

```
In [5]: import os
import json

#LangChain imports
from langchain import PromptTemplate, LLMChain
from langchain_openai import ChatOpenAI
from langchain.text_splitter import CharacterTextSplitter
```

```
In [4]: %pip install langchain-community
%pip install -U langchain-openai
```

```

Collecting langchain-community
  Downloading langchain_community-0.3.19-py3-none-any.whl.metadata (2.4 kB)
Collecting langchain-core<1.0.0,>=0.3.41 (from langchain-community)
  Downloading langchain_core-0.3.41-py3-none-any.whl.metadata (5.9 kB)
Collecting langchain<1.0.0,>=0.3.20 (from langchain-community)
  Downloading langchain-0.3.20-py3-none-any.whl.metadata (7.7 kB)
Collecting SQLAlchemy<3,>=1.4 (from langchain-community)
  Downloading SQLAlchemy-2.0.38-cp312-cp312-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (9.6 kB)
Requirement already satisfied: requests<3,>=2 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-community) (2.32.3)
Requirement already satisfied: PyYAML>=5.3 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-community) (6.0.2)
Collecting aiohttp<4.0.0,>=3.8.3 (from langchain-community)
  Downloading aiohttp-3.11.13-cp312-cp312-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (7.7 kB)
Requirement already satisfied: tenacity!=8.4.0,<10,>=8.1.0 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-community) (9.0.0)
Collecting dataclasses-json<0.7,>=0.5.7 (from langchain-community)
  Downloading dataclasses_json-0.6.7-py3-none-any.whl.metadata (25 kB)
Collecting pydantic-settings<3.0.0,>=2.4.0 (from langchain-community)
  Downloading pydantic_settings-2.8.1-py3-none-any.whl.metadata (3.5 kB)
Collecting langsmith<0.4,>=0.1.125 (from langchain-community)
  Downloading langsmith-0.3.12-py3-none-any.whl.metadata (14 kB)
Collecting httpx-sse<1.0.0,>=0.4.0 (from langchain-community)
  Downloading httpx_sse-0.4.0-py3-none-any.whl.metadata (9.0 kB)
Requirement already satisfied: numpy<3,>=1.26.2 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-community) (2.2.0)
Collecting aiohappyeyeballs>=2.3.0 (from aiohttp<4.0.0,>=3.8.3->langchain-community)
  Downloading aiohappyeyeballs-2.5.0-py3-none-any.whl.metadata (5.9 kB)
Collecting aiosignal>=1.1.2 (from aiohttp<4.0.0,>=3.8.3->langchain-community)
  Downloading aiosignal-1.3.2-py2.py3-none-any.whl.metadata (3.8 kB)
Requirement already satisfied: attrs>=17.3.0 in /home/codespace/.local/lib/python3.12/site-packages (from aiohttp<4.0.0,>=3.8.3->langchain-community) (24.2.0)
Collecting frozenlist>=1.1.1 (from aiohttp<4.0.0,>=3.8.3->langchain-community)
  Downloading frozenlist-1.5.0-cp312-cp312-manylinux_2_5_x86_64.manylinux1_x86_64.manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (13 kB)
Collecting multidict<7.0,>=4.5 (from aiohttp<4.0.0,>=3.8.3->langchain-community)
  Downloading multidict-6.1.0-cp312-cp312-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (5.0 kB)
Collecting propcache>=0.2.0 (from aiohttp<4.0.0,>=3.8.3->langchain-community)
  Downloading propcache-0.3.0-cp312-cp312-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (10 kB)
Collecting yarl<2.0,>=1.17.0 (from aiohttp<4.0.0,>=3.8.3->langchain-community)
  Downloading yarl-1.18.3-cp312-cp312-manylinux_2_17_x86_64.manylinux2014_x86_64.whl.metadata (69 kB)
Collecting marshmallow<4.0.0,>=3.18.0 (from dataclasses-json<0.7,>=0.5.7->langchain-community)
  Downloading marshmallow-3.26.1-py3-none-any.whl.metadata (7.3 kB)

