

Mr. HelpMate AI

Query 1: Can insurance coverage continue during an approved leave?

Top 10 Results from the Search Layer for Query-1

```
[49]: # Store the rerank_scores in results_df
results_df['Reranked_scores'] = cross_rerank_scores

print('First Query :: ', query, "\n")

results_df
```

First Query :: Can insurance coverage continue during an approved leave?

| [49]: | Metadatas | Documents | Distances | IDs | Reranked_scores |
|-------|---|-----------|-----------|-----|-----------------|
| 0 | (Policy_Name: 'Principal-Sample-Life-Insuran... Section E - Reinstatement Article 1 - Reinstat... | | 0.706852 | 37 | 4.265057 |
| 1 | (Policy_Name: 'Principal-Sample-Life-Insuran... Section D - Continuation Article 1 - Member Li... | | 0.725815 | 35 | 4.492276 |
| 2 | (Policy_Name: 'Principal-Sample-Life-Insuran... If coverage for a Member or Dependent termina... | | 0.869949 | 38 | -1.844268 |
| 3 | (Page_No.: 'Page 49', Policy_Name: 'Princi... Payment of benefits will be subject to the Ben... | | 0.932137 | 46 | 1.425606 |
| 4 | (Policy_Name: 'Principal-Sample-Life-Insuran... Section B - Effective Dates Article 1 - Member... | | 0.956336 | 25 | -4.858922 |
| 5 | (Policy_Name: 'Principal-Sample-Life-Insuran... A Member's insurance under this Group Policy f... | | 0.980352 | 33 | -2.250910 |
| 6 | (Policy_Name: 'Principal-Sample-Life-Insuran... (1) marriage or establishment of a Civil Union... | | 1.000119 | 29 | -3.089265 |
| 7 | (Page_No.: 'Page 7', Policy_Name: 'Princip... Section A - Eligibility Member Life Insurance ... | | 1.011856 | 4 | -4.348841 |
| 8 | (Page_No.: 'Page 37', Policy_Name: 'Princi... b. a business assignment; or c. full-time stud... | | 1.012933 | 34 | -8.656080 |
| 9 | (Page_No.: 'Page 33', Policy_Name: 'Princi... a. In no event will Dependent Life Insurance ... | | 1.021472 | 30 | -1.559394 |

Top 3 Results Based on Distance and Re-rank for Query-1

```
[50]: # Return the top 3 results from semantic search
top_3_semantic = results_df.sort_values(by='Distances')
top_3_semantic[:3]
```

| [50]: | Metadatas | Documents | Distances | IDs | Reranked_scores |
|-------|---|-----------|-----------|-----|-----------------|
| 0 | (Policy_Name: 'Principal-Sample-Life-Insuran... Section E - Reinstatement Article 1 - Reinstat... | | 0.706852 | 37 | 4.265057 |
| 1 | (Policy_Name: 'Principal-Sample-Life-Insuran... Section D - Continuation Article 1 - Member Li... | | 0.725815 | 35 | 4.492276 |
| 2 | (Policy_Name: 'Principal-Sample-Life-Insuran... If coverage for a Member or Dependent termina... | | 0.869949 | 38 | -1.844268 |

```
[51]: # Return the top 3 results after reranking
top_3_rerank = results_df.sort_values(by='Reranked_scores', ascending=False)
top_3_rerank[:3]
```

| [51]: | Metadatas | Documents | Distances | IDs | Reranked_scores |
|-------|---|-----------|-----------|-----|-----------------|
| 1 | (Policy_Name: 'Principal-Sample-Life-Insuran... Section D - Continuation Article 1 - Member Li... | | 0.725815 | 35 | 4.492276 |
| 0 | (Policy_Name: 'Principal-Sample-Life-Insuran... Section E - Reinstatement Article 1 - Reinstat... | | 0.706852 | 37 | 4.265057 |
| 3 | (Page_No.: 'Page 49', Policy_Name: 'Princi... Payment of benefits will be subject to the Ben... | | 0.932137 | 46 | 1.425606 |

Final Generated Answer from the Generation Layer for Query-1

```
[68]: # Generate the response - For Query 1
response = generate_response(query, top_3_RAG_query1)
print("-"*80,"\n","-"*78)
print('Query 1: ',query)
print("-"*80,"\n","-"*78,"\n")

# Print the response
print('\n'.join(response))
```

Query 1: Can insurance coverage continue during an approved leave?

Yes, insurance coverage can continue during an approved leave of absence. According to the policy excerpt, if active work ends because a member is on layoff or an approved leave of absence, their insurance may be continued until the earliest of:

1. The date insurance would otherwise cease.
2. The date the leave of absence ends.
3. The date the member becomes eligible for any other group life coverage.
4. One month after the date active work ends.

Additionally, if a member's leave of absence is due to the Family and Medical Leave Act (FMLA), the policyholder may choose to continue the member's insurance, provided that premiums are paid.

Citations:
- Principal-Sample-Life-Insurance-Policy, Page 38

Query 2: Are there age-based reductions in benefit amounts?

Top 10 Results from the Search Layer for Query-2

```
[55]: # Store the rerank_scores in results_df
results_df2['Reranked_scores'] = cross_rerank_scores2

print("Second Query :: ", query2 , "\n")

results_df2
```

Second Query :: Are there age-based reductions in benefit amounts?

```
[55]:
```

| | Metadatas | Documents | Distances | IDs | Reranked_scores |
|---|---|-----------|-----------|------------|-----------------|
| 0 | {'Policy_Name': 'Principal-Sample-Life-Insuran...', (6) If, on the date a Member becomes eligible ... | 0.927741 | 27 | 2.236157 | |
| 1 | {'Policy_Name': 'Principal-Sample-Life-Insuran...', Scheduled Benefit in force for the Member befo... | 0.991921 | 28 | -1.479350 | |
| 2 | {'Page_No.': 'Page 32', 'Policy_Name': 'Princi...', (1) marriage or establishment of a Civil Union... | 1.054535 | 29 | -6.517879 | |
| 3 | {'Page_No.': 'Page 46', 'Policy_Name': 'Princi...', PART IV - BENEFITS Section A - Member Life Ins... | 1.094952 | 43 | -0.998029 | |
| 4 | {'Policy_Name': 'Principal-Sample-Life-Insuran...', (1) If termination is as described in b. (1) a... | 1.101119 | 42 | -7.997163 | |
| 5 | {'Policy_Name': 'Principal-Sample-Life-Insuran...', Coverage During Disability will cease on the e... | 1.105354 | 48 | -5.550978 | |
| 6 | {'Policy_Name': 'Principal-Sample-Life-Insuran...', Section C - Dependent Life Insurance Article 1... | 1.116788 | 56 | -4.174706 | |
| 7 | {'Policy_Name': 'Principal-Sample-Life-Insuran...', (1) the child is incapable of self-support as ... | 1.140166 | 36 | -10.825476 | |
| 8 | {'Page_No.': 'Page 33', 'Policy_Name': 'Princi...', a . In no event will Dependent Life Insurance ... | 1.146286 | 30 | -5.999030 | |
| 9 | {'Policy_Name': 'Principal-Sample-Life-Insuran...', (1) only one Accelerated Benefit payment will ... | 1.152514 | 49 | -3.677350 | |

Top 3 Results Based on Distance and Re-rank for Query-2

```
[56]: # Return the top 3 results from semantic search
top_3_semantic2_query2 = results_df2.sort_values(by='Distances')
top_3_semantic2_query2[:3]
```

```
[56]:
```

| | Metadatas | Documents | Distances | IDs | Reranked_scores |
|---|---|---|-----------|-----|-----------------|
| 0 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | (6) If, on the date a Member becomes eligible ... | 0.927741 | 27 | 2.236157 |
| 1 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | Scheduled Benefit in force for the Member befo... | 0.991921 | 28 | -1.479350 |
| 2 | ('Page_No.': 'Page 32', 'Policy_Name': 'Prind... | (1) marriage or establishment of a Civil Union... | 1.054535 | 29 | -6.517879 |

```
[57]: # Return the top 3 results after reranking
top_3_rerank_query2 = results_df2.sort_values(by='Reranked_scores', ascending=False)
top_3_rerank_query2[:3]
```

```
[57]:
```

| | Metadatas | Documents | Distances | IDs | Reranked_scores |
|---|---|---|-----------|-----|-----------------|
| 0 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | (6) If, on the date a Member becomes eligible ... | 0.927741 | 27 | 2.236157 |
| 3 | ('Page_No.': 'Page 46', 'Policy_Name': 'Prind... | PART IV - BENEFITS Section A - Member Life Ins... | 1.094952 | 43 | -0.998029 |
| 1 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | Scheduled Benefit in force for the Member befo... | 0.991921 | 28 | -1.479350 |

Final Generated Answer from the Generation Layer for Query-2

```
[69]: # Generate the response - For Query 2
response2 = generate_response(query2, top_3_RAG_query2)
print("-"*80, "\n", "-"*78)
print("Query 2: ", query2)
print("-"*80, "\n", "-"*78, "\n")

# Print the response
print("\n".join(response2))
```

Query 2: Are there age-based reductions in benefit amounts?

Yes, there are age-based reductions in benefit amounts. According to the policy, the amount of a Member's insurance will be reduced based on their age as follows:

| Age Range | % of Scheduled Benefit |
|-----------------------------|------------------------|
| Age 70 but less than age 75 | 65% |
| Age 75 and over | 45% |

Citations:

- Principal-Sample-Life-Insurance-Policy, Page 46

Query 3: What are the policy exclusions under Accidental Death insurance?

