Postprint of Health Information Management Research from the UK Health Think Tank Library

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Date: 2025-06-20T00:00:00+00:00

Abstract

Using web survey and interview methods, this study investigates the current status of health information management in UK health think tank libraries. The study found that health information management in these institutions can be categorized into four major aspects: health information collection, information organization, information analysis, and compilation and dissemination of results, adhering to four fundamental principles: evidence grading, open access, privacy protection, and professional competence. From this, the following implications are derived: strengthening the full lifecycle management of health information; complying with professional knowledge systems and standards; and enhancing orderly guidance at the macro level.

Full Text

Research on Health Information Management in British Health Think Tank Libraries

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Abstract This study employs online surveys and interviews to investigate the current state of health information management in British health think tank libraries. The research reveals that health information management in these libraries can be categorized into four major aspects: health information collection, information organization, information analysis, and compilation and dissemination of outcomes. The management process adheres to four core principles: evidence grading, open access, privacy protection, and professional competence. Based on these findings, the study offers the following insights: strengthening

life-cycle management of health information; complying with professional knowledge systems and standard norms; and enhancing orderly guidance at the macro level.

[**Keywords**] health think tank; library; health information management

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Health think tanks are professional research institutions dedicated to the health sector, committed to influencing public health decision-making through systematic research, rigorous analysis, and scientific policy recommendations. British health think tanks are renowned internationally for their long developmental history and extensive influence. With increasing complexity in health governance issues, British health think tanks have gradually recognized that generating high-quality decision-support materials requires not only data collection and organization but also evidence-based in-depth analysis and scientific research. Consequently, health information management has become a core task. The library of The King' s Fund, established in 1945, built the world' s largest health information database at the time. In 1999, the Nuffield Foundation' s library, in collaboration with libraries from The Health Foundation and other think tanks, employed co-word clustering and machine learning algorithms to systematically analyze over a decade of knowledge resources, with relevant conclusions being adopted by think tank personnel and transformed into policy recommendations. These practices demonstrate that British health think tank libraries have successfully transformed health data into policy practice, serving as professional information institutions that integrate health data resources and provide medical knowledge services.

Against the backdrop of China' s "Healthy China" initiative, which emphasizes efficient utilization of health data and enhanced information management capabilities across health institutions, health think tank libraries should play a significant role. However, among China' s health think tanks listed in the Chinese Think Tank Index (CTTI), only 30% have established dedicated library and information departments. The remaining 70% rely on their affiliated university libraries for health information management and services, leading to fragmented collection and organization of health information and insufficient professionalism in intelligence analysis and knowledge mining. In contrast, British health think tank libraries have developed mature practices in health information management. This study investigates these practices to provide references for improving health information management in China' s health think tank libraries and library information service departments.

1 Sample Selection and Research Methods

This study utilized the International Think Tank Observation Network (Think Tank, OTT), the world' s largest think tank research institution that began cataloging global think tanks in 2016. Considering public influence, institutional history, and other factors, eight British health think tanks were selected as

survey subjects, including the Cambridge Centre for Health Services Research, Chatham House Centre for Global Health Security, Adam Smith Institute, The Health Foundation, The King' s Fund, Nuffield Foundation, Nesta, and the Youth Foundation.

The research employed online surveys and interviews. Initially, content related to library health information management on the official websites of these eight health think tanks was preliminarily investigated. Subsequently, targeted questions were developed covering six major aspects: overall information collection, organization, analysis, reprocessing, communication, and dissemination. Differential interviews were conducted with public liaison officers from each library using video interviews, text-based real-time interviews, and focus group discussions. To enhance timeliness, the official websites of the eight health think tanks were revisited in December 2024 to collect the latest methods and highlights in library health information management.

2 Current Status of Health Information Management in British Health Think Tank Libraries

British health think tank libraries have assumed functions of evidence integration and knowledge transformation. Their health information management activities can be summarized into four progressive stages: health information collection, information organization, information analysis, and compilation and dissemination of outcomes.

2.1 Health Information Collection

British health think tank libraries prioritize comprehensiveness and richness in health information collection, given their service to highly professional and scientific policy research institutions. Information sources are extensive and authoritative, including government statistical offices and health departments of various countries, the World Health Organization (WHO), records of public health events, and data on human resources and infrastructure in the health sector. They also integrate research findings from medical academic institutions and experts, covering patient care records, health influencing factors, and various information types including multimedia materials, patents, standards, and grey literature such as unpublished manuscripts and experimental data.

