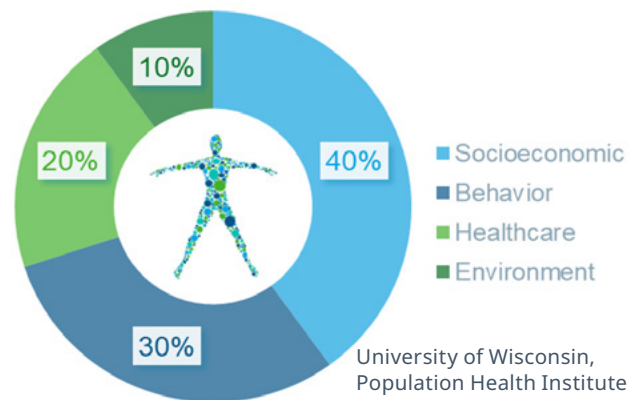


# Unlock patient-level Social Determinants of Health with IQVIA NLP

*Drive population health analytics & health equity*

## Why address Social Determinants of Health

To understand the real cost of food insecurity a validated micro-simulation model – the Cardiovascular Disease (CVD) Policy Model for Risk, Events, Detection, Interventions, Costs, and Trends (CVD PREDICT) – was initiated to project the health and cost outcomes, at both an individual and population level, relating to risk factors and/or treatment status for CVD. This model found that by increasing healthy fruits and vegetables by 30% it was estimated to prevent 1.93 million CVD events, gain 4.64 million quality-adjusted life years, and save \$39.7 billion in formal healthcare costs.<sup>1</sup>



Social isolation comes at a hefty cost to individuals and society in general. Social isolation is connected to roughly \$6.7 billion in additional health care costs annually among Medicare beneficiaries and contributes to poor health outcomes, including a 50 percent increased risk of early mortality.<sup>2</sup>

### Core determinants of health

- Living Conditions
- Limited English
- Social Isolation
- Stress
- Substance Abuse
- Transportation Issue
- Victim of Crime and Violence
- Weight Range Category
- Physical Activity
- Depression
- Employment Status
- Financial Issue
- Ambulatory Issue
- Food Insecurity

## Surfacing SDOH data at the individual patient level

There is an increased focus on the social determinants of health (SDoH) which has led to organizations trying to better understand how these impact patient outcomes. These complex and nuanced features are poorly defined and rarely included in structured data. There is effort directed at better capture of this information within structured data within the EMR – but asking clinicians, who are already fighting burn-out, to fill in another form has not yielded an uptick in SDOH screening data.

Many organizations assume this data does not exist within their own systems and are instead buying aggregate zip code or census data to infer insights about those most at risk. However, this data is not patient specific and may not include key data related to SDOH measures such as:

- Does the patient have access to transportation?
- Does the patient live alone?
- Can the patient ambulate?

But SDOH data does exist in the medical record. It is captured every day by trained medical professionals, taking detailed clinical histories from their patients, just as they were trained to do so at medical school and always have done. The data are in admission notes, care management systems, discharge summary and nursing notes. The trouble is surfacing this information in a repeatable and reliable way. Fortunately, with AI technologies such as IQVIA Natural Language Processing (NLP), data can be found and normalized for use in health equity initiatives.

## SDoH information extracted and ready to analyze

With IQVIA Natural language processing (NLP), SDOH information is normalized to 14 topics, with different numbers of classes per topic. The IQVIA NLP engine identifies misspellings, synonyms, context, negations, etc to ensure that information in the medical record is extracted as it was meant by the clinician who entered it.

In addition, the output includes suggested SNOMED and ICD10 codes along with their descriptions for each topic.

Tailored and accurate NLP algorithms are available out of the box to get you to the SDOH information quickly. Alternatively, they can be modified to capture more information of interest.

**FLEXIBLE DEPLOYMENT OPTIONS**

- On premise
- Cloud
- API Call

References:

- [1] [Cost-effectiveness of financial incentives for improving diet and health through Medicare and Medicaid: A microsimulation study - PubMed \(nih.gov\)](#)
- [2] [Addressing Social Isolation and Loneliness: Lessons from Around the World | Commonwealth Fund](#)



### CONTACT US

Contact [nlp@iqvia.com](mailto:nlp@iqvia.com) for more information about how your organization can repeatedly harness NLP to extract SDOH information and drive health equity.  
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