NCDs Listener, a social listening tool for non-communicable diseases

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Abstract:
Over 41 million people worldwide die from NCDs (non-communicable diseases) annually, the majority of which occur in low- and middle-income countries. Social media has become a critical platform for individuals to share experiences and access information about NCDs. Social (media) listening offers valuable insights by analyzing user discussions, but existing tools are closed-source and commercial. This study seeks to simplify the extraction of NCD-related knowledge from social media, making it easier for the public to understand and access information. It also explores how the NCD community shares its lived experiences online. We proposed an open-source social (media) listening tool called NCDs Listener to collect, analyze, summarize, and visualize data. Comments about NCDs can be collected from public posts. This time, we studied the characteristics of comments from Facebook and Reddit posts that mentioned NCDs to demonstrate the NCDs Listener tool. Use keyword matching and the BERT Model to extract knowledge from comments. The preliminary data was analyzed using descriptive statistics. Additionally, a Generative AI model summarizes the extracted knowledge in human-readable sentences. Our NCDs Listener tool is open-source and can extract knowledge related to NCDs. This knowledge can be used as a guideline for treatment or the development of effective care to meet patients' needs. Our findings demonstrate that aggregated social media data not only provides immediate insights but also serves as a springboard for advanced statistical analyses and cutting-edge data science approaches, opening new avenues for understanding complex social phenomena and predicting emerging trends.

Keywords: Social Listening; Non-Communicable Diseases; Text Classification; Data Visualization; Generative AI