Notably, these libraries emphasize autonomous information collection through two primary methods. First, under the coordination of the UK Department of Health and Social Care, intelligence teams conduct systematic health surveys. The most typical example is the annual health survey conducted nationwide by the Nuffield Foundation since 1972, which interviews approximately 8,000 adults and conducts telephone surveys of 2,000 children, serving as an important means of monitoring national health status. Second, librarians independently conduct data collection based on information collection questionnaires compiled by their think tanks. For instance, Nesta's library has weekly collected food-related data

from six major UK retail websites since 2014, creating a massive food database (FooDB) that has become an important data source for food safety research.

2.2 Information Organization

Given the wide variety of health information sources, British health think tank libraries are committed to building meticulous cataloging and indexing systems for logical and refined classification. Their classification systems cover not only subject content but also support sorting by publication date, information quality, and frequency. Libraries strictly adopt medical classification systems such as Medical Subject Headings (MeSH) and International Classification of Diseases (ICD). Some libraries also reference evidence-based medicine principles to categorize health information into evidence experiments, systematic reviews, data analysis, and other categories.

These libraries construct two main types of thematic databases. The first comprises specialized datasets built on unique institutional information resources. For example, the Nuffield Trust' s library utilizes health and social care quality data collected by its think tank to create "QualityWatch," an important tool for evaluating the quality of the UK health service system. The second type consists of think tank achievement archives aimed at long-term preservation and institutional strength demonstration. All eight health think tank libraries have established institutional repositories, such as The King' s Fund' s digital archive, which preserves over 2,000 digital documents published since 1900 and serves as an indispensable database for studying the history of medical research in London.

To support real-time and intelligent data analysis, British health think tank libraries have developed advanced information analysis tools beyond simple search engines. The Health Foundation' s Analytics Lab integrates multiple code repositories for processing specific health datasets and supports various open-source templates including Google Maps and ranking charts, providing powerful technical support for health data analysis. In 2024, the Bow Group library developed an infectious disease monitoring system based on multi-source data from laboratory tests, clinical diagnoses, and epidemiological investigations, demonstrating the capability to provide scientific data support for medical and health decision-making through advanced information capture and analysis technologies.

2.3 Information Analysis

Data-driven research is a distinctive feature of British health think tanks. Libraries conduct high-quality information analysis through long-term data tracking, in-depth mining, and multi-dimensional heterogeneous data visualization. In 2024, librarians at the Cambridge University Medical Library conducted large-scale cohort studies and statistical analysis on national cancer and genomic data and clinical treatment records submitted by think tank researchers, revealing pathogenesis and prognostic factors for various cancers and providing

valuable insights for optimal treatment protocols.

In addition to collaborative analysis, libraries also independently conduct high-quality information analysis work. Nesta' s library performed detailed analysis of chronic disease incidence rates and related factors across different regions using hospital records nationwide, providing evidence for local health departments to optimize resource allocation. During the COVID-19 pandemic, British health think tanks rapidly organized information analysis alliances, employing time series analysis, machine learning algorithms, and other technologies to accurately predict epidemic trends, providing scientific basis for public health decision-making.

2.4 Compilation and Dissemination of Outcomes

Outcome transformation represents the ultimate goal of information analysis and scientific research. British health think tank libraries systematically organize and integrate research reports and policy recommendations to form high-quality comprehensive research reports and knowledge products. These products, published regularly through rigorous processes and professional standards, serve as important decision-making references for policymakers and industry experts.

Table 1 shows the think tank outcome compilation products from the eight British health think tank libraries. These include quarterly electronic reviews, annual reports of expert perspectives, policy consultation lists, and annual reports of impact stories. To enhance their influence and visibility, British health think tank libraries employ diversified communication channels and platforms, including regular thematic seminars, online report releases, and social media dissemination. The Bow Group library, for instance, operates a broadcast media channel inviting different researchers and information analysts each issue to communicate the latest research findings to the public.

British health think tanks generally follow the "Trustworthy Health Information Principles"proposed by the UK Patient Information Forum when communicating with the public, ensuring accurate, understandable, and reliable transmission of medical expertise while emphasizing communication skills and information visualization. The Health Foundation library has developed communication toolkits to assist scholars in presenting research outcomes through animations and videos, which not only enhances social impact but also improves public understanding of public policies and research findings.

3 Principles Guiding Health Information Management in British Health Think Tank Libraries

British health think tank libraries follow four core principles throughout their health information management processes: evidence grading, open access, privacy protection, and professional competence. These principles serve as quality

assurance benchmarks throughout the entire lifecycle.

3.1 Evidence Grading

Evidence grading is a prominent feature of British health think tank libraries' information organization. Libraries categorize health information by quality levels, with the Cambridge University Medical Library dividing common health information sources into hierarchical levels from high to low: information from randomized double-blind controlled studies, cohort studies, case reports and case-control studies, critical evaluation articles, and opinions. The library also provides structured comparison tables based on evidence grading principles to guide users in accessing information according to quality levels.

3.2 Open Access

Open access serves as an important driving force for the dynamic development of the entire health information management lifecycle. Since the UK Research Council released the "Concordat on Open Research Data" in 2016, British health think tank libraries have significantly increased support for open sharing of health research data. The Nuffield Foundation library has built an open data platform using semantic web, APIs, artificial intelligence, and cloud computing, promoting internal data circulation and enabling external researchers to conveniently access these resources. Youth Foundation library has introduced crowdsourcing models and created data sandbox environments to maximize research data sharing.

3.3 Privacy Protection

Privacy protection remains a critical boundary for information use throughout the health information management lifecycle. In 2022, the UK Department of Health and Social Care called for prioritizing health data privacy protection, with eight health think tanks jointly declaring compliance with the Health and Social Care Act 2012 and Data Protection Act 2018. Most British health think tank libraries have established strict principles for collecting personal privacy information, implementing strict access restrictions, using technical means to monitor and record all personal data access, and promptly deleting public personal information. These measures not only optimize health information allocation but also enhance researchers' ability to obtain the most relevant and authoritative information.

3.4 Professional Competence

As highly specialized medical libraries, British health think tank libraries require librarians to possess solid library and information skills, extensive medical and health knowledge, and good health information literacy. Cambridge University Medical Library provides a series of information professional skills training for think tank personnel, including systematic literature review and bias risk

assessment. The library also launched a "Data Champions" program, initially aimed at providing research data management services but now expanded to policy intelligence analysis. Through multi-level continuing education, technology application training, and active participation in international exchanges, these libraries significantly enhance their service capabilities and professional levels.

4 Implications for China

Although significant differences exist between Britain and China in health systems and political-cultural backgrounds, the experiences of British health think tank libraries in health information management offer valuable references for China's health think tank library and information service departments.

4.1 Strengthening Life-Cycle Management of Health Information

Currently, only 30% of China's health think tanks have established dedicated library and information departments, with the majority relying on affiliated university libraries, resulting in fragmented information management. In information collection, most domestic health think tank library and information service departments have yet to develop specialized health domain collection strategies. It is recommended to systematically collect and integrate authoritative medical databases such as PubMed and Embase, capture real-time information from WHO and national health departments, and emphasize grey literature including clinical trial meeting abstracts and preprints.

In information organization, most domestic departments use general classification systems that cannot meet the needs for fine-grained medical information classification. China's health think tank libraries could adopt British practices by establishing medical classification systems like MeSH and ICD, building thematic databases with distinctive features, and providing convenient multi-logic retrieval pathways.

In information analysis, domestic health think tank library and information service departments generally provide limited professional bibliometric analysis services. They could learn from British experiences by employing advanced data science tools and knowledge graph technologies to reveal complex medical relationships and gradually achieve contextualized intelligence analysis and knowledge services.

In outcome communication and management, most domestic departments have yet to build dedicated academic outcome management and exchange platforms. British practices of regularly compiling outcomes, building institutional repositories, actively participating in academic activities, and utilizing social media for dissemination are worth emulating.

4.2 Complying with Professional Knowledge Systems and Standard Norms

British health think tank libraries strictly adhere to knowledge systems and standards in medicine and library and information science. In information organization, they adopt medical classification methods; in information dissemination, they follow the Trustworthy Health Information Principles. These principles ensure strict quality control during information input, scientific knowledge integration logic, and enhanced credibility and validity of information analysis.

Given the diverse and individualized nature of medical literature and evidence resources, China could introduce medical library professionals into health think tank research processes to provide personalized information and knowledge services. This would not only stimulate the service potential of domestic medical libraries but also help build a multi-party coordinated health information service system, enabling libraries to contribute more significantly to the Healthy China initiative.

4.3 Enhancing Orderly Guidance at the Macro Level

British health think tank libraries have developed maturely under national planning guidance. In China, when developing health big data platforms, health think tank library and information service departments must strictly comply with the "Guiding Opinions of the General Office of the State Council on Promoting the Development and Standardized Application of Health Medical Big Data" to ensure health medical big data serves as a key national strategic resource. In conducