474,707	8.4%	7.9%	6.2%
4	859,258	1,364,869	2,698,518	7.6%	6.9%	5.3%
5	616,090	1,046,272	2,088,578	6.9%	6.3%	4.9%
6	414,372	794,643	1,596,968	6.8%	5.9%	4.7%
7	262,139	608,133	1,294,290	7.0%	5.8%	4.9%
8	182,173	462,617	1,068,484	7.3%	6.0%	5.2%
9	129,706	335,495	844,700	7.4%	6.1%	4.4%
10	76,034	252,900	680,344	8.8%	6.5%	4.6%
11	44,769	166,736	538,121	9.3%	7.6%	4.7%
12	19,566	105,774	380,516	11.0%	8.5%	5.0%
13	7,889	51,283	271,858	12.0%	9.3%	5.3%
14	1,144	24,114	190,084	14.0%	10.9%	6.1%
15	1	9,674	110,303		12.4%	7.6%
16		2,712	63,515		13.6%	8.5%
17		734	27,846		17.2%	9.8%
18			6,671			13.1%
19			1,681			15.8%
20			444			
<b>Total</b>	<b>7,350,226</b>	<b>12,820,332</b>	<b>25,668,754</b>	<b>9.5%</b>	<b>8.9%</b>	<b>6.8%</b>

As mentioned in the Voluntary Lapse discussion in Section IV, it is likely that unrecorded deaths have been counted as lapses in the data submitted. By looking at total termination rates, this section provides an upper bound on how many insureds have terminated their coverage, regardless of the reason. In addition, this section includes data from the contributing companies who did not identify the cause of termination. Data from these companies was excluded from the Mortality and Voluntary Lapse Sections.

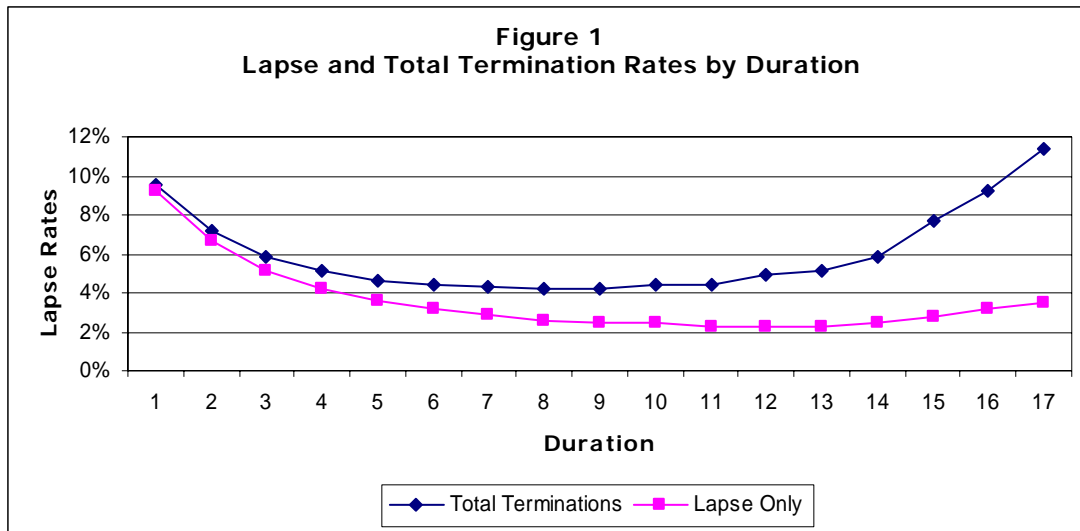
Since the voluntary lapse rates likely are overstated due to unreported deaths, it is possible that the use of voluntary lapse rates developed from this data, combined with the use of an industry mortality table (i.e., not based on the mortality experience shown in Section III), could result in an overstatement of total termination rates. Because of this, the actuary should use caution when using the voluntary lapse data with a separate mortality table. It is hoped that the data on total termination rates presented in this report will allow the actuary to judge whether the combined lapse and mortality assumptions being considered are reasonable.

