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# 2015-2022 Group Long-Term Disability Incidence Study Report

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# 2015-2022 Group Long-Term Disability Incidence Study Report


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Committee (GDEC)



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# 2015-2022 Group Long-Term Disability Incidence Study Report

## Introduction

The Society of Actuaries (SOA) Research Institute's Group Disability Experience Committee (GDEC or the Committee) and LIMRA have jointly conducted a Group Long-Term Disability (LTD) Incidence Study (Study) covering January 2015 through June 2022<sup>1</sup>. The intent of this study is to measure incidence rates for 2015 through 2022 in aggregate, as well as by several categorical variables, including elimination period (EP), industry groups, case size bands, geographic areas, and diagnosis. Nineteen individual companies contributed data to the current study, encompassing 97% of the industry. The Study contains about 294 million life-years exposed and about 1.2 million claims over the study period.

The study was restricted to fully insured Group LTD business; therefore, the following business was explicitly excluded from the study:

1. Administrative Services Only (ASO) LTD
2. Groups with an elimination period of less than 30 days or with a benefit duration less than 24 months.
3. Any disability business on an individual policy form or contract
4. LTD contracts that have been ported or converted to an individual contract post EE-termination.
5. Worksite business that is sold with a long contract guarantee and attained age rates, e.g., multi-life individual disability policies.
6. Voluntary Association LTD

The SOA Research Institute and LIMRA jointly collected, validated, and summarized the data for this report. Tableau dashboards have been published with this report and provide alternate breakdowns of results and the ability to view information of interest for the individual user. A link to the tableau dashboard can be found here: [Group LTD Experience Study](#)

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<sup>1</sup> The claim valuation date for the data collection was June 30, 2023. Because this created data completion issues for claims in late 2022, particularly for plans with longer elimination periods, it was decided to exclude the second half of 2022 and end the study period in June 2022.

In addition, an aggregated database of the experience has been made available for users to conduct their own analysis. The data in Tableau are available with the following breakdowns: Study Year, Collar Color, Case Size, Average Covered Payroll Band, Elimination Period, STD Indicator, Benefit Percentage, Employee Contribution Provision, Employee Participation Percentage, Maximum Benefit, Benefit Taxability, State, Region, Industry, Own Occupation Provision, and Pre-Existing Condition Duration. The aggregated database additionally contains splits on SIC Code, Policy Average Age, Policy Percent Female, Mental & Nervous Period Limit, Drug & Alcohol Period Limit, Own Specialty, And/Or Definition, and Pre-Existing Condition Type.

## Executive Summary

The following are notable observations from the analyses detailed in this report:

- Almost 1.2 million claims were observed during the experience period. The average annual incidence rate was 4.030 claims per 1,000 covered lives.
- Coverage with a longer Elimination Period was generally associated with lower incidence rates. About 85% of the exposures had either a 3-month or 6-month EP. The average incidence rate for plans with a 3-month Elimination Period was 4.388, while the average incidence rate for plans with a 6-month Elimination Period was 19% lower, at 3.566.
- 2015 and 2021 had the highest incidence rates in the study, at 4.169 and 4.177, respectively. The lowest incidence rate was observed in 2022<sup>2</sup>, at 3.747. From 2016-2020, the trend of incidence rates was relatively flat, ranging between 3.949 and 4.067.
- Incidence rates generally increased with increasing group size. Groups with over 5,000 lives had incidence rates of 4.425 per 1,000, while groups with under 25 lives had incidence rates of only 3.440. Thus, the incidence rates for the largest groups were 29% higher than that of the smallest groups. Because smaller groups were also found to have shorter elimination periods, the actual effect of group size on claim costs is likely even more significant.
- Non-Contributory/100% Employer-Paid plans, which comprised nearly half the study data, had a relatively low incidence rate of 3.545 per thousand, 12% lower than the aggregate incidence rate.
- There were substantial incidence rate differences by industry. Aggregating by broad industry, White Collar groups had much lower incidence than Blue and Gray Collar groups.
- The Committee categorized claims by diagnosis type. The Other Musculoskeletal and Back (16.7%) and Cancer (15.9%) categories had the largest distribution of claims, combining for nearly one-third of the study incidences.



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<sup>2</sup> Only the first half of 2022 was included in the study; see subsection 1.3.

## Section 1 Data Assumptions and Methods

### 1.1 DATA COLLECTION

Contributors were asked to provide three data files with their submission:

- A summary of lives exposed and covered volume for each month during the study period for each policy
- A complete list of all plans with plan provisions included under each policy
- A register of claims incurred under each policy

The claim data file request included many fields, including plan provisions that were not directly used in this incidence study, but were set up such that the data collected could also be used for the forthcoming termination study to be released in 2026.

### 1.2 DATA VALIDATION

Data were initially scrubbed for duplicates to ensure that records in the file had their own unique match key:

- The policy-by-month file was reviewed to ensure that no two records had the same Policy ID and Exposure Month.
- The plan file was reviewed to ensure that no two records had the same Policy ID and Plan ID.
- The claim file was reviewed to ensure that no two records had the same Policy ID, Date of Birth, Date of Disability, and Sex. While it is possible for more than one person to have the same data for all of these fields, it is very unlikely, and most duplicates discovered had identical values for the other fields. Duplicates were removed unless another corrective action was self-evident or prescribed by the contributor.

Common data issues observed during data validation included:

- **Missing Exposure Months.** Often, it was observed that there was not a row of policy data provided for each month during a policy's effective period, i.e., between the policy's Effective Date and Termination Date. For situations where a small number of months were missing, the issue was ignored, and the missing months were not included in the study. For larger missing quantities, the contributor was asked for guidance, as it was common for claims to be provided for missing policy-months. In some cases, the contributor instructed the SOA and LIMRA to impute the missing months of exposure using the data provided for the nearest calendar months that were included.
- **Missing Plan Provisions.** In order to categorize the experience for a particular calendar month, it was necessary for there to be at least one plan provided in the plan file effective during that month. It was sometimes observed that there were no plans provided for a particular policy, or there were "gaps" in plan coverage during the policy effective period. Contributors were asked about this issue in the event that it affected a substantial portion of data. Common remedies included extending the plan effective period for provided plans to cover the gap period or the contributor submitting additional plan data after researching the issue. Policy data missing plan provisions were still included in the final output but lacked categorical indicators. The Committee believes that any potential distortions resulting from this are immaterial to the overall results.
- **Unreasonable Lives or Volume.** Common problems with the Lives Exposed or Covered Volume included:

- Large month-to-month changes, especially when the change was very temporary or seemed to affect only one of Lives Exposed or Covered Volume.
- Lives or volume equal to zero.
- Volume-per-life outside of a reasonable range.

These situations were reviewed and provided to the contributors for feedback. Often, contributors were able to provide updated information or guidance on how to resolve one-off outlier months. Records that were not remedied and had zero lives exposed were removed from the study.

Records with zero Covered Volume or an implied average annual salary of less than \$10,000 (based on the definition of Covered Volume) had Covered Volume imputed based on the average Covered Payroll for other months for the same policy. If no such months with an annual salary greater than \$10,000 were present, the records with zero Covered Volume or with an implied average salary of less than \$10,000 were included in the study but excluded from volume-based averages in Tableau. In the aggregated data, these records were flagged using the MissingCovBenefitFlag and MissingCoveredPayrollFlag fields. Approximately 25% of the exposures have a missing Covered Benefit, while approximately 4% of the exposures have a missing Covered Payroll. The discrepancy is due to unknown benefit percentages, which were needed to convert payroll to monthly benefits.

### 1.3 DATA PROCESSING METHODS

Incidence rates were determined at an aggregate group level. An individual employee-level census was not available. For example, if a 2,000-life group had eight claims in one year, the incidence rate for that year would be 4,000 per 1,000 covered lives. No attempt was made to tie the eight claims back to seriatim census records and calculate specific age/sex incidence rates or salary/occupation incidence rates.

Claim counts and amounts were attached to the policy data based on the month of the Date of Disability and the Policy ID. The process of assigning plan provisions (e.g., EP, Limited Own Occupation Indicator) to the policy-by-month data was more challenging. Most contributors were not able to provide a Plan ID on the claims file, and some contributors could not provide a reliable allocation of policy lives to the different plans provided on the plan file. There was, therefore, no way to accurately assign policy exposure and claims to different plans covered under the policy.