Top 10 Results from the Search Layer for Query-3

```
[61]: # Store the rerank_scores in results_df
results_df3['Reranked_scores'] = cross_rerank_scores3

print("Third Query :: ", query3, "\n")

results_df3
```

Third Query :: What are the policy exclusions under Accidental Death insurance?

```
[61]:
```

| | IDs | Documents | Distances | Metadatas | Reranked_scores |
|---|-----|---|--------------------|---|-----------------|
| 0 | 5 | f. claim requirements listed in PART IV, Sect... | 0.9224141836166382 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | -3.406060 |
| 1 | 48 | Coverage During Disability will cease on the e... | 0.9766375422477722 | ('Page_No.': 'Page 8', 'Policy_Name': 'Princip... | -10.266796 |
| 2 | 52 | Section A – Eligibility Member Life Insurance ... | 0.8257278203964233 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | -1.210639 |
| 3 | 46 | Section 8 - Member Accidental Death and Dismem... | 0.9571272730827332 | ('Page_No.': 'Page 58', 'Policy_Name': 'Princi... | 0.404206 |
| 4 | 54 | Payment of benefits will be subject to the Ben... | 0.9208610653877258 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | 0.237237 |
| 5 | 4 | % of Scheduled Covered Loss Benefit Loss of Sp... | 0.9734508991241455 | ('Page_No.': 'Page 49', 'Policy_Name': 'Princi... | -3.516996 |
| 6 | 51 | a. willful self-injury or self-destruction, wh... | 0.9567238688468933 | ('Page_No.': 'Page 51', 'Policy_Name': 'Princi... | -2.756032 |
| 7 | 50 | If a Member sustains an injury, and as a resul... | 0.8660002946853638 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | -1.612845 |
| 8 | 53 | Exposure Exposure to the elements will be pres... | 0.982839822769165 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | 0.032370 |
| 9 | 55 | Section A - Member Life Insurance Schedule of ... | 0.8787118792533875 | ('Page_No.': 'Page 57', 'Policy_Name': 'Princi... | -1.679972 |

Top 3 Results Based on Distance and Re-rank for Query-3

```
[62]: # Return the top 3 results from semantic search
top_3_semantic_query3 = results_df3.sort_values(by='Distances')
top_3_semantic_query3[:3]
```

```
[62]:
```

| | IDs | Documents | Distances | Metadatas | Reranked_scores |
|---|-----|---|--------------------|---|-----------------|
| 2 | 52 | Section A – Eligibility Member Life Insurance ... | 0.8257278203964233 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | -1.210639 |
| 7 | 50 | If a Member sustains an injury, and as a resul... | 0.8660002946853638 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | -1.612845 |
| 9 | 55 | Section A - Member Life Insurance Schedule of ... | 0.8787118792533875 | ('Page_No.': 'Page 57', 'Policy_Name': 'Princi... | -1.679972 |

```
[63]: # Return the top 3 results after reranking
top_3_rerank_query3 = results_df3.sort_values(by='Reranked_scores', ascending=False)
top_3_rerank_query3[:3]
```

```
[63]:
```

| | IDs | Documents | Distances | Metadatas | Reranked_scores |
|---|-----|---|--------------------|---|-----------------|
| 3 | 46 | Section 8 - Member Accidental Death and Dismem... | 0.9571272730827332 | ('Page_No.': 'Page 58', 'Policy_Name': 'Princi... | 0.404206 |
| 4 | 54 | Payment of benefits will be subject to the Ben... | 0.9208610653877258 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | 0.237237 |
| 8 | 53 | Exposure Exposure to the elements will be pres... | 0.982839822769165 | ('Policy_Name': 'Principal-Sample-Life-Insuran... | 0.032370 |

Final Generated Answer from the Generation Layer for Query-3

```
[70]: # Generate the response - For Query 3
response3 = generate_response(query3, top_3_RAG_query3)
print("-"*80,"\\n",-*78)
print("Query 3: ",query3)
print("-"*80,"\\n",-*78,"\\n")

# Print the response
print("\\n".join(response3))
```

Query 3: What are the policy exclusions under Accidental Death insurance?

The policy exclusions under Accidental Death insurance specified in the excerpts include the following key requirements for benefit qualification:

1. The injury must be through external, violent, and accidental means.
2. The injury must be the direct and sole cause of a loss listed in the insurance policy.
3. The loss must occur within 365 days of the injury.
4. Limitations listed in the policy must not apply.

Specific exclusions that are typically outlined in other sections of an insurance policy may not be directly mentioned in the provided documents, but ensure that all conditions are met for a claim to be valid.

Citations:

- Principal-Sample-Life-Insurance-Policy, Page 58
- Principal-Sample-Life-Insurance-Policy, Page 56

😊 Thank-you 😊