## Discussion

Appendices I-1 through I-6 contain detailed data on total terminations and total exposures for each of the breakdowns discussed below. These discussions contain graphs and tables developed using the data in the appendices that attempt to highlight observed patterns and trends. Judgment was used when deciding what data to include when producing these graphs and tables. As a result, some cells that contain only a small amount of exposure are not shown here though they are included in the Appendices.

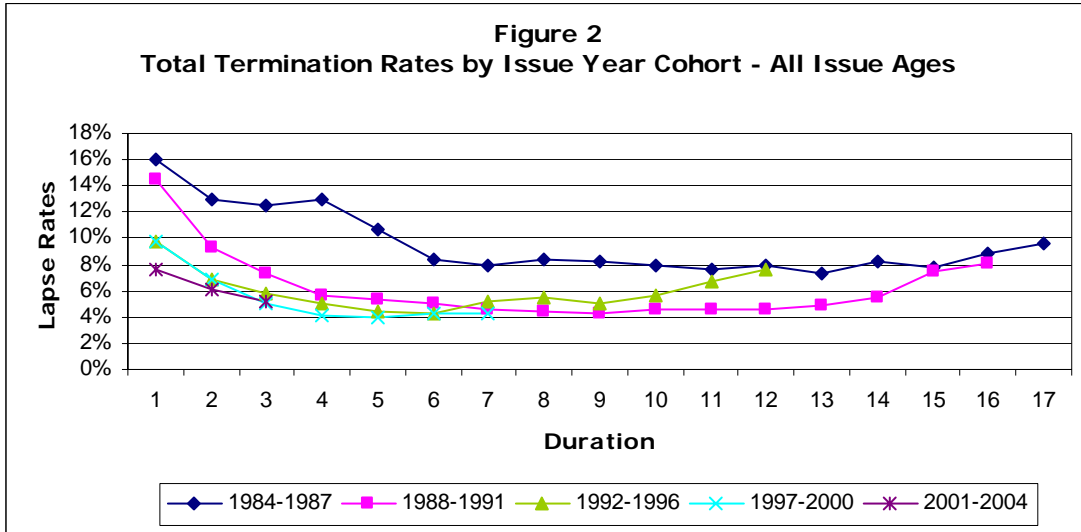
### Total Termination Rates by Issue Age Cohort and Issue Year Cohort

Figure 1 shows both voluntary lapse rates and total termination rates by duration for all issue ages and issue years for only those contributors that provided voluntary lapse data. Both follow a similar pattern, but the difference between the total termination rate and the lapse rate appears to be increasing in general as duration increases. This is consistent with mortality rates becoming a more significant contributor to the total termination rate at the older ages. Voluntary lapses exhibit a more level pattern by policy duration than in the past.