To maximize the amount of data that could be categorized, the Committee decided that for each plan provision field, only one categorical value could be assigned to each month of a policy. If only one plan was active or only one unique valid plan provision was provided for a particular month across all plans for a policy (e.g., all plans for policy XYZ had a 3-Month EP), that plan provision was assigned to the experience for that month. If more than one valid value existed across the plans for a policy for a particular month (e.g., one plan had a 3-Month Elimination Period and one plan had a 6-Month EP), the Committee was not comfortable assigning a single provision for that month and the provision was set to “Unknown.”

For purposes of reviewing the results, the Committee observed the variance of incidence rates by a number of key variables. There was considerable variation by Elimination Period, and the Committee decided to set a benchmark incidence rate for the data as an EP-adjusted study-wide average, i.e., all results would be measured against the study-wide average for data with the same EP distribution. Blocks of data with outlier incidence rates or actual-to-EP-adjusted study-wide average ratios were reviewed with contributors, and such blocks of data were either corrected, confirmed, or excluded from the study depending on the contributor response.

During the process of reviewing contributor results, it appeared that incidence rates and actual-to-benchmark ratios for 2022 were quite low compared to preceding years. With a valuation date of June 30, 2023, and some longer

elimination periods in the data, it was determined after discussions with contributors that many claims incurred in late 2022 likely did not have a claim payment prior to the valuation date. The Committee split the 2022 calendar year into halves and observed that, while the first half of 2022 appeared to have reasonable incidence rates in line with contributor expectations, the second half of 2022 had incidence rates that were artificially low. As a result, the Committee elected to exclude the period of July-December 2022 from the study.

One of the stated goals of the study was to analyze incidence rates conditional on claims lasting at least a certain duration of time. However, in a review of the data provided, six of the 19 contributors did not provide reliable information on claim duration. A common reason was that the claim liability termination date was not provided for any of the claims. Furthermore, as the Committee intended to study the percentage of claims that lasted over 24 months, all claims incurred after June 30, 2021 would have needed to be excluded from the analysis; i.e., the valuation date of June 30, 2023 would have made it impossible to know whether open claims would have remained open for 24 months. As a substantial percentage of the data would have been excluded from duration-based analysis, the Committee elected to not pursue this as a dimension of study. However, analysis of claims by duration will be explored as part of the forthcoming claim termination study.

## Section 2 Study Results

### 2.1 RESULTS BY ELIMINATION PERIOD

The results in this section present an “A/E Ratio” for incidence rates when analyzing subcategories of the data. This is a ratio of the actual incidence rate for the data subset to the “EP-adjusted study-wide average incidence rates” for that data subset<sup>3</sup>. Average age and percent female was collected at the policy level and was not consistently populated across all contributors, so these A/E Ratios do not account for differences in age or sex.

The Committee collected the number of days in the Elimination Period (EP) for each plan in the study and rounded that number of days to the nearest month to produce EP groupings. EP was found to be one of the most significant drivers of incidence rates. As a result, the Committee selected the EP-adjusted study-wide average incidence rate as the benchmark against which subsets of the data would be measured. Table 2.1 shows the incidence rates and the underlying amount of experience for data provided within each EP group.

**Table 2.1**  
**STUDY-WIDE INCIDENCE RATES BY ELIMINATION PERIOD**

Elimination Period	Life-Years of Exposure	Percentage of Total Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	EP-Adjusted Study Average Incidence Rate	A/E Ratio
1 Month	1,744,803	0.6%	31,022	17.780	17.780	100.0%
2 Months	3,344,628	1.1%	12,883	3.852	3.852	100.0%
3 Months	109,274,298	37.2%	479,448	4.388	4.388	100.0%
4-5 Months	5,004,424	1.7%	19,870	3.970	3.970	100.0%
6 Months	139,887,561	47.6%	498,806	3.566	3.566	100.0%
12 Months	3,597,256	1.2%	9,937	2.762	2.762	100.0%
Other/Unknown	30,961,081	10.5%	131,996	4.263	4.263	100.0%
<b>Total</b>	<b>293,814,050</b>	<b>100.0%</b>	<b>1,183,962</b>	<b>4.030</b>	<b>4.030</b>	<b>100.0%</b>

Generally, policies with longer elimination periods showed lower incidence rates, though the pattern was not monotonic. Incidence for 6-month EP coverage was 81% of that for coverage with a 3-month EP, and incidence for 12-month EP coverage was 77% of that for 6-month EP coverage. In both cases, doubling the EP resulted in roughly a 20% incidence reduction.

The concentration of other policy attributes within each EP group may have an effect on incidence rates that causes the comparison between companies to have a different than expected result (such as the 2-Months group having a lower incidence rate than the 3-Months group). The Other/Unknown group is made up of data from policies with either 1) elimination periods other than those shown, such as 7 months or 13 months, 2) no valid EP provided, or 3) multiple plans in effect simultaneously with different EP provisions, per the discussion in subsection 1.3.

<sup>3</sup> For example, if 75% of the data in a particular subset has a 3-Month elimination period and the other 25% has a 6-Month elimination period, the EP-adjusted incidence rate used in the A/E ratio denominator would be the weighted average of the 3-Month and 6-Month elimination period incidence rates from Table 2.1, or 4.1825. In Table 2.1, the data are segregated only by Elimination Period and, thus, each Elimination Period category has an A/E ratio of 100%.

## 2.2 RESULTS BY STUDY YEAR

Table 2.2 presents the study results by calendar year. Per subsection 1.3, the second half of 2022 was excluded from the study due to reporting lag and some elimination periods being longer than the difference between the date of disability and the valuation date.

**Table 2.2**  
**RESULTS BY CALENDAR YEAR**

Calendar Year	Life-Years of Exposure	Percentage of Total Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	EP-Adjusted Study Average Incidence Rate	A/E Ratio
2015	35,434,997	12.1%	147,741	4.169	4.032	103.4%
2016	36,629,802	12.5%	148,985	4.067	4.032	100.9%
2017	37,726,127	12.8%	148,977	3.949	4.028	98.0%
2018	39,013,314	13.3%	154,984	3.973	4.032	98.5%
2019	40,547,142	13.8%	162,321	4.003	4.031	99.3%
2020	41,373,111	14.1%	166,368	4.021	4.029	99.8%
2021	42,294,904	14.4%	176,659	4.177	4.026	103.8%
2022 (1st Half)	20,794,654	7.1%	77,927	3.747	4.027	93.1%
<b>Total</b>	<b>293,814,050</b>	<b>100.0%</b>	<b>1,183,962</b>	<b>4.030</b>	<b>4.030</b>	<b>100.0%</b>

Incidence rates relative to the EP-adjusted study-wide average were highest in 2015 and 2021 and lowest in the first half of 2022. The bulk of claims related to COVID-19 took place in 2020 and 2021; COVID-19 accounted for 1.4% and 2.2% of claims in those years, respectively. Contributors were questioned whether the lower incidence rates in 2022 were possibly due to data lag issues, but it was widely reported that incidence rates had been lower than recent history for 2022. Changes in the mix of data over time, as evidenced by the progressively increasing life-years of exposure by year, can also contribute to varying incidence rates.

## 2.3 RESULTS BY CASE SIZE

Case Size was determined at the policy level as the average number of monthly lives reported by the contributor during the study period. Table 2.3 displays the study results by Case Size.

**Table 2.3**  
**RESULTS BY CASE SIZE**

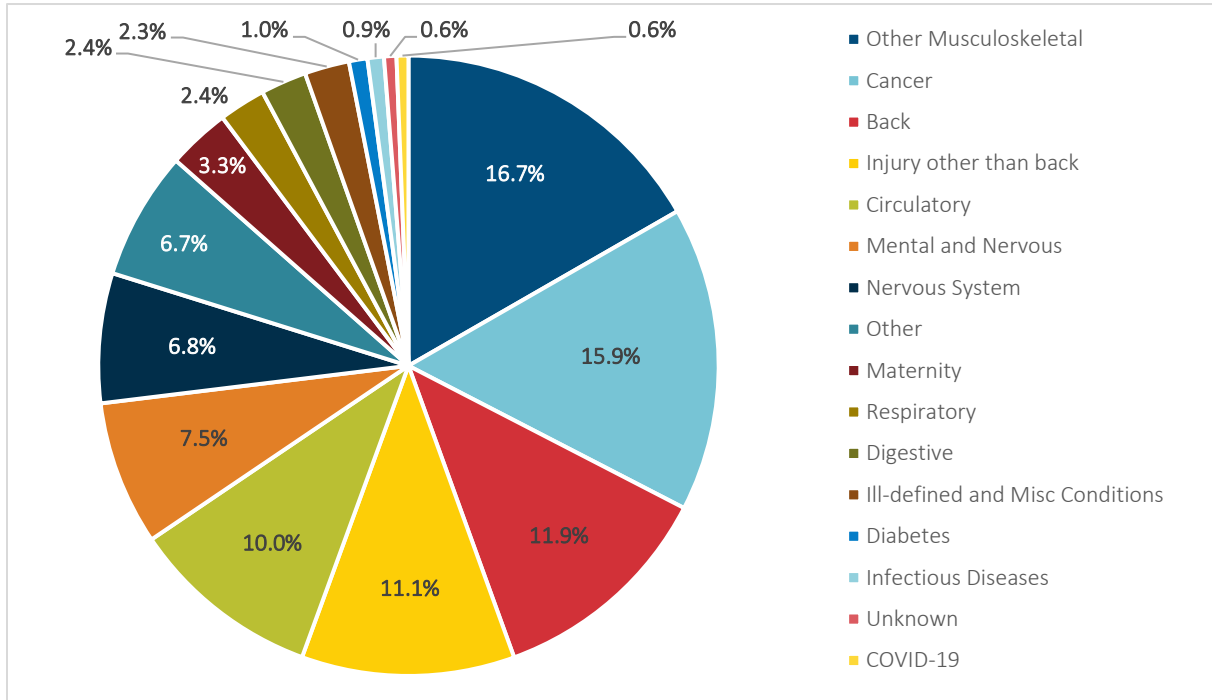
Case Size	Life-Years of Exposure	Percentage of Total Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	EP-Adjusted Study Average Incidence Rate	A/E Ratio
Under 10	3,042,227	1.0%	11,174	3.673	4.699	78.2%
10-25	8,072,202	2.7%	27,062	3.352	4.406	76.1%
26-100	26,358,676	9.0%	93,459	3.546	4.309	82.3%
101-500	50,354,731	17.1%	185,662	3.687	4.216	87.5%
501-1,000	25,158,855	8.6%	96,512	3.836	4.080	94.0%
1,001-5,000	67,691,717	23.0%	269,501	3.981	3.968	100.3%
Over 5,000	113,135,643	38.5%	500,592	4.425	3.863	114.6%
<b>Total</b>	<b>293,814,050</b>	<b>100.0%</b>	<b>1,183,962</b>	<b>4.030</b>	<b>4.030</b>	<b>100.0%</b>

Consistent with expectations, A/E ratios tend to increase with increasing case size, with the only A/E ratio materially higher than 100% belonging to the Over 5,000 Case Size group. A majority of the study data is concentrated in policies with Case Sizes of over 1,000 lives. The EP-Adjusted Study Average Incidence Rate appears to decrease monotonically with increasing case size, suggesting that there is a greater concentration of shorter elimination periods for policies with lower case sizes.

## 2.4 CLAIMS BY DIAGNOSIS CATEGORY AND YEAR

The Committee collected ICD-9 and ICD-10 codes for the claims provided and used these codes to allocate the claims to 16 different diagnosis categories, as outlined in Appendix C. Figure 2.1 shows the distribution of claims across these categories.

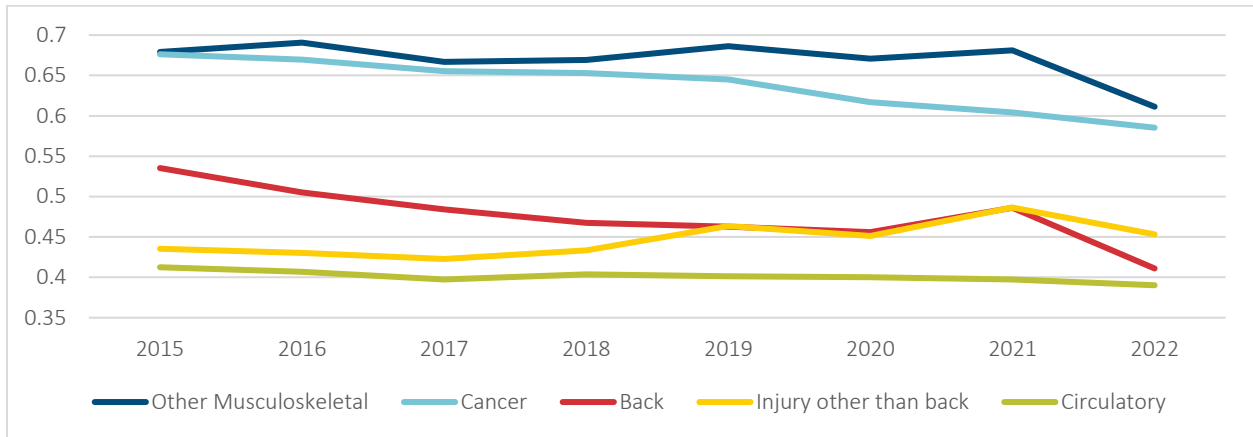
**Figure 2.1**  
DISTRIBUTION OF CLAIMS BY DIAGNOSIS CATEGORY



The Other Musculoskeletal and Back categories comprise approximately one-third of the total claims. It was observed that, generally, there was not a great deal of variance in the distribution of claims by category between contributing companies. The main exception to this pattern was that multiple companies were much more heavily concentrated in Maternity than the others, leading to most companies having a lower percentage of Maternity claims than the study-wide average of 3.3%.

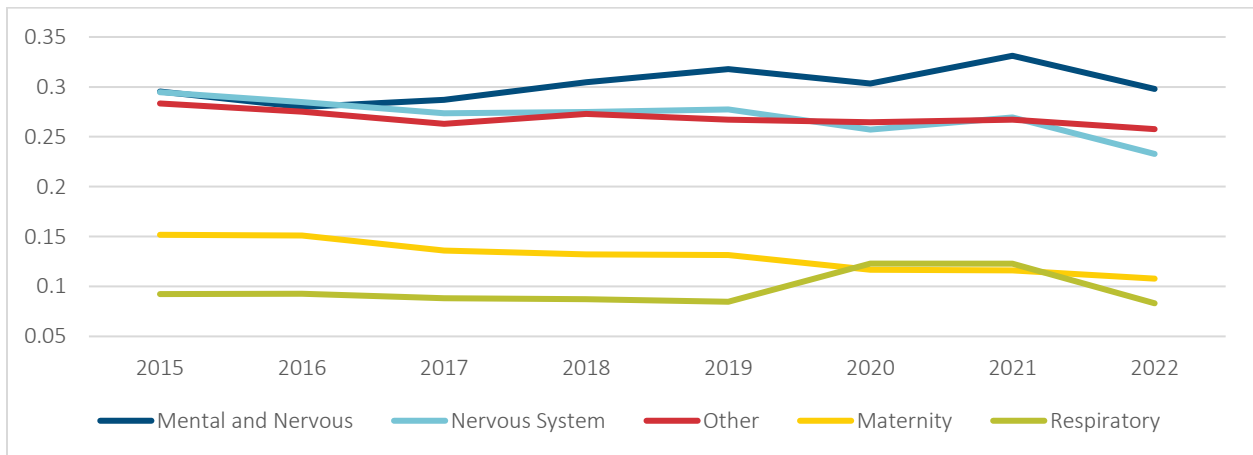
Figures 2.2 through 2.4 show how the marginal incidence rates for each diagnosis category (i.e., the incidence rate considering only claims from that category) changed over the course of the study period. For ease of reading, the diagnosis categories have been split into three groups: the five diagnoses with the highest marginal incidence rates, the five with the next-highest marginal incidence rates, and the six diagnoses with the lowest marginal incidence rates.

**Figure 2.2**  
**MARGINAL INCIDENCE RATES BY YEAR – TOP FIVE DIAGNOSIS CATEGORIES**



Cancer consistently decreases over the study period as a cause of disability, while there is a general trend of increase in Injury Other than Back.

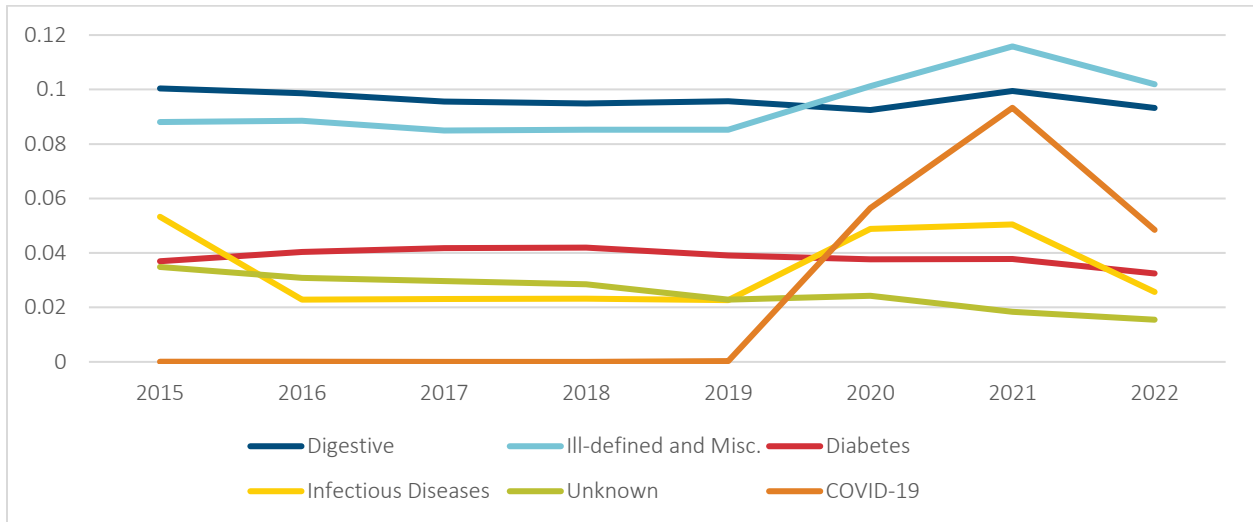
**Figure 2.3**  
**MARGINAL INCIDENCE RATES BY YEAR – MIDDLE FIVE DIAGNOSIS CATEGORIES**



The proportion of Mental & Nervous diagnoses trended upward over the study period, while Maternity consistently decreased, consistent with lowering birth rates.

Figure 2.4

## MARGINAL INCIDENCE RATES BY YEAR – BOTTOM SIX DIAGNOSIS CATEGORIES



The cohort of categories displayed in Figure 2.4 are lower-frequency disability diagnoses and have more volatile marginal incidence rates. Unsurprisingly, COVID-19 claims spiked in 2020 and 2021. Perhaps surprisingly, incidence of Diabetes claims was relatively flat.

## 2.5 RESULTS BY EMPLOYEE CONTRIBUTION PROVISION

Table 2.4 displays the study results by employee contribution provision. Incidence rates can vary by whether participation in coverage has a voluntary component due to the possibility for adverse selection. As seen in the table, incidence rates and A/E Ratios are highest for coverage that includes full or partial employee contributions. Gross-up and 100% Employer Paid plans, which have no elective coverage, have lower A/E ratios.

**Table 2.4**  
**RESULTS BY EMPLOYEE CONTRIBUTION PROVISION**

Employee Contribution Provision	Life-Years of Exposure	Percentage of Total Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	EP-Adjusted Study Average Incidence Rate	A/E Ratio
100% Employer-Paid	138,385,838	47.1%	490,521	3.545	4.008	88.4%
Gross-up	6,364,938	2.2%	20,043	3.149	4.102	76.8%
Partial, Including Core/Buyup	34,422,823	11.7%	175,726	5.105	3.895	131.1%
Fully Contributory	32,888,953	11.2%	175,587	5.339	4.214	126.7%
Unknown	81,751,498	27.8%	322,085	3.940	4.044	97.4%
<b>Grand Total</b>	<b>293,814,050</b>	<b>100.0%</b>	<b>1,183,962</b>	<b>4.030</b>	<b>4.030</b>	<b>100.0%</b>

## 2.6 RESULTS BY SHORT-TERM DISABILITY PROVISION

Table 2.5 displays results by short-term disability (STD) provision. Incidence rates vary due to the presence or absence of STD coverage. The “With STD” category includes LTD Policies that are accompanied by a front-end STD and/or Paid Family Medical Leave coverage, including Administrative Services Only insurance.

**Table 2.5**  
**RESULTS BY STD PROVISION**

STD Provision	Life-Years of Exposure	Percentage of Total Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	EP-Adjusted Study Average Incidence Rate	A/E Ratio
With STD	186,524,037	63.5%	804,762	4.315	3.936	109.6%
No STD	65,076,117	22.1%	198,796	3.055	4.169	73.3%
Unknown	42,213,896	14.4%	180,404	4.274	4.230	101.0%
<b>Total</b>	<b>293,814,050</b>	<b>100.0%</b>	<b>1,183,962</b>	<b>4.030</b>	<b>4.030</b>	<b>100.0%</b>

The A/E ratios for LTD plans with STD accompaniment are 36% higher (additive) than those with no STD accompaniment. A majority of the exposure is for plans with STD accompaniment.

## 2.7 RESULTS BY COVERED PAYROLL BAND

The Committee determined average Covered Payroll at the policy level as a proxy of the average salary. Covered Payroll was determined as the Covered Volume for policies that provided a definition of Covered Payroll for Covered Volume. For policies that defined Covered Volume as Gross Monthly Benefit, the Covered Payroll was determined as the Covered Volume divided by the Benefit Percentage for the plan, if known. Data with other definitions of volume, as well as implied average annual salaries of less than \$10,000, were considered to have unknown Covered Payroll. Table 2.6 displays the study results by Covered Payroll.

**Table 2.6**

### RESULTS BY AVERAGE COVERED PAYROLL BAND

Average Covered Payroll Band	Life-Years of Exposure	Percentage of Total Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	EP-Adjusted Study Average Incidence Rate	A/E Ratio
A. 10K-25K	6,143,042	2.1%	27,254	4.437	4.189	105.9%
B. 25K-50K	69,612,016	23.7%	330,867	4.753	4.127	115.2%
C. 50K-75K	112,104,625	38.2%	480,507	4.286	4.015	106.7%
D. 75K-100K	55,218,537	18.8%	195,465	3.540	3.983	88.9%
E. 100K-150K	29,553,797	10.1%	77,486	2.622	3.899	67.3%
F. 150K-250K	9,495,855	3.2%	28,525	3.004	3.868	77.7%
G. >250K	2,200,829	0.7%	9,709	4.412	3.897	113.2%
H. Unknown	9,485,349	3.2%	34,149	3.600	4.252	84.7%
<b>Grand Total</b>	<b>293,814,050</b>	<b>100.0%</b>	<b>1,183,962</b>	<b>4.030</b>	<b>4.030</b>	<b>100.0%</b>

Incidence rates tend to decrease as policies' average Covered Payroll increases up through the 100K-150K average Covered Payroll Band. There is an inflection point at the 150K-250K average Covered Payroll Band at which incidence rates begin to increase with increasing Covered Payroll. This was a common observation when analyzing individual contributors' data. The highest income group with Average Covered Payroll over \$250,000 has the second-highest A/E ratio, though this group constitutes less than 1% of all exposure.

## 2.8 RESULTS BY PARTICIPATION LEVEL

Table 2.7 displays the study results by participation rates. Participation rates were categorized at the plan level using a single contributor-provided indicator for the participation range for the duration of the plan. Incidence rates tend to be lower as participation increases. The group with the lowest A/E ratio is the 100% participation group. Groups with less than 100% participation rates tend to have higher A/E ratios, likely due to selection effects. The exception is the relatively small group with participation rates less than 25%. Many participating companies did not maintain this measure on their internal databases and could not provide it, which explains the relatively high concentration in the Unknown group.

Table 2.7

### RESULTS BY PARTICIPATION LEVEL

Participation Level	Life-Years of Exposure	Percentage of Total Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	EP-Adjusted Study Average Incidence Rate	A/E Ratio
A. <25%	3,373,089	1.1%	13,796	4.090	4.148	98.6%
B. >=25% and <50%	20,458,466	7.0%	98,647	4.822	4.055	118.9%
C. >=50% and <100%	10,096,408	3.4%	51,680	5.119	4.040	126.7%
D. 100%	188,006,829	64.0%	686,021	3.649	4.030	90.5%
E. Unknown	71,879,258	24.5%	333,818	4.644	4.015	115.7%
<b>Grand Total</b>	<b>293,814,050</b>	<b>100.0%</b>	<b>1,183,962</b>	<b>4.030</b>	<b>4.030</b>	<b>100.0%</b>

As shown in Table 2.7, most of the data with known participation level are concentrated in the 100% participation category. Depending on the plan's contribution provision, the meaning of 100% participation can be different. 100% employer-paid plans and Gross-up plans have 100% participation by default. Other plans are contributory and simply have full elective participation. Table 2.8 details the incidence rates for the different groups that make up the 100% participation category. It can be seen that the relatively small percentage of contributory plans with 100% participation have an A/E ratio well in excess of 100%.

Table 2.8

### RESULTS BY CONTRIBUTION PROVISION FOR THE 100% PARTICIPATION CATEGORY

Contribution Provision	Life-Years of Exposure	Percentage of Total Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	EP-Adjusted Study Average Incidence Rate	A/E Ratio
100% Employer-Paid	138,385,838	73.6%	490,521	3.545	4.008	88.4%
Gross-up	6,364,938	3.4%	20,043	3.149	4.102	76.8%
Contributory	7,431,986	4.0%	44,370	5.970	4.123	144.8%
Unknown	35,824,068	19.1%	131,087	3.659	4.083	89.6%
<b>Total 100% Participation</b>	<b>188,006,829</b>	<b>100.0%</b>	<b>686,021</b>	<b>3.649</b>	<b>4.030</b>	<b>90.5%</b>

## 2.9 RESULTS BY INDUSTRY

Table 2.9 displays results by Industry category. Industry categories were determined by SIC code in accordance with the mapping shown in Appendix B. The Industry categories were additionally grouped by broad collar designations (Blue, Gray, and White).

**Table 2.9**  
**RESULTS BY INDUSTRY CATEGORY**

Collar	Industry Category	Life-Years of Exposure	Number of Claims	Incidence Rate Per 1,000 Life-Years	A/E Ratio
Blue Collar	A. Agriculture, Forestry, and Fishing	1,014,724	3,464	3.414	86.2%
	B. Mining	1,958,669	9,927	5.068	132.7%
	C. Construction	4,913,053	21,911	4.460	108.8%
	D. Manufacturing - Food	5,257,048	34,815	6.623	170.6%
	E. Manufacturing - Clothes, Textile, Wood	4,164,579	26,255	6.304	163.9%
	G. Manufacturing - Heavy, Steel	15,294,092	71,628	4.683	121.9%
	H. Manufacturing - Auto, Airplanes, Precision Equipment	11,925,218	56,003	4.696	122.3%
	I. Transport, Communication, Utilities	15,571,979	83,941	5.391	136.8%
	<b>Blue Collar Subtotal</b>	<b>60,099,362</b>	<b>307,944</b>	<b>5.124</b>	<b>131.6%</b>
Gray Collar	F. Manufacturing - Paper, Drugs	11,174,833	52,237	4.675	121.5%
	J. Wholesale Trade	16,836,688	70,469	4.185	104.9%
	K. Retail - Trade	19,361,236	122,143	6.309	161.3%
	N. Hotels/Personal Services	3,083,774	13,143	4.262	110.0%
	O. Misc. Services	11,420,734	36,147	3.165	77.6%
	R. Health Services	33,645,695	165,396	4.916	124.1%
	<b>Gray Collar Subtotal</b>	<b>95,522,959</b>	<b>459,535</b>	<b>4.811</b>	<b>121.7%</b>
White Collar	L. Banks and Securities	18,247,447	53,632	2.939	74.1%
	M. Insurance, Other Finance	16,728,461	52,966	3.166	80.8%
	P. Data Processing	15,944,263	28,261	1.772	44.1%
	Q. Doctors' Offices	8,336,423	29,659	3.558	85.7%
	S. Legal Services	4,090,280	9,693	2.370	57.6%
	T. Educational Services	25,792,752	84,272	3.267	72.3%
	U. Social Services	5,351,154	19,519	3.648	89.0%
	V. Museums and Membership Orgs.	5,583,847	13,927	2.494	60.0%
	W. Engineering, Architecture, Business Consulting	19,373,376	50,456	2.604	63.7%
	X. Public Administration	15,069,943	60,329	4.003	95.2%
	<b>White Collar Subtotal</b>	<b>134,517,948</b>	<b>402,714</b>	<b>2.994</b>	<b>72.2%</b>
Unknown	Z. Unknown	3,673,782	13,769	3.748	95.7%
	<b>Total</b>	<b>293,814,050</b>	<b>1,183,962</b>	<b>4.030</b>	<b>100.0%</b>

There is a clear correlation between incidence rates and broad Collar category. White Collar industries have an A/E ratio well below 100%, while both Blue Collar and Gray Collar industries have an A/E ratio substantially above 100%. All Gray Collar and Blue Collar industries have an A/E over 100% except for Miscellaneous Services and Agriculture, Forestry, and Fishing. All White Collar industries have an A/E below 100%. The industry category with the highest incidence rate is Manufacturing – Food, while the industry category with the lowest incidence rate is Data Processing.

### Section 3 Reliance and Limitations

No assessment has been made concerning the applicability of this experience for purposes other than the intent of the study. In developing this report, the SOA Research Institute and LIMRA relied upon data and information supplied by the participating company contributors. For each contributor, this information includes, but is not limited to, the data submission for disability incidence experience and the responses to follow-up questions.

The results in this report are technical in nature and are dependent on certain assumptions and methods. No party should rely upon these results without a thorough understanding of those assumptions and methods. Such an understanding may require consultation with qualified professionals. This report should be distributed and reviewed only in its entirety.



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## Section 4 Acknowledgments

The SOA Research Institute and LIMRA's deepest gratitude goes to those without whose efforts this project could not have come to fruition.

The Group Disability Experience Committee members for their diligent work overseeing the data request, research report and Tableau development and reviewing and editing this report and Tableau dashboards for accuracy and relevance.

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Maureen Shaughnessy, FSA, MAAA, LIMRA

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## Section 5 List of Participating Companies

The Society of Actuaries Research Institute and LIMRA would like to thank the following 19 individual companies who contributed data to this study:

- Aflac
- American Fidelity
- Dearborn Group
- Equitable Financial
- Fullscope RMS
- Guardian Life of America
- Lincoln Financial Group
- MetLife
- Mutual of Omaha Companies
- New York Life
- OneAmerica
- Principal Financial Group
- Prudential of America
- Reliance Standard Life Insurance Company
- Sun Life Financial
- Symetra Financial
- The Hartford Life
- The Standard
- Unum

## Appendix A Data Request Description

### A.1 OVERVIEW

The study covers experience from 1/1/2015 through 12/31/2022 using a claim valuation date of 06/30/2023. We are requesting information at three levels of detail. These levels are defined within three tabs of the accompanying workbook and can also be found in the tables below. We are requesting that all carriers match these formats and use the variable mappings as defined in the workbook and this appendix. This will likely involve a conversion or mapping process from your own sources of data. If you have capacity issues or questions on the mappings, the Group LTD experience committee will assign a data buddy who can assist with these conversions.

These three data files are specified as follows:

#### **Policy by Month:**

This submission should include one row for each Group LTD policy for each month within the study period when the policy was active. Some of the information, such as premium will change month to month, whereas other information such as policy effective dates will be static, but we ask you to fill these in for each month. If you capture premium amounts for periods longer than a month (e.g. quarterly or annual payments), we ask you to split these out into months based on a reasonable method for pro-rating the premiums. We are asking for lives and volumes and understand that these may not be readily available, but ask you to develop reasonable methods for filling these in. For example, covered volume can be calculated as the monthly billed premium divided by the inforce rate. Or, premium per life can be determined at time of sale or renewal and then used to determine the lives from the monthly billed premium. There should be one row for each policy for every month in which the LTD coverage is active and which falls within the study period.

We request some optional policy averages, such as average age, average salary, and percent female. These values can be determined monthly for list-billed business or filled in based on the last captured census.

#### **Policy Plan**

This submission should include one row for each policy, plan, and effective period of the plan. Unlike the monthly file, you should only include a row each time the plan changes, along with the beginning and ending effective dates of the LTD plan.

Some of the information such as SIC Code, ZIP code, employee participation, etc. may only be captured at the policy level, but we are asking for this information here, spread-out across the plans, along with the information that would be distinct at the plan level. If you only capture the plan information in aggregate at the policy level then you can place that information here but with only a single row for each policy and dates.

The plan items are identified as “Required” and “Optional” based on our estimate of the importance to claim incidence. You should make a significant effort to capture the required fields, but you still have the option of entering Blanks for unknown values. For the optional fields, please provide these if you have these already captured, but you can leave blank if you don’t have the capability to capture. If optional fields are only available for some of the policy level records, please include that which is available and leave the remaining blank.

For core / buy-up plans we expect to receive one plan record for the core and one for each buy-up option. If you do not capture the information in this format, please discuss with your data buddy how best to handle.

We are requesting lives and volumes for each plan as a way to allocate the exposure to the appropriate plans. Since the total information is included on the Policy by Month file, the absolute levels do not matter here, only the split between the plans. For example, if at time of rating you can see that 25% of lives are in Plan 1 and 75% in Plan 2

then you can just use these ratios here. If you really do not know or have a way to capture the lives or volume then leave blank and the Committee will decide how to handle in the data assembly.

If there is only a single plan per policy then unique plan identifier can be left blank.

### Claims

The study period is defined as 1/1/2015 through 12/31/2022. We are requesting one row for each claim that was either 1) active and being paid at some point during the study period or 2) incurred during the study period with approval and receipt of at least one claim payment prior to the valuation date of 6/30/2023. Since this will include claims that were disabled prior to the study period, these may not be used for the LTD incidence study, but the Committee can use this file by itself for an updated termination study. This data request is very similar to the data request for the last LTD termination study to allow carriers to leverage prior data submissions. However, a policy ID has been added to allow the Committee to link the claims data to the policy by month and policy plan submissions. Some of the fields may not be used in the incidence study but are requested so that this file layout can be considered for an LTD termination study. These fields are all listed as optional.

Please provide one record per distinct claim. We understand that some carriers use multiple claim records to capture supplemental benefits, or for other reasons, and ideally these should be combined. The data request is restricted to claims that have been approved and have received at least one claim payment as of the study valuation date.

## A.2 EXCLUSIONS

This study is intended to be restricted to fully insured Group LTD and so the following business should be excluded from this study:

1. ASO LTD
2. No shorter term-LTD coverage: This should exclude any group with an elimination period less than 30 days OR with a benefit duration less than 24 months.
3. Any business sold on an individual policy form or contract
4. LTD contracts that have been post-porting or conversion to a retired or terminated employee trust. Please include only exposure during time on traditional LTD plans.
5. Worksite business that is sold with a long contract guarantee and attained age rates, e.g., multi-life individual disability policies.
6. Voluntary Association LTD

### A.3 DATA REQUEST LAYOUT

Additional submission guidelines and some data validation checks are described below in Appendix B.

The term “Blank” below refers to instances when the data is unknown and should be interpreted as the text string “BLANK”, -9 (minus 9) for numerical fields and 19010101 for date fields.

#### Policy by Month Submission

Field No.	Variable	Required / Optional	Example	Comments
1)	Carrier Code	Required	AA	A unique code will be assigned by the SOA
2)	Unique Policy Identifier	Required	1234954	A unique identifier for the policy. You may use your own unique policy identifiers or create your own unique ID that can be linked to the other data files.
3)	Policy Effective Date	Required	20190101	The effective date of the LTD coverage for the policy - always start on day 1 of a month. Format YYYYMMDD.
4)	Policy Termination Date	Required	20201231	The date specifying the termination date of the LTD coverage for the policy. Format YYYYMMDD.
5)	Calendar Month	Required	1220	The calendar month for which the exposure is tracked MMYY
6)	Policy ZIP Code	Required	19103	Use the primary policyholder ZIP code. If there are multiple ZIP codes, then choose what you think is most representative of the group. Format 00000.
7)	Lives Exposed	Required	438	The total lives insured under the policy during the calendar month
8)	Covered Volume	Required	10000000	The total volume covered under the policy during the calendar month, determined from billing
9)	Definition of Volume	Required	2	The rating basis for the policy. Valid values include: Blank = Unknown 1 = Covered Payroll 2 = Gross Monthly Benefit 3 = Per Person Per Month 4 = Other
10)	Basis for Lives	Optional	1	Basis for lives and volume values: Blank = Unknown 1 = Exact values for the month based on billing 2 = Estimate from point of sale or prior period census 3 = Estimate from total premium 4 = Other
11)	Monthly Billed Premium	Optional	5236.13	The monthly billed premium for the policy during the calendar month.
12)	Average Monthly Salary	Optional	6700	Average monthly salary covered under the policy.
13)	Average Age	Optional	42.3	By-count average age of lives covered under the policy as of calendar month

Field No.	Variable	Required / Optional	Example	Comments
14)	Percent Female	Optional	41%	By-count percentage of lives covered under the policy which are female as of the calendar month

### Plan-Level Submission

Field No.	Variable	Required / Optional	Example	Comments
1)	Carrier Code	Required	AA	A unique code will be assigned by the SOA
2)	Unique Policy Identifier	Required	1234954	A unique identifier for the policy. This should match the codes used on the policy by month file.
3)	Unique Plan Identifier	Required	3	A unique identifier for the plan. You can use your own method of identifying plans or create unique identifiers for this submission.
4)	Plan Effective Date	Required	20190101	The effective date of the LTD plan - always start on day 1 of the effective period. Format YYYYMMDD.
5)	Plan Termination Date	Required	20201231	The date specifying the last day the LTD plan was effective. Format YYYYMMDD.
6)	STD Indicator	Required	1	This variable should identify policies with LTD Policies that are accompanied by a front-end STD and/or PMFL coverage from your company (including ASO). If the insurance status of the STD and PMFL differ then use the status for the product that has larger premiums. Valid Values: Blank = Unknown 1 = Packaged with Fully-Insured STD and/or PMFL 2 = Packaged with ASO STD and/or PMFL 3 = Packaged with STD and/or PMFL but insurance status is Unknown 4 = No Packaging with STD or PMFL
7)	Employee Contribution	Required	1	Blank = Unknown 1 = None 2 = Partial, with mandatory participation 3 = Core/Buyup 4 = Gross-up: mandatory participation - 100% EE contrib 5 = Full contrib without mandatory participation
8)	Actual Employee Participation	Required	1	Blank = Unknown 1 = 100% 2 = 75% to 99% 3 = 50% to 74% 4 = 25% to 49% 5 = less than 25%
9)	Taxability of Benefits	Required	T	This variable should indicate the tax status of benefits for the plan Blank = Unknown

Field No.	Variable	Required / Optional	Example	Comments
				T = 100% Taxable N = 100% Non-Taxable P = Partial Taxability
10)	Standard Industrial Classification (SIC) Code	Required	8049	This variable should identify the industry that the employer group was operating in as plan effective date, as defined by the Standard Industrial Classification system. Most recent SIC code is acceptable. 4 Digit numerical character (e.g., 0111, 8211, etc.) Unknown SIC's should be Blank
11)	Lives for Plan	Required	500	Used to allocate policy lives across plans, when more than one plan available for policy. If you do not know the exact lives make an effort to estimate the lives based on the proportion of lives in each plan. These lives will not be used directly, but will be used to allocate lives from the Policy by Month file
12)	Exposure for Plan	Required	1000000	Used to allocate policy exposure across plans, when more than one plan available for policy. Preference is covered payroll or gross monthly benefit.
13)	Elimination Period	Required	90	Plan Elimination Period in days.
14)	Benefit Percent	Required	60%	The percent of earnings that represents the monthly benefit. Valid values include: Blank = Unknown -1 = flat -2 = split XX% = Benefit Percent
15)	Flat Benefit	Required		Flat benefit. Valid values include: Blank = benefit is percentage entered value = flat benefit amount
16)	Limited Own Occ Claim Indicator	Required	1	Indication as to whether claims under the Plan are subject to limited Own Occ period. Valid values include: Blank = Unknown 1 = Yes 2 = No
17)	Length of Own Occupation Period	Required if Limited Own Occ Claim = "Yes"	24	The length of time expressed in months that the claimant is entitled to receive benefits while being unable to perform their own occupation, as specified in the plan. Enter 999 for unlimited.
18)	Mental & Nervous Benefit Limit Indicator	Required	1	Indication as to whether the plan contains a Mental & Nervous benefit period limit. Valid values include: Blank = Unknown 1 = Yes 2 = No
19)	Mental & Nervous Benefit Period Limit	Required if Mental & Nervous Benefit Limit Indicator = "Yes"	24	The length of time expressed in months that the claimant is entitled to receive benefits with a Mental & Nervous diagnosis. Enter 999 for unlimited.

Field No.	Variable	Required / Optional	Example	Comments
20)	Core/Buy-up	Required if Core/Buy up is specified in item 7)	1	Blank = Unknown 1 = Core (includes plans with no buy-up) 2 = Buy-up
21)	Maximum Duration Value	Optional	65	Blank if SSNRA
22)	Maximum Duration Type	Optional	1	Blank = Unknown 1 = ToAge 2 = SSRNA 3 = Months 4 = Years 999 = Lifetime benefit
23)	Maximum Benefit	Optional	30000	The maximum contractual amount of the monthly gross benefit that any claimant is entitled to under the Plan.
24)	Own Specialty Definition	Optional	1	Definition of disability includes own specialty language. Blank = Unknown 1 = Yes 2 = No
25)	Drug & Alcohol Benefit Limit Indicator	Optional	1	Indication as to whether the plan contains a Drug & Alcohol benefit period limit. Valid values include: Blank = Unknown 1 = Yes 2 = No
26)	Drug & Alcohol Benefit Period Limit	Optional, but only applicable if D & A Benefit Limit Indicator = 1	24	The length of time expressed in months that the claimant is entitled to receive benefits with a Drug & Alcohol diagnosis. Enter 999 for unlimited.
27)	Other Diagnoses Benefit Limit Indicator	Optional	1	Indication as to whether the plan for this claim contains a benefit period limit for diagnoses other than Mental & Nervous or Drug & Alcohol. Valid values include: Blank = Unknown 1 = Yes 2 = No
28)	Other Diagnoses Benefit Period Limit	Optional, but only applicable if other Benefit Limit Indicator = 1	24	The length of time expressed in months that the claimant is entitled to receive benefits subject to benefit period limit for diagnoses other than Mental & Nervous or Drug & Alcohol. Enter 999 for unlimited.
29)	Social Security Integration	Required	3	Blank = Unknown 1 = Yes 2 = No 3 = All Source / Backdoor

Field No.	Variable	Required / Optional	Example	Comments
30)	COLA Benefit Indicator	Optional	1	Indication as to whether a Plan has a COLA benefit of any kind. Valid values include: Blank = Unknown 1 = Yes 2 = No
31)	And/Or Definition	Optional	2	Blank = Unknown 1 = Earnings and Work Capacity Loss 2 = Earnings or Work Capacity Loss
32)	Pre-existing Condition	Required	3	Blank = Unknown 1 = 3/12          2 = 6/12 3 = 12/12        4 = 12/24 5 = 3/3/12      6 = 3/6/12 7 = 12/12/24    8 = None 9 = Other
33)	Pre-existing Condition Provision Type	Required	2	Blank = Unknown 1 = Limited benefit 2 = Exclusion 3 = Other
34)	Employee ZIP Code	Required	19103	Use the primary policyholder ZIP code. If there are multiple ZIP codes, then choose what you think if most representative of the group.

### Claims Submission

Field No.	Variable	Required / Optional	Example	Comments
1)	Carrier Code	Required	AA	A unique code will be assigned by the SOA
2)	Unique Policy Identifier	Required for claims incurred on or after 1/1/2015	1234954	A unique identifier for the policy. This should match the codes used on the policy by month file. (Field is optional for claims incurred prior to 1/1/2015)
3)	Unique Plan Identifier	Optional	3	A unique identifier for the plan. If you fill this in, please match the plan ID on the Policy Plan file. Blank if unknown
4)	Claim Status	Required	1	The status code for the claim as of the valuation date. Valid values include: 1 = Open 2 = Closed    You may have additional statuses including in suspense, or in litigation. If you hold a reserve, list as open, otherwise closed.

Field No.	Variable	Required / Optional	Example	Comments
5)	Termination Code	Required on closed claims	1	The reason that the claim was terminated: Blank if Claim Status = 1. Otherwise, valid values include: 1 = Death 2 = Maximum contractual duration (e.g. age 65) reached (this does not include claims reaching internal limits such as Mental & Nervous) 3 = Termination due to expiration of benefits subject to internal limits such as Mental & Nervous 4 = Recovery 5 = Settlement (considered a settlement if the amount paid is in excess of 6 months of monthly benefit)
6)	Date of Birth	Required	19750505	The claimant's date of birth - YYYYMMDD
7)	Date of Disability	Required	20190701	The date that the claimant became disabled - YYYYMMDD
8)	Benefit Commencement Date	Optional	20191001	The effective date of the first payment - YYYYMMDD
9)	First Paid Date	Optional	20191015	The date the first disability payment was made (check cutting date) - YYYYMMDD
10)	Liability Termination Date / Maximum Paid Through Date	Optional	20201201	The date specifying the end of the liability (not the calendar date of the action) - YYYYMMDD
11)	Claim Maximum Date / Contractual Benefit End Date	Optional	20420701	The date that the contractual maximum duration was, or will be, reached <u>not</u> including any internal limits (i.e., Mental & Nervous, Self-reported, etc.) - YYYYMMDD
12)	Sex	Required	1	Valid values include: Blank = Unknown 1 = Male 2 = Female Companies should make every attempt to determine sex for each claim.
13)	Diagnosis Code	Required	I25.118	The original primary ICD-9 or ICD-10 code of the sickness or accident that caused the disability. If not available, current diagnosis code is acceptable.
14)	Diagnosis Code Type	Required	1	Valid values include: Blank = Unknown 1 = ICD-9 2 = ICD-10
15)	Gross Benefit Amount	Required	12523	The base contractual amount of the monthly gross benefit that the claimant is entitled to. If only the current gross benefit amount, including COLA impact, is available, that is acceptable. Integer (e.g., 100000, 45000, etc.)

Field No.	Variable	Required / Optional	Example	Comments
16)	COLA Benefit Indicator	Required	2	Indication as to whether a claim has a COLA benefit of any kind. Valid values include: Blank = Unknown 1 = Yes 2 = No
17)	Claimant Elimination Period	Required	90	The elimination period for the claim expressed in days.
18)	Limited Own Occ Claim Indicator	Required	1	Indication as to whether claim is subject to limited Own Occ period (includes SS definition). Valid values include: Blank = Unknown 1 = Yes 2 = No
19)	Length of Own Occupation Period	Required if Limited Own Occ is Indicator = 1	24	The length of time expressed in months that the claimant is entitled to receive benefits while being unable to perform their own occupation, as specified in the plan. Enter 999 for unlimited.
20)	Mental & Nervous Benefit Limit Indicator	Required	2	Indication as to whether the policy for this claim contains a Mental & Nervous benefit period limit. Valid values include: Blank = Unknown 1 = Yes 2 = No
21)	Mental & Nervous Benefit Period Limit	Required if M & N Benefit Limit Indicator = 1	24	The length of time expressed in months that the claimant is entitled to receive benefits with a Mental & Nervous diagnosis. Enter 999 for unlimited.
22)	Drug & Alcohol Benefit Limit Indicator	Optional	1	Indication as to whether the plan for this claim contains a Drug & Alcohol benefit period limit. Valid values include: Blank = Unknown 1 = Yes 2 = No
23)	Drug & Alcohol Benefit Period Limit	Optional, but only applicable if D & A Benefit Limit Indicator = 1	24	The length of time expressed in months that the claimant is entitled to receive benefits with a Drug & Alcohol diagnosis. Enter 999 for unlimited.
24)	Other Diagnoses Benefit Limit Indicator	Optional	1	Indication as to whether the plan for this claim contains a benefit period limit for diagnoses other than Mental & Nervous or Drug & Alcohol. Valid values include: Blank = Unknown 1 = Yes 2 = No
25)	Other Diagnoses Benefit Period Limit	Optional, but only applicable if other Benefit Limit Indicator = 1	24	The length of time expressed in months that the claimant is entitled to receive benefits subject to benefit period limit for diagnoses other than Mental & Nervous or Drug & Alcohol. Enter 999 for unlimited.

