

## Introduction/Objectives

Cancer poses significant disease burden to the global population, with an estimation of 18.1 million cancer cases and accounting for nearly 10 million deaths in 2020. Collaboration and engagement of all stakeholders, both government and non-government agencies, is essential for successful combating the cancer crisis. Although WHO and many countries have encouraged the engagement of civil society organizations (CSOs) in addressing cancer issues, CSOs' engagement in multi-sector collaborations in cancer prevention and control is still rare. This systematic review aims to describe the engagement of and challenges faced by CSOs in multisectoral cancer prevention and treatment interventions.

## Methods

- Six databases (PudMed, Embase, Ovid, Web of Science, CNKI, Wanfang) were systematically searched up to Dec. 8, 2022.
- There was no limitation on the study design. Articles published in English and Chinese from 1990 to 2022 were eligible if they (1) described cancer-related programs involving collaborations between CSO and other agencies and (2) analyzed the strengths, weaknesses, opportunities, and challenges of such multi-sectoral collaboration.
- COVidence was used to screen and extract information.
- Key information would be extracted from the articles, including (1) characteristics of the CSOs, (2) collaboration mechanisms of these cancer-related programs, and (3) challenges faced by the collaborative stakeholders.

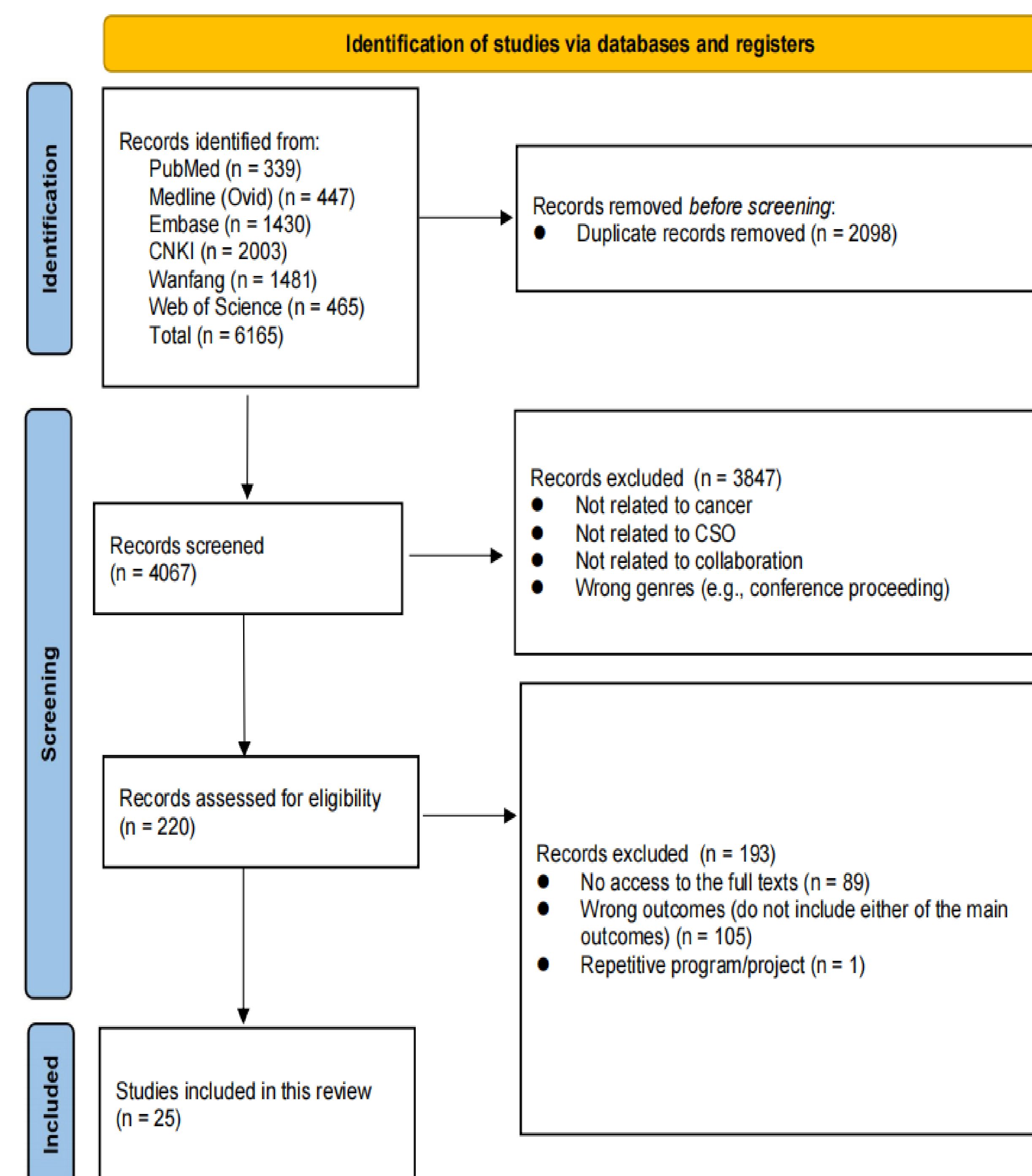
## Results

- Twenty five articles were included in this review. The search and screening process is shown in **Figure 1**.
- **Characteristics of CSOs that engaged in cancer MSCs:**
  - **CSO types:** Among the reviewed studies, non-governmental organizations (NGOs) or non-profit organizations (NPOs) and community-based health organizations were two most common CSOs, mentioned in 6 and 6 articles, respectively. Eighteen articles included only 1 or 2 CSO(s), with the rest of them mentioning at least 3 CSOs.

- **Geospatial coverage:** China and the US were commonly seen in the included articles, each mentioned in 8 and 7 articles. Other countries and regions include Chile, India, UK, Sweden, Guatemala, Malawi, Asia, Europe, Latin America, and East and Southern Africa.
- **Cancer types:** Most of the cancer-related programs targeted all types of cancer (n=16), and the rest of them focused on specific cancer type such as breast cancer, cervical cancer, pediatric cancer, leukemia, gastrointestinal cancer and colorectal cancer.
- **Cooperative partners:** Among the reviewed CSO-engaged multisectoral collaborations, governments, researchers/scholars and hospitals were the most common collaborators, mentioned in 12, 10 and 6 articles, respectively.
- **Collaboration forms:** Eleven reviewed programs used mutual agreement when sectors established collaborations, and the other three indicated forms of contract to guarantee the cooperation.
- **Target populations:** Thirteen programs included patients as the service targets, while 12 programs tailored their services to healthcare workers.

- **Subgroup Analysis**
  - Among the 25 articles, 19 cancer cooperation projects are service-oriented, and the remaining 6 are research-oriented cooperation projects. Most service-oriented cancer cooperation projects are aimed at all types of cancer, while research-oriented cooperation projects are aimed at a specific type of cancer, such as cervical cancer and breast cancer.
  - Although research-oriented cooperation projects often focus on the development of new cancer-related technologies, research-oriented cooperation projects will still provide some effective cancer prevention and treatment support services, such as financing the development of specific drugs for cancer.
  - Different types of cancer cooperation projects will also lead to completely different challenges. Service-oriented cancer cooperation projects often face administrative procedural challenges, such as the lack of efficient and unified guidelines, while research-oriented cancer cooperation projects are prone to practical challenges, such as occasional studies that do not meet their oral goals.
- **Challenges:**
  - The major challenges the CSOs were facing in multisectoral cancer programs included: 1) the lack of standards for collaboration to establish trust and normalized service, 2) the lack of social and financial support to sustain the programs, 3) lack of advocacy programs to promote the collaboration programs, 4) low coverage of medical insurance and disadvantaged infrastructure, and 5) knowledge gap, unclear accountability, and lack of staff training. MSCs with clear established standards and accountabilities were more likely to effectively support cancer-related services like cancer education, training and research because they were more sustainable.

Figure 1. The PRISMA diagram of Literature Search and Screening



## Conclusion

Although MSCs around the world mostly proved effective in cancer prevention and treatment, the CSOs involved in the process still had many challenges to tackle. Finding the underlying mechanisms of these obstacles can help researchers, policymakers and these CSOs better improve the accessibility and quality of cancer-related services.