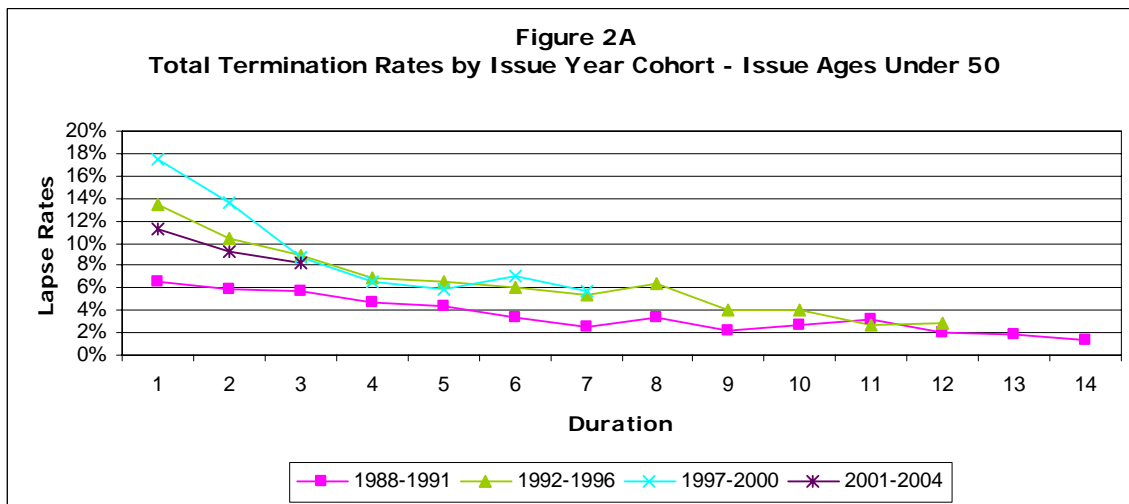


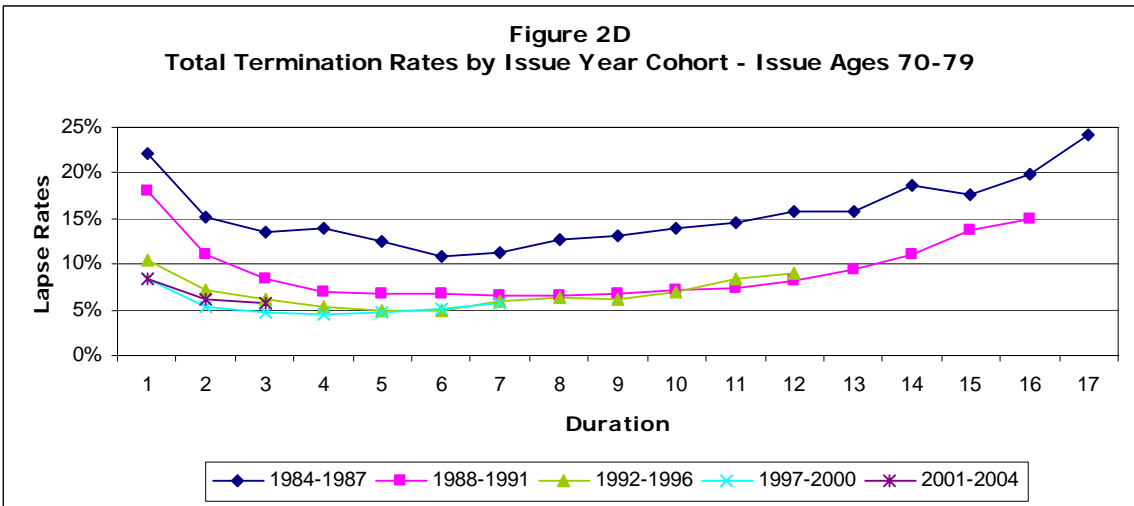
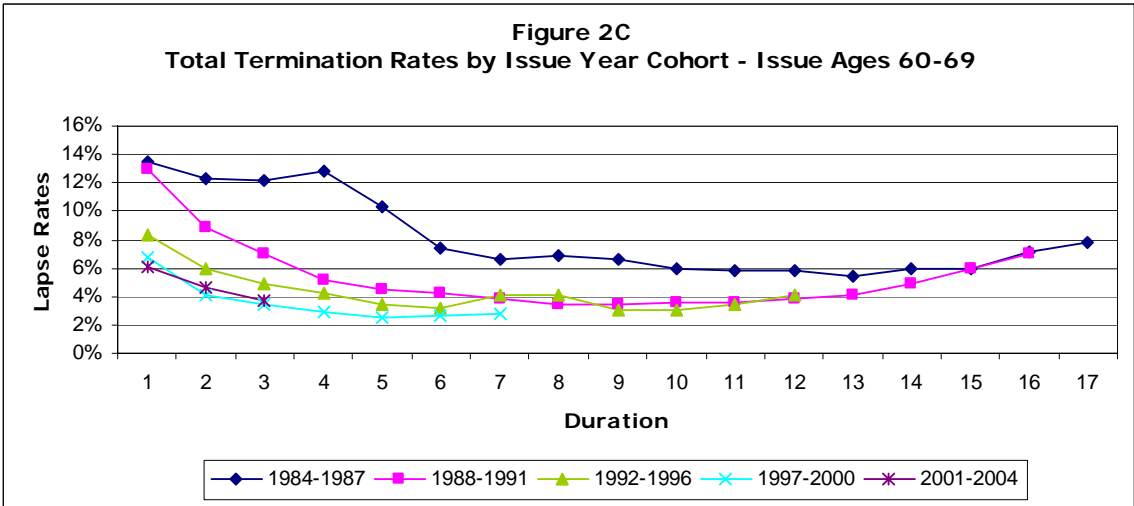
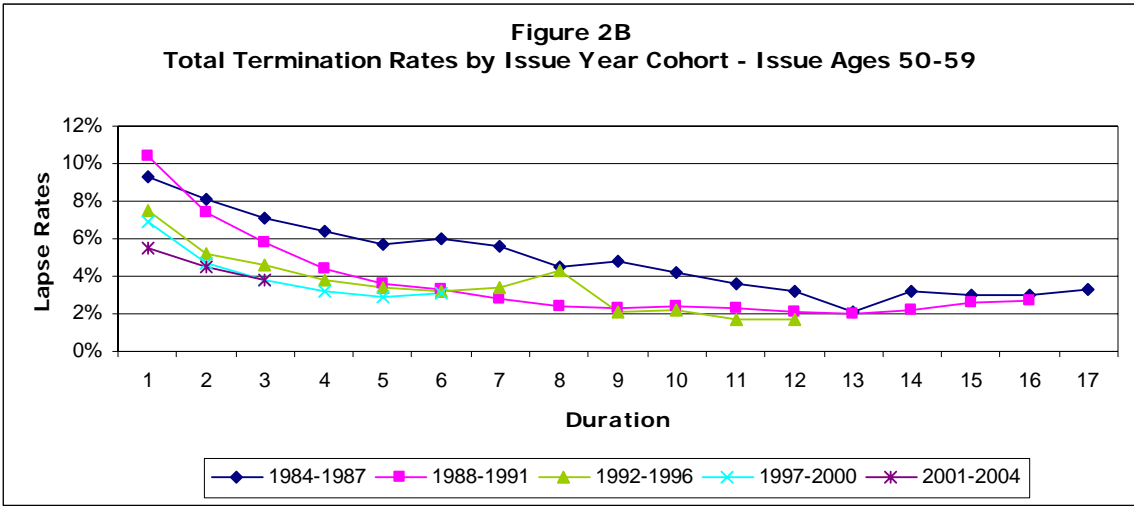
Issue Year Cohorts

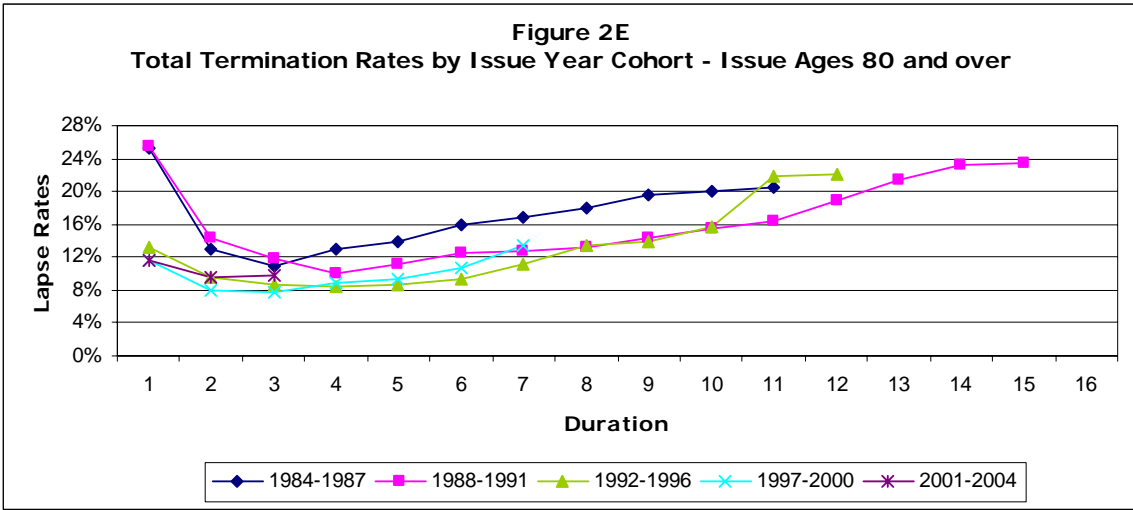
Total termination rates by issue year cohort are shown in Figure 2. Again, termination rates are greatest for the oldest issue year cohort. And there appears to be a continuing pattern of declining termination rates with more recent experience.



When broken down by issue age cohort, the patterns are generally consistent with the overall experience shown in Figure 2. However, inconsistencies do appear at the youngest and oldest issue ages. Also, Figures 2C, 2D, and 2E (issue ages 60 and above) show that, in some cases, total termination rates for the most recent issue years (2001-2004) are slightly higher than those for the 1997-2000 issues.

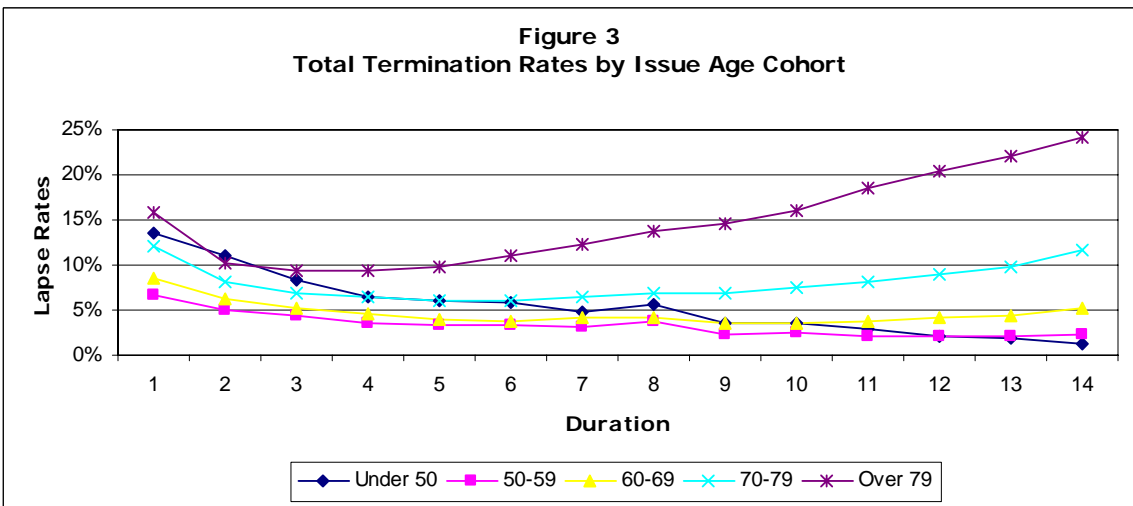






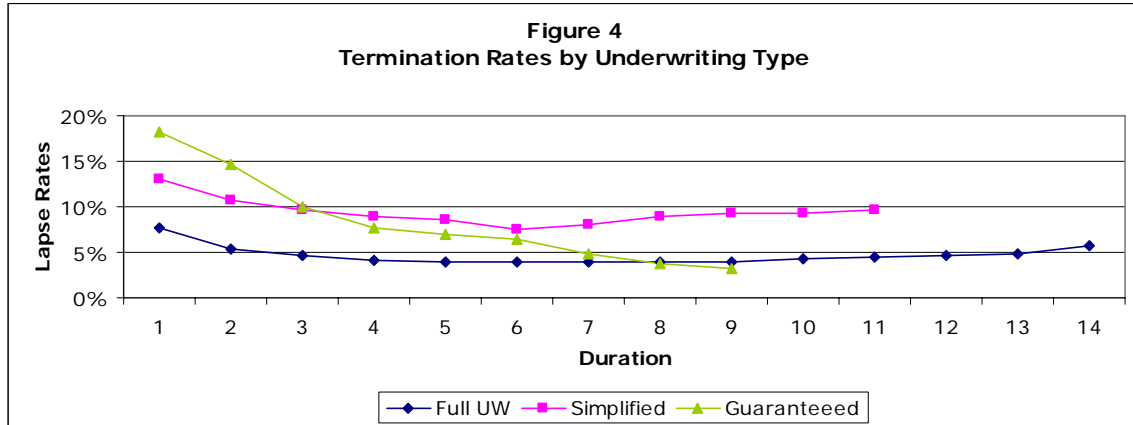
Issue Age Cohorts

Figure 3 shows total termination rates by issue age. The pattern for issue ages “under 50” mirrors the pattern of the Group insurance experience shown in Figure 2 of the Voluntary Lapse Section. With the exception of the “under 50” data, at each policy duration, total termination rates increase as the age of the cohort increases. At older ages, total termination rates at the later durations begin to increase significantly, consistent with the expected impact of mortality. This is seen most clearly at issue ages 70 and above.



**Total Termination Rates by Issue Age Cohort and Type of Underwriting (Appendix I-4)**

Figure 4 shows total termination rates by type of underwriting. The total termination rate for policies that were fully underwritten tends to be the lowest, mirroring the voluntary lapse data shown in Figures 6 and 7 of the Voluntary Lapse Section.



**Total Termination Rates by Issue Age Cohort and Gender (Appendix I-5)**

Total termination rates by issue age cohort and gender are shown in Appendix I-5. Figure 5 summarizes the difference between male and female total termination rates. Differences in the rate by gender are small for most of the durations shown. Although the male total termination rate is less than the female rate in the first duration, it remains higher than the female rate from year 2 to year 12. After year 12, the higher voluntary lapse rates (see Appendix I-5) exhibited by females overtakes the effects of higher male mortality on total terminations.

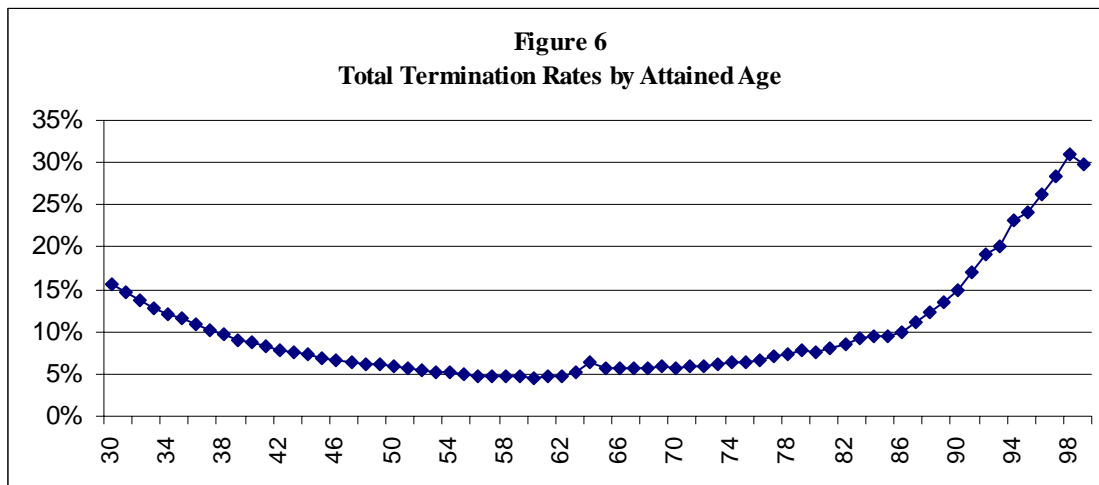


**Figure 5  
Total Termination Rates by Gender**

Duration	Male	Female	Difference
1	10.1%	10.3%	-0.2%
2	7.4%	7.4%	0.0%
3	6.2%	6.1%	0.1%
4	5.4%	5.2%	0.2%
5	5.1%	4.8%	0.3%
6	5.0%	4.6%	0.4%
7	5.3%	4.6%	0.7%
8	5.8%	4.8%	1.0%
9	4.6%	4.3%	0.4%
10	4.8%	4.5%	0.3%
11	4.8%	4.6%	0.2%
12	5.1%	5.0%	0.1%
13	5.2%	5.3%	-0.1%
14	5.9%	6.3%	-0.3%
15	7.5%	7.7%	-0.2%
16	8.0%	8.8%	-0.8%
17	9.2%	10.2%	-1.0%
Total	6.9%	6.7%	0.2%

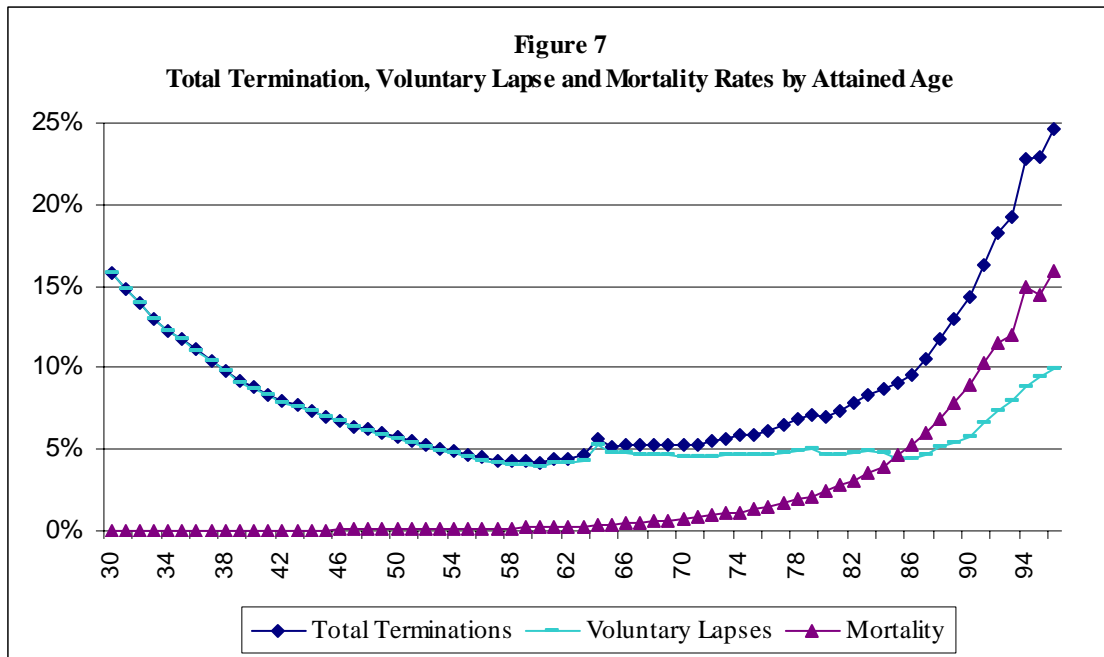
**Total Termination Rates by Attained Age (Appendix I-3)**

Total termination rates by attained age are shown in Appendix I-3. Figure 6 summarizes the results. Like the results by issue age cohort, total terminations tend to be higher at the youngest and oldest attained ages with mortality beginning to have a greater impact at ages over 70.



**Total Termination Rates, Voluntary Lapse Rates and Mortality Rates by Attained Age (Appendix I-6)**

Total termination rates, voluntary lapse rates and mortality rates by attained age are shown in Appendix I-6 for those companies that were able to split their terminations by cause. Figure 7 summarizes this data. Note that, as expected, nearly all of the termination activity is explained by voluntary lapses up to about age 70 when mortality becomes more of a factor. However, note that voluntary lapses do not tail off at the older ages. In fact, this data indicates that voluntary lapses actually begin to increase again after age 90. This phenomenon seems unlikely as it implies that, at the ages where insureds are most at risk of requiring the coverage, they would decide to lapse their policies. This result is another indication that the reported voluntary lapses likely include unreported deaths.



**Appendix A**  
**1984-2004 Long-Term Care Intercompany Study**  
**Contributing Companies**

Company	Individual	Group
Aegon USA, Inc.	X	X
Aetna	X	X
Allstate	X	
AFLAC	X	
Bankers Life and Casualty	X	
Combined Insurance	X	
Continental Casualty Company	X	X
Country Life Insurance Company	X	
Genworth Financial formerly GE Financial and AMEX	X	
John Hancock	X	X
MedAmerica	X	
Medico Life	X	
MetLife	X	
Mutual of Omaha	X	X
Mutual Protective	X	
Northwestern Mutual	X	
Physicians Mutual	X	
Prudential	X	X
Southern Farm Bureau	X	
State Farm Life	X	
Thrivent Financial For Lutherans	X	
Time Insurance Company	X	
Transport Life Insurance	X	
Unum	X	X