```

Collecting typing-inspect<1,>=0.4.0 (from dataclasses-json<0.7,>=0.5.7->langchain-community)  
 Downloading typing\_inspect-0.9.0-py3-none-any.whl.metadata (1.5 kB)  
 Collecting langchain-text-splitters<1.0.0,>=0.3.6 (from langchain<1.0.0,>=0.3.20->langchain-community)  
 Downloading langchain\_text\_splitters-0.3.6-py3-none-any.whl.metadata (1.9 kB)  
 Collecting pydantic<3.0.0,>=2.7.4 (from langchain<1.0.0,>=0.3.20->langchain-community)  
 Downloading pydantic-2.10.6-py3-none-any.whl.metadata (30 kB)  
 Collecting jsonpatch<2.0,>=1.33 (from langchain-core<1.0.0,>=0.3.41->langchain-community)  
 Downloading jsonpatch-1.33-py2.py3-none-any.whl.metadata (3.0 kB)  
 Requirement already satisfied: packaging<25,>=23.2 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.41->langchain-community) (24.2)  
 Requirement already satisfied: typing-extensions>=4.7 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.41->langchain-community) (4.12.2)  
 Requirement already satisfied: httpx<1,>=0.23.0 in /home/codespace/.local/lib/python3.12/site-packages (from langsmith<0.4,>=0.1.125->langchain-community) (0.28.1)  
 Collecting orjson<4.0.0,>=3.9.14 (from langsmith<0.4,>=0.1.125->langchain-community)  
 Downloading orjson-3.10.15-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl.metadata (41 kB)  
 Collecting requests-toolbelt<2.0.0,>=1.0.0 (from langsmith<0.4,>=0.1.125->langchain-community)  
 Downloading requests\_toolbelt-1.0.0-py2.py3-none-any.whl.metadata (14 kB)  
 Collecting zstandard<0.24.0,>=0.23.0 (from langsmith<0.4,>=0.1.125->langchain-community)  
 Downloading zstandard-0.23.0-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl.metadata (3.0 kB)  
 Collecting python-dotenv>=0.21.0 (from pydantic-settings<3.0.0,>=2.4.0->langchain-community)  
 Downloading python\_dotenv-1.0.1-py3-none-any.whl.metadata (23 kB)  
 Requirement already satisfied: charset-normalizer<4,>=2 in /home/codespace/.local/lib/python3.12/site-packages (from requests<3,>=2->langchain-community) (3.4.0)  
 Requirement already satisfied: idna<4,>=2.5 in /home/codespace/.local/lib/python3.12/site-packages (from requests<3,>=2->langchain-community) (3.10)  
 Requirement already satisfied: urllib3<3,>=1.21.1 in /home/codespace/.local/lib/python3.12/site-packages (from requests<3,>=2->langchain-community) (2.2.3)  
 Requirement already satisfied: certifi>=2017.4.17 in /home/codespace/.local/lib/python3.12/site-packages (from requests<3,>=2->langchain-community) (2024.8.30)  
 Collecting greenlet!=0.4.17 (from SQLAlchemy<3,>=1.4->langchain-community)  
 Downloading greenlet-3.1.1-cp312-cp312-manylinux\_2\_24\_x86\_64.manylinux2\_28\_x86\_64.whl.metadata (3.8 kB)  
 Requirement already satisfied: anyio in /home/codespace/.local/lib/python3.12/site-packages (from httpx<1,>=0.23.0->langsmith<0.4,>=0.1.125->langchain-community) (4.7.0)  
 Requirement already satisfied: httpcore==1.\* in /home/codespace/.local/lib/python3.12/site-packages (from httpx<1,>=0.23.0->langsmith<0.4,>=0.1.125->langchain-community) (1.0.7)

Requirement already satisfied: h11<0.15,>=0.13 in /home/codespace/.local/lib/python3.12/site-packages (from httpcore==1.\*->httpx<1,>=0.23.0->langsmith<0.4,>=0.1.125->langchain-community) (0.14.0)

Requirement already satisfied: jsonpointer>=1.9 in /home/codespace/.local/lib/python3.12/site-packages (from jsonpatch<2.0,>=1.33->langchain-core<1.0.0,>=0.3.41->langchain-community) (3.0.0)

Collecting annotated-types>=0.6.0 (from pydantic<3.0.0,>=2.7.4->langchain<1.0.0,>=0.3.20->langchain-community)

Downloading annotated\_types-0.7.0-py3-none-any.whl.metadata (15 kB)

Collecting pydantic-core==2.27.2 (from pydantic<3.0.0,>=2.7.4->langchain<1.0.0,>=0.3.20->langchain-community)

Downloading pydantic\_core-2.27.2-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl.metadata (6.6 kB)

Collecting mpy-extensions>=0.3.0 (from typing-inspect<1,>=0.4.0->dataclasses-json<0.7,>=0.5.7->langchain-community)

Downloading mpy\_extensions-1.0.0-py3-none-any.whl.metadata (1.1 kB)

Requirement already satisfied: sniffio>=1.1 in /home/codespace/.local/lib/python3.12/site-packages (from anyio->httpx<1,>=0.23.0->langsmith<0.4,>=0.1.125->langchain-community) (1.3.1)

Downloading langchain\_community-0.3.19-py3-none-any.whl (2.5 MB)

2.5/2.5 MB 53.4 MB/s eta 0:00:00

Downloading aiohttp-3.11.13-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (1.7 MB)

1.7/1.7 MB 46.0 MB/s eta 0:00:00

Downloading dataclasses\_json-0.6.7-py3-none-any.whl (28 kB)

Downloading httpx\_sse-0.4.0-py3-none-any.whl (7.8 kB)

Downloading langchain-0.3.20-py3-none-any.whl (1.0 MB)

1.0/1.0 MB 38.0 MB/s eta 0:00:00

Downloading langchain\_core-0.3.41-py3-none-any.whl (415 kB)

Downloading langsmith-0.3.12-py3-none-any.whl (335 kB)

Downloading pydantic\_settings-2.8.1-py3-none-any.whl (30 kB)

Downloading SQLAlchemy-2.0.38-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (3.3 MB)

3.3/3.3 MB 50.1 MB/s eta 0:00:00

Downloading aiohappyeyeballs-2.5.0-py3-none-any.whl (15 kB)

Downloading aiosignal-1.3.2-py2.py3-none-any.whl (7.6 kB)

Downloading frozenlist-1.5.0-cp312-cp312-manylinux\_2\_5\_x86\_64.manylinux1\_x86\_64.manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (283 kB)

Downloading greenlet-3.1.1-cp312-cp312-manylinux\_2\_24\_x86\_64.manylinux\_2\_28\_x86\_64.whl (613 kB)

613.1/613.1 kB 27.0 MB/s eta 0:00:00

0:00

Downloading jsonpatch-1.33-py2.py3-none-any.whl (12 kB)

Downloading langchain\_text\_splitters-0.3.6-py3-none-any.whl (31 kB)

Downloading marshmallow-3.26.1-py3-none-any.whl (50 kB)

Downloading multidict-6.1.0-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (131 kB)

Downloading orjson-3.10.15-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (130 kB)

Downloading propcache-0.3.0-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (243 kB)

Downloading pydantic-2.10.6-py3-none-any.whl (431 kB)

Downloading pydantic\_core-2.27.2-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (2.0 MB)

2.0/2.0 MB 45.7 MB/s eta 0:00:00

Downloading python\_dotenv-1.0.1-py3-none-any.whl (19 kB)

Downloading requests\_toolbelt-1.0.0-py2.py3-none-any.whl (54 kB)  
 Downloading typing\_inspect-0.9.0-py3-none-any.whl (8.8 kB)  
 Downloading yarl-1.18.3-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (336 kB)  
 Downloading zstandard-0.23.0-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (5.4 MB)

5.4/5.4 MB 48.2 MB/s eta 0:00:00

Downloading annotated\_types-0.7.0-py3-none-any.whl (13 kB)  
 Downloading mypy\_extensions-1.0.0-py3-none-any.whl (4.7 kB)  
 Installing collected packages: zstandard, python-dotenv, pydantic-core, propcache, orjson, mypy\_extensions, multidict, marshmallow, jsonpatch, httpx-sse, greenlet, frozenlist, annotated-types, aiohappyeyeballs, yarl, typing-inspect, SQLAlchemy, requests-toolbelt, pydantic, aiosignal, pydantic-settings, langsmith, dataclasses-json, aiohttp, langchain-core, langchain-text-splitters, langchain, langchain-community  
 Successfully installed SQLAlchemy-2.0.38 aiohappyeyeballs-2.5.0 aiohttp-3.11.13 aiosignal-1.3.2 annotated-types-0.7.0 dataclasses-json-0.6.7 frozenlist-1.5.0 greenlet-3.1.1 httpx-sse-0.4.0 jsonpatch-1.33 langchain-0.3.20 langchain-community-0.3.19 langchain-core-0.3.41 langchain-text-splitters-0.3.6 langsmith-0.3.12 marshmallow-3.26.1 multidict-6.1.0 mypy\_extensions-1.0.0 orjson-3.10.15 propcache-0.3.0 pydantic-2.10.6 pydantic-core-2.27.2 pydantic-settings-2.8.1 python-dotenv-1.0.1 requests-toolbelt-1.0.0 typing-inspect-0.9.0 yarl-1.18.3 zstandard-0.23.0

[notice] A new release of pip is available: 24.3.1 -> 25.0.1

[notice] To update, run: `pip install --upgrade pip`

Note: you may need to restart the kernel to use updated packages.

Collecting langchain-openai

Downloading langchain\_openai-0.3.7-py3-none-any.whl.metadata (2.3 kB)

Requirement already satisfied: langchain-core<1.0.0,>=0.3.39 in /home/codespace/.python/current/lib/python3.12/site-packages (from langchain-openai) (0.3.41)

Collecting openai<2.0.0,>=1.58.1 (from langchain-openai)

Downloading openai-1.65.4-py3-none-any.whl.metadata (27 kB)

Collecting tiktoken<1,>=0.7 (from langchain-openai)

Downloading tiktoken-0.9.0-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl.metadata (6.7 kB)

Requirement already satisfied: langsmith<0.4,>=0.1.125 in /home/codespace/.python/current/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.39->langchain-openai) (0.3.12)

Requirement already satisfied: tenacity!=8.4.0,<10.0.0,>=8.1.0 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.39->langchain-openai) (9.0.0)

Requirement already satisfied: jsonpatch<2.0,>=1.33 in /home/codespace/.python/current/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.39->langchain-openai) (1.33)

Requirement already satisfied: PyYAML>=5.3 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.39->langchain-openai) (6.0.2)

Requirement already satisfied: packaging<25,>=23.2 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.39->langchain-openai) (24.2)

Requirement already satisfied: typing-extensions>=4.7 in /home/codespace/.local/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.39->langchain-openai) (4.12.2)

Requirement already satisfied: pydantic<3.0.0,>=2.5.2 in /home/codespace/.py

thon/current/lib/python3.12/site-packages (from langchain-core<1.0.0,>=0.3.39->langchain-openai) (2.10.6)  
Requirement already satisfied: anyio<5,>=3.5.0 in /home/codespace/.local/lib/python3.12/site-packages (from openai<2.0.0,>=1.58.1->langchain-openai) (4.7.0)  
Collecting distro<2,>=1.7.0 (from openai<2.0.0,>=1.58.1->langchain-openai)  
  Downloading distro-1.9.0-py3-none-any.whl.metadata (6.8 kB)  
Requirement already satisfied: httpx<1,>=0.23.0 in /home/codespace/.local/lib/python3.12/site-packages (from openai<2.0.0,>=1.58.1->langchain-openai) (0.28.1)  
Collecting jiter<1,>=0.4.0 (from openai<2.0.0,>=1.58.1->langchain-openai)  
  Downloading jiter-0.8.2-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl.metadata (5.2 kB)  
Requirement already satisfied: sniffio in /home/codespace/.local/lib/python3.12/site-packages (from openai<2.0.0,>=1.58.1->langchain-openai) (1.3.1)  
Collecting tqdm>4 (from openai<2.0.0,>=1.58.1->langchain-openai)  
  Downloading tqdm-4.67.1-py3-none-any.whl.metadata (57 kB)  
Collecting regex>=2022.1.18 (from tiktoken<1,>=0.7->langchain-openai)  
  Downloading regex-2024.11.6-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl.metadata (40 kB)  
Requirement already satisfied: requests>=2.26.0 in /home/codespace/.local/lib/python3.12/site-packages (from tiktoken<1,>=0.7->langchain-openai) (2.32.3)  
Requirement already satisfied: idna>=2.8 in /home/codespace/.local/lib/python3.12/site-packages (from anyio<5,>=3.5.0->openai<2.0.0,>=1.58.1->langchain-openai) (3.10)  
Requirement already satisfied: certifi in /home/codespace/.local/lib/python3.12/site-packages (from httpx<1,>=0.23.0->openai<2.0.0,>=1.58.1->langchain-openai) (2024.8.30)  
Requirement already satisfied: httpcore==1.\* in /home/codespace/.local/lib/python3.12/site-packages (from httpx<1,>=0.23.0->openai<2.0.0,>=1.58.1->langchain-openai) (1.0.7)  
Requirement already satisfied: h11<0.15,>=0.13 in /home/codespace/.local/lib/python3.12/site-packages (from httpcore==1.\*->httpx<1,>=0.23.0->openai<2.0.0,>=1.58.1->langchain-openai) (0.14.0)  
Requirement already satisfied: jsonpointer>=1.9 in /home/codespace/.local/lib/python3.12/site-packages (from jsonpatch<2.0,>=1.33->langchain-core<1.0.0,>=0.3.39->langchain-openai) (3.0.0)  
Requirement already satisfied: orjson<4.0.0,>=3.9.14 in /home/codespace/.python/current/lib/python3.12/site-packages (from langsmith<0.4,>=0.1.125->langchain-core<1.0.0,>=0.3.39->langchain-openai) (3.10.15)  
Requirement already satisfied: requests-toolbelt<2.0.0,>=1.0.0 in /home/codespace/.python/current/lib/python3.12/site-packages (from langsmith<0.4,>=0.1.125->langchain-core<1.0.0,>=0.3.39->langchain-openai) (1.0.0)  
Requirement already satisfied: zstandard<0.24.0,>=0.23.0 in /home/codespace/.python/current/lib/python3.12/site-packages (from langsmith<0.4,>=0.1.125->langchain-core<1.0.0,>=0.3.39->langchain-openai) (0.23.0)  
Requirement already satisfied: annotated-types>=0.6.0 in /home/codespace/.python/current/lib/python3.12/site-packages (from pydantic<3.0.0,>=2.5.2->langchain-core<1.0.0,>=0.3.39->langchain-openai) (0.7.0)  
Requirement already satisfied: pydantic-core==2.27.2 in /home/codespace/.python/current/lib/python3.12/site-packages (from pydantic<3.0.0,>=2.5.2->langchain-core<1.0.0,>=0.3.39->langchain-openai) (2.27.2)  
Requirement already satisfied: charset-normalizer<4,>=2 in /home/codespace/.local/lib/python3.12/site-packages (from requests>=2.26.0->tiktoken<1,>=0.7->langchain-openai) (3.4.0)

Requirement already satisfied: urllib3<3,>=1.21.1 in /home/codespace/.local/lib/python3.12/site-packages (from requests>=2.26.0->tiktoken<1,>=0.7->langchain-openai) (2.2.3)

Downloading langchain\_openai-0.3.7-py3-none-any.whl (55 kB)

Downloading openai-1.65.4-py3-none-any.whl (473 kB)

Downloading tiktoken-0.9.0-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (1.2 MB)

1.2/1.2 MB 18.4 MB/s eta 0:00:00

Downloading distro-1.9.0-py3-none-any.whl (20 kB)

Downloading jiter-0.8.2-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (345 kB)

Downloading regex-2024.11.6-cp312-cp312-manylinux\_2\_17\_x86\_64.manylinux2014\_x86\_64.whl (796 kB)

796.9/796.9 kB 19.5 MB/s eta 0:00:00

Downloading tqdm-4.67.1-py3-none-any.whl (78 kB)

Installing collected packages: tqdm, regex, jiter, distro, tiktoken, openai, langchain-openai

Successfully installed distro-1.9.0 jiter-0.8.2 langchain-openai-0.3.7 openai-1.65.4 regex-2024.11.6 tiktoken-0.9.0 tqdm-4.67.1

[notice] A new release of pip is available: 24.3.1 -> 25.0.1

[notice] To update, run: `pip install --upgrade pip`

Note: you may need to restart the kernel to use updated packages.

```
In [ ]: os.environ["OPENAI_API_KEY"] = "secret"
```

```
In [7]: #4o the best model available for us
llm = ChatOpenAI(
    model_name="gpt-4",
    temperature=0 #For consistent, fact-based responses
)
```

```
In [11]: #this is used to store our entire article, if we want more articles follow t
#however if we have an article with more than 8k characters, chat 4o has a c
#into chunks if needed
article_text = """
The price hikes began in 2007, modest at first, then exploding in size.

By last summer, the long-term care insurance plan Steve Krasinski paid $750

And that's after he slashed his benefits that help cover home care and nursi

Although he has reached an age where he's more likely to need that coverage,

"We felt that, OK, we'll help protect ourselves, and we'll save the state sc

"If I keep this up, I'm going to go broke. I wish I never bought the policy.

Krasinski is one of nearly 100,000 people in Connecticut who have long-term

Many purchased the plans in the 1980s, 1990s or early 2000s with the underst

But in recent years, the annual cost of maintaining these plans has skyrocket
```

As costs rise and consumers are squeezed, grievances filed with the Connecticut Department of Insurance have increased. When a premium hike exceeds 20%, Connecticut law requires insurers to spread the cost. The options for struggling plan holders are bleak. Dropping the coverage could mean losing access to care. To curb swelling premiums, consumers can reduce their benefits, as Krasinski said. “Basically, I gutted my policy so I could stay with it,” he said.

But even with fewer benefits, many are still dealing with price hikes.

The early missteps in estimating how costs would unfold created a system that is difficult to fix.

“Let’s be blunt,” Connecticut Insurance Commissioner Andrew Mais said, “there’s no easy fix.”

To bolster the need for price hikes, carriers threaten that policies could be canceled if rates aren’t raised.

State Comptroller Sean Scanlon, who helped lead the Insurance and Real Estate Reform Commission, said the problem is deep.

“It was, ‘Hey, we’re not in Connecticut, but we’re not going to service anyone else,’” he said.

Eric George, president of the Insurance Association of Connecticut, acknowledged the industry’s role.

“There were mistakes made in terms of how many people they expected to drop out,” he said.

George said he understands consumers’ anger.

“You will always have people upset and understandably so when the cost of care goes up,” he said.

But some have expressed outrage at executive pay among insurers as they continue to raise rates.

Thomas McInerney, CEO of Genworth Financial, one of the largest providers of long-term care insurance, said:

Gary C. Bhojwani, the CEO of CNO Financial Group, the parent company of Bank of America, said:

State officials have hit a wall trying to find solutions.

The issue has stymied lawmakers, who in the last six years introduced more than 100 bills.

Legislators fielding complaints about cost increases have tried to create task forces and commissions.

The high costs associated with some of this legislation have snarled progress.

And while residents facing price hikes for health insurance have the Office of Consumer Protection, they don’t have a similar office for long-term care.

Lawmakers acknowledge the General Assembly has dropped the ball on major reform.

“This is one of the most significant problems for our seniors,” said Sen. Sam Haddad.

“Frankly, we failed them.”

“It’s almost like modern day snake oil sales in that you’re paying a premium for something that doesn’t work,” he said.

Finding innovative ways to pay for elder care has taken on fresh urgency with the state’s aging population.



Across the U.S., the 85-and-older population is expected to more than double. It's also sixth in the U.S. for Medicaid dollars spent on long-term care services. While many of the insurers selling or maintaining long-term care policies are profitable, policyholders are calling on lawmakers and Gov. Ned Lamont to give the issue more attention. "They're supposed to be looking out for the best interests of their citizens," he said. "It's a death spiral," he added. "So why does the government allow companies to do this?"

### Costs rising

At its peak in 2008, long-term care insurance covered more than 112,000 people in Connecticut. Nationally, about 6 million people are covered by traditional long-term care insurance. While some people have dropped plans due to cost, enrollment also dipped during the pandemic. When long-term care insurance was first introduced, it was marketed mainly to middle-class people. "The original price for long-term care was not based upon any type of insurance," he said. A combination of lower-than-expected interest rates and more people than anticipated buying policies led to a crisis. "When this was priced 25, 30 years ago, you never anticipated somebody being 85 and needing long-term care," he said. Insurers had not counted on so many consumers maintaining their coverage. The industry's financial problems led to a series of rate increases. All of those issues resulted in the push for annual premium increases.

A CT Mirror analysis of rate hikes from January 2019 to October 2024 shows more than 100,000 people affected. When large providers seek premium increases, thousands of consumers can be impacted. The Department of Insurance approved both requests with no changes.

In 2022, Genworth raised rates for more than 2,000 people by an average of 9%. But some increases that affected fewer Connecticut consumers over the last few years. In reviewing rate requests, Mais said his department looks at market conduct, financial strength and consumer affordability. "Approving significant increases is never something we do lightly," he said. Consumer affordability, however, is not a consideration in the rate review process.

### 'It spoils your life'

Since mid-2018, the farthest back the Connecticut insurance department keeps records, 149 people submitted grievances. In 2023 alone, 149 people submitted grievances.

In interviews with the CT Mirror, policyholders, many of them older adults with limited income, shared their struggles. Adriana Falcón Trafford, 90, paid \$2,600 annually for her policy when she signed up in 2010. She said she was told the policy would pay for her long-term care needs.

“They sometimes want to double it right away,” she said. “Practically every  
“The longer you live, the fewer resources you have. If they want more money  
Frederick DiMella of Waterford has held onto his coverage for more than 20 y  
DiMella wrote letters to his congressman, the insurance department, state la  
“Everything is done either in the state’s favor or in the insurance companie  
Cathleen Stark volunteered as a promoter for Connecticut’s long-term care ir  
In the 1990s, Stark visited people’s homes to share the benefits of the cove  
“I feel they have changed the goalposts,” said Stark, 83, who has seen her c  
“We’re in so deep, we’re just hoping they do not default,” she said. “We’re  
Buy at your own risk  
In Connecticut, the Office of the Health Care Advocate and a special unit in  
But there currently are no similar resources for long-term care insurance po  
Sean King, who until recently was the state’s acting health care advocate, s  
“When people reach out, the typical complaint is their insurance carrier is  
The health care advocate’s office refers those grievances to the insurance c  
Connecticut’s long-term care ombudsman and the attorney general’s health car  
Legislators could consider expanding the powers of the health care advocate’  
Such a move would require a law change and the allocation of additional func  
Officials in Attorney General William Tong’s office did not directly respo  
“Our country has not figured out an affordable, workable solution for long-t  
Tong said it’s up to consumers to “carefully scrutinize” policies before buy  
Without state officials to advocate for them, policyholders have stepped up  
David Schwartzer, a Newington resident who with his wife purchased a long-te  
“The LTCI crisis deeply affects elderly and vulnerable citizens, many of wh  
Geary Maher and his wife purchased policies in 1998. Since 2018, the couple’  
Maher, the former head of Connecticut’s Office of Fiscal Analysis, found oth  
“As they age, people are getting closer to when they are going to need the b  
But as policyholders get older, some are having a harder time advocating for

“We’re seeing some advocates die out,” said Anwar, the co-chair of the Public Law Center. That means more of those efforts are falling to their children or other loved ones.

### Few legislative fixes

The troubled long-term care insurance industry has long been a focus for legislators. More than 50 bills have been raised over the last six years with the aim of making the system more sustainable. Lawmakers have proposed tax incentives, caps on rate increases, public hearings, and other measures. Legislators blamed a constellation of issues for the failures, from partisan politics to a lack of funding. “This was the most vexing and complex policy challenge I looked at as co-chair,” said Anwar. But finding the right solution proved difficult.

Scanlon and his then-co-chair Sen. Matthew Lesser arranged calls with their constituents. “At the end of the day, what we found is that each state passing a hodgepodge of measures,” Lesser said. Several of his constituents are enrolled in long-term care insurance. “I was under pressure to do something, and I still feel under pressure,” said Scanlon. Many consumer protection bills were met with sharp opposition from lobbyists. The lobbyists did, however, support measures to create a tax credit for policyholders. “I don’t think it’s in the consumers’ best interest to extend the period of time that you can get a refund,” Scanlon said. “You would be adding to the bureaucracy of how this process goes. You already have a lot of bureaucracy.”

On the issue of capping increases, George wrote in joint testimony with two other senators. In an interview, he added: “Insurance is one of the most highly regulated industries in the country. Long-term care insurance wasn’t the only topic on which the Insurance Committee had a hearing. Sen. Jorge Cabrera, D-Hamden, co-chair of the committee, said he has pushed for a variety of measures. One idea he recently favored would have provided a tax credit to policyholders. “That didn’t go anywhere,” Cabrera said. “It was a non-starter because it cost too much.”

### Weighing remedies

A federal solution has been elusive. Congress passed the Community Living Assistance Services and Supports (CLASS) Act in 2010. Meanwhile, some states are filling the void by launching their own programs. In Washington state, the legislature in 2019 passed a bill implementing a 0.5 percent premium on long-term care insurance. Starting in 2026, the program will offer eligible residents up to \$36,500 (a

“Long-term care is expensive, and you’re not going to have a high premium th

“It’s a middle class product. It’s for everyone.”

At least 18 other states are considering a similar payroll tax to launch a l

Legislators in Connecticut say they are open to the idea.

“I would be very interested to look at it, because we haven’t been able to m

He recommended the state first study what a similar program would look like

Elder care experts also suggested creating programs for people who are older

This could include counseling and case management services.

“It would be helping them understand what options are available that they ei

Anwar said he has not ruled out resurrecting legislation to put a cap on rat

“My argument was that if we have a moratorium for three or four years, we ca

Cabrera has suggested opening up the rate review process to greater scrutiny

“It’s so opaque. The information you get is oftentimes so vague, it’s hard t

As lawmakers begin work this legislative session, residents with long-term c

“I’m still searching for an answer,” Cabrera said.

”””

```
In [12]: template_str = """
You are a helpful assistant analyzing an article about insurance-related iss
We are working on a project titled:
'Insurance Complaints in Connecticut: A Data-Driven Approach to Consumer Tru

Our overarching goal:
- Analyze 65,000 consumer complaints filed against insurance companies in Co
- Identify which insurers are most responsive
- Examine complaint frequencies, resolution times, financial recovery amount
- Guide Connecticut residents toward more trustworthy insurance providers
- Add valuable unstructured data to our existing datasets

Given the ARTICLE TEXT below, extract the following fields in valid JSON for

{{
  "hearing_date": "",           // If provided (e.g., "Feb 11, 2025"), else
  "location": "",              // Where the hearing or event took place
  "insurers_mentioned": [],     // Any insurer names, companies, or associa
  "policyholder_issues": [],    // Key complaints, grievances, or issues ra
  "legislative_proposals": [],  // Legislative or policy measures suggested
  "sentiment_overall": "",      // Brief description (e.g., 'critical', 'su
  "notable_quotes": [],        // List of direct quotations from the text
  "data_insights_for_project": ""
    // Summarize how this article's content could be integrated
    // or cross-referenced with our 65K insurance complaints database

```

```

    // for deeper analysis or context
}}

Rules for extraction:
- Return ONLY the JSON object.
- If a field is not discussed, leave it blank or empty.
- Focus on tying the content back to how it might inform or enrich
  our broader CT insurance complaint analysis.

ARTICLE TEXT:
{chunk}
""""

prompt = PromptTemplate(
    template=template_str,
    input_variables=["chunk"]
)

```

In [13]: *#this may change depending on if we split article into chunks, if we do split  
#we will need another code block for article chunk splitting for tokenization*

```

chain = LLMChain(llm=llm, prompt=prompt)
chunks = [article_text]
structured_responses = []

for i, chunk in enumerate(chunks):
    print(f"\n--- Processing Chunk {i+1}/{len(chunks)} ---")
    response = chain.run(chunk=chunk)
    print("Raw LLM Response:\n", response)

    #Attempt JSON parse
    try:
        data = json.loads(response)
    except json.JSONDecodeError:
        #In case of JSON parse issues, store raw text
        data = {"error": "Could not parse JSON", "raw_response": response}

    structured_responses.append(data)

print("\nAll Structured Responses:\n")
for sr in structured_responses:
    print(json.dumps(sr, indent=2))

```

--- Processing Chunk 1/1 ---

Raw LLM Response:

```
{
  "hearing_date": "",
  "location": "Connecticut",
  "insurers_mentioned": ["Genworth Financial", "Metropolitan Life Insurance Company", "Transamerica Life Insurance Company", "Brighthouse", "Provident Life and Accident Insurance Company", "MedAmerica Insurance Company", "Bankers Life and Casualty Company"],
  "policyholder_issues": ["Dramatic rate increases", "Difficulty maintaining plans due to cost", "Lack of state resources for long-term care insurance policyholders", "Lack of transparency in rate review process"],
  "legislative_proposals": ["Tax credits for policyholders", "Caps on rate increases", "Public hearings", "Consumer notifications", "Five-year phase-in for rate hikes", "Investigation of the insurance department's rate review process", "Creation of a state-run long-term care insurance program funded by a payroll tax"],
  "sentiment_overall": "Critical",
  "notable_quotes": ["\"If I keep this up, I'm going to go broke. I wish I never bought the policy.\" - Steve Krasinski", "\"Let's be blunt,\" Connecticut Insurance Commissioner Andrew Mais said, \"there were mistakes made at the start, when long-term care policies were first issued.\""], ["\"It's almost like modern day snake oil sales in that you're paying a premium when you're young, and then when you need it, you can't afford it anymore,\" added House Minority Leader Vincent Candelora, R-North Branford."], ["\"Our country has not figured out an affordable, workable solution for long-term care,\" Attorney General William Tong said. \"Long-term care insurance is a broken part of that broken system.\""],
  "data_insights_for_project": "This article provides valuable insights into the issues faced by policyholders in Connecticut, particularly in relation to long-term care insurance. The data on dramatic rate increases, the number of complaints filed, and the experiences of policyholders can be cross-referenced with our database to identify trends and patterns. The insurers mentioned can be analyzed for responsiveness and resolution times. The legislative proposals and policyholder issues can guide the development of recommendations for more trustworthy insurance providers. The sentiment expressed in the article can be used to gauge public opinion on insurance providers and the insurance industry in Connecticut."
}
```

All Structured Responses:

```
{
  "hearing_date": "",
  "location": "Connecticut",
  "insurers_mentioned": [
    "Genworth Financial",
    "Metropolitan Life Insurance Company",
    "Transamerica Life Insurance Company",
    "Brighthouse",
    "Provident Life and Accident Insurance Company",
    "MedAmerica Insurance Company",
    "Bankers Life and Casualty Company"
  ],
  "policyholder_issues": [
    "Dramatic rate increases",

```

```

    "Difficulty maintaining plans due to cost",
    "Lack of state resources for long-term care insurance policyholders",
    "Lack of transparency in rate review process"
  ],
  "legislative_proposals": [
    "Tax credits for policyholders",
    "Caps on rate increases",
    "Public hearings",
    "Consumer notifications",
    "Five-year phase-in for rate hikes",
    "Investigation of the insurance department\u2019s rate review process",
    "Creation of a state-run long-term care insurance program funded by a payroll tax"
  ],
  "sentiment_overall": "Critical",
  "notable_quotes": [
    "\u201cIf I keep this up, I\u2019m going to go broke. I wish I never bought the policy.\u201d - Steve Krasinski",
    "\u201cLet\u2019s be blunt,\u201d Connecticut Insurance Commissioner Andrew Mais said, \u201cthere were mistakes made at the start, when long-term care policies were first issued.\u201d",
    "\u201cIt\u2019s almost like modern day snake oil sales in that you\u2019re paying a premium when you\u2019re young, and then when you need it, you can\u2019t afford it anymore,\u201d added House Minority Leader Vincent Candolara, R-North Branford.",
    "\u201cOur country has not figured out an affordable, workable solution for long-term care,\u201d Attorney General William Tong said. \u201cLong-term care insurance is a broken part of that broken system.\u201d"
  ],
  "data_insights_for_project": "This article provides valuable insights into the issues faced by policyholders in Connecticut, particularly in relation to long-term care insurance. The data on dramatic rate increases, the number of complaints filed, and the experiences of policyholders can be cross-referenced with our database to identify trends and patterns. The insurers mentioned can be analyzed for responsiveness and resolution times. The legislative proposals and policyholder issues can guide the development of recommendations for more trustworthy insurance providers. The sentiment expressed in the article can be used to gauge public opinion on insurance providers and the insurance industry in Connecticut."
}

```