Field No.	Variable	Required / Optional	Example	Comments
26)	STD Indicator	Required	1	This variable should identify LTD claims that are accompanied by an STD claim from your company (including ASO). Valid Values: 1 = with Fully-Insured STD 2 = with ASO STD 3 = with STD, but not known whether ASO or Fully Insured 4 = No STD with your company Blank = Unknown
27)	Taxability of Benefits	Required	T	This variable should indicate the tax status of LTD benefits. T = 100% Taxable N = Non-Taxable P = Partial Taxability Blank = Unknown
28)	Monthly Salary	Required	10000	This variable should show the claimants' pre-disability monthly earnings based on the earnings definitions in the LTD contracts. Integer (e.g., 100000, 45000, etc.) Unknown salaries should be coded as "0"
29)	State of Residence	Required	ME	This variable should indicate claimants' states of residence as of the most recent valuation date. 2-digit alphabetical character (e.g., ME, CA, etc.) Unknown states of residence should be Blank
30)	Current SS Status	Required	Y	SS Status as of Valuation Date (6/30/2023). Treat PERS/STRS as equivalent to SS Y = Yes (approved) N = No Blank = Unknown
31)	SS Award Date	Required	20200101	The date the SS award was approved, or best estimate - YYYYMMDD. If item 30 is N or Blank, this field should be Blank. If item 30 is coded Y and the SS Award Date is unknown, code this field Blank.
32)	Net Benefit	Optional	12523	The current ongoing net monthly benefit that the claimant is entitled to receive. Blank if unknown.
33)	Standard Industrial Classification (SIC) Code	Optional	8049	This variable should identify the industry that a claimant's employer group was operating in as of the LTD date of disability, as defined by the Standard Industrial Classification system. Most recent SIC code is acceptable. 4 Digit numerical character (e.g., 0111, 8211, etc.) Unknown SIC's should be coded as Blank
34)	Case Size	Optional	100	The number of LTD <u>covered</u> lives associated with the group policy (as of most recent date is acceptable). Blank if unknown.

Field No.	Variable	Required / Optional	Example	Comments
35)	Policy ZIP Code	Required	19103	Use the primary policyholder ZIP code. If there are multiple ZIP codes, then choose what you think is most representative of the group.

## Appendix B Mapping of SIC Codes to Industry Categories

Table C.1

### MAPPING OF SIC CODES TO INDUSTRY CATEGORIES<sup>4</sup>

SIC Code: Start of Range	SIC Code: End of Range	Industry Category	Collar Color
0100	0999	A. Agriculture, Forestry, and Fishing	Blue
1000	1499	B. Mining	Blue
1500	1999	C. Construction	Blue
2000	2199	D. Manufacturing - Food	Blue
2200	2699	E. Manufacturing – Clothes, Textile, Wood	Blue
2700	3299	F. Manufacturing – Paper, Drugs	Gray
3300	3699	G. Manufacturing – Heavy, Steel	Blue
3700	3999	H. Manufacturing – Auto, Airplanes, Precision Equipment	Blue
4000	4999	I. Transport, Communication, Utilities	Blue
5000	5199	J. Wholesale Trade	Gray
5200	5999	K. Retail – Trade	Gray
6000	6299	L. Banks and Securities	White
6300	6999	M. Insurance, Other Finance	White
7000	7299	N. Hotels/Personal Services	Gray
7300	7369	O. Misc. Services	Gray
7370	7379	P. Data Processing	White
7380	7389	O. Misc. Services	Gray
7390	7499	P. Data Processing	White
7500	7999	O. Misc. Services	Gray
8000	8049	Q. Doctors’ Offices	White
8050	8099	R. Health Services	Gray
8100	8199	S. Legal Services	White
8200	8299	T. Educational Services	White
8300	8399	U. Social Services	White
8400	8699	V. Museums and Membership Orgs.	White
8700	8999	W. Engineering, Architecture, Business Consulting	White
9000	9799	X. Public Administration	White
9800	9999	Z. Unknown	Unknown

<sup>4</sup> Not all four-digit codes in each range correspond to a valid SIC code. Invalid codes in each range were set to “Z. Unknown.”

## Appendix C Mapping of ICD Codes to Diagnosis Categories

Table C.2

### MAPPING OF ICD-9 CODES TO DIAGNOSIS CATEGORIES

ICD-9 Code: Start of Range	ICD-9 Code: End of Range	Diagnosis Category
001	139	Infectious Diseases
140	209	Cancer
210	229	Other
230	239	Cancer
240	249	Other
250	250	Diabetes
250	278	Other
279	279	Infectious Diseases
280	289	Circulatory
290	319	Mental and Nervous
320	359	Nervous System
360	389	Other
390	459	Circulatory
460	519	Respiratory
520	579	Digestive
580	629	Other
630	679	Maternity
680	709	Other
710	719	Other Musculoskeletal
720	724	Back
725	736	Other Musculoskeletal
737	737	Back
738	739	Other Musculoskeletal
740	759	Other
760	779	Maternity
780	799	Ill-defined and Misc Conditions
800	846	Injury other than back
847	847	Back
848	979	Injury other than back
980	999	Other
E00	E80	Other
E81	E97	Injury other than back
V01	V09	Other
V10	V19	Other
V20	V39	Maternity
V40	V40	Mental and Nervous
V41	V86	Other
V87	V91	Other

**Table C.3**  
**MAPPING OF ICD-10 CODES TO DIAGNOSIS CATEGORIES**

ICD-10 Code: Start of Range	ICD-10 Code: End of Range	Diagnosis Category
A00	B99	Infectious Diseases
C00	D09	Cancer
D10	D36	Other
D37	D49	Cancer
D50	D77	Circulatory
D78	D89	Other
D90	D99	Missing
E00	E07	Other
E08	E13	Diabetes
E14	E14	Missing
E15	E89	Other
E90	E99	Missing
F01	F09	Mental and Nervous
F10	F19	Mental and Nervous
F20	F99	Mental and Nervous
G00	G44	Nervous System
G45	G46	Circulatory
G47	G99	Nervous System
H00	H95	Other
H96	H99	Missing
I00	I99	Circulatory
J00	J99	Respiratory
K00	K95	Digestive
K96	K99	Missing
L00	L99	Other
M00	M36	Other Musculoskeletal
M37	M39	Missing
M40	M41	Back
M42	M42	Other Musculoskeletal
M43	M54	Back
M55	M59	Missing
M60	M95	Other Musculoskeletal
M96	M98	Other
M99	M99	Other Musculoskeletal
N00	N99	Other
O00	P96	Maternity
P97	P99	Missing
Q00	Q99	Other
R00	R99	Ill-defined and Misc Conditions
S00	T50	Injury other than back
T51	T88	Other
T89	U06	Missing
U07	U07	COVID-19
U08	U08	Missing
U09	U09	COVID-19
U10	U99	Missing
V00	Y99	Injury other than back
Z00	Z29	Other
Z30	Z39	Maternity
Z40	Z99	Other

## Appendix D Mapping of States to Geographic Divisions

**Table D.1**

**MAPPING OF STATES TO GEOGRAPHIC DIVISIONS<sup>5</sup>**

State	Geographic Division
Connecticut	New England
Maine	New England
Massachusetts	New England
New Hampshire	New England
Rhode Island	New England
Vermont	New England
New Jersey	Middle Atlantic
New York	Middle Atlantic
Pennsylvania	Middle Atlantic
Indiana	East North Central
Illinois	East North Central
Michigan	East North Central
Ohio	East North Central
Wisconsin	East North Central
Iowa	West North Central
Kansas	West North Central
Minnesota	West North Central
Missouri	West North Central
Nebraska	West North Central
North Dakota	West North Central
South Dakota	West North Central
Delaware	South Atlantic
District of Columbia	South Atlantic
Florida	South Atlantic
Georgia	South Atlantic
Maryland	South Atlantic
North Carolina	South Atlantic
South Carolina	South Atlantic
Virginia	South Atlantic
West Virginia	South Atlantic
Alabama	East South Central
Kentucky	East South Central
Mississippi	East South Central
Tennessee	East South Central
Arkansas	West South Central

<sup>5</sup> U.S. Census Bureau, Census Regions and Divisions of the United States: [https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us\\_regdiv.pdf](https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf)

<b>State</b>	<b>Geographic Division</b>
Louisiana	West South Central
Oklahoma	West South Central
Texas	West South Central
Arizona	Mountain
Colorado	Mountain
Idaho	Mountain
New Mexico	Mountain
Montana	Mountain
Utah	Mountain
Nevada	Mountain
Wyoming	Mountain
Alaska	Pacific
California	Pacific
Hawaii	Pacific
Oregon	Pacific
Washington	Pacific

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