

Natural Language Processing (NLP) entered the pharma industry in a snowball effect, growing in interest and use since its creation. In pharma especially, NLP is playing a crucial role in capturing insights from diverse sources. By analyzing text data from scientific literature, social media, patient surveys, and adverse event reports, NLP helps pharmaceutical companies uncover valuable knowledge, understand patient perspectives, and drive evidence-based decision-making for improved research, development, and patient outcomes.

## The Role of NLP in Biopharma

### What is NLP?

NLP is the ability for machines to understand text and spoken words in the same way as human beings through a combination of:

- Computational linguistics
- Machine learning
- Statistical models
- Deep learning models

### How is it used today?

- Social media monitoring
- Medical forums, online communities
- Patient surveys and feedback
- Scientific literature, clinical trials
- Competitive intelligence

### By the Numbers

**80%**  
of new relevant real-world data for the life science industry comes from NLP<sup>1</sup>

**18 of the top 20**  
global pharmaceutical organizations currently use NLP daily<sup>2</sup>

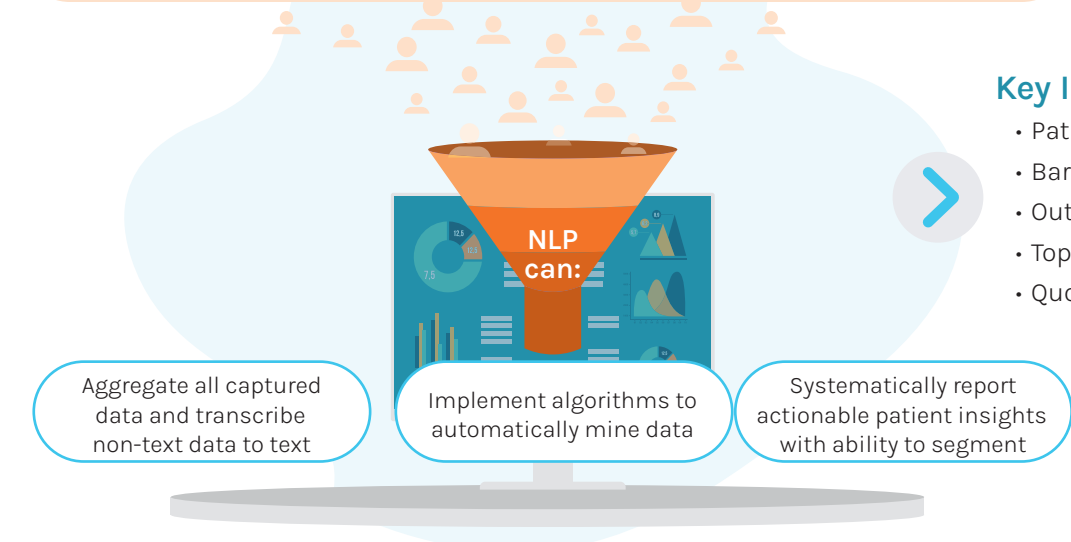
**\$2.2B**  
global NLP healthcare market size in 2022<sup>3</sup>

**\$7.2B**  
projected healthcare NLP market size by 2027, with a CAGR of 27.1%<sup>3</sup>

## NLP Applications in Patient Support Programs Today

### How it Works

Today, patient support resources capture a high volume of rich front-line patient data that is far too large, fragmented, and messy to mine manually.



### Key Insights to be Gleaned:

- Patient sentiment
- Barriers discussed
- Outcomes realized
- Topics and buzzwords brought up
- Quotes and patient testimonials

## Key Benefits of NLP Technology

**Accessibility of Information**

Instant access to the front-line conversations your patient support resources are having with patients on your medications

**Real-World Insights**

Visibility of what's happening in-market without introducing bias when capturing insights through other means (e.g., surveys, etc.)

**Data at Scale**

Deep understanding of the voice of all patients in your support program, building a more holistic picture than relying only on the voice of few patients (e.g., focus groups, etc.)

**Improved Patient Support**

Insights gleaned can help inform optimization of patient support strategy, HCP and patient communications, and what predictive models to use for personalization

**Time Saving**

Advanced computing applications require minimal human input and support, increasing speed and decreasing effort required for patient insight mining

1. Biopharma Dive.  
2. Linguamatics.  
3. Markets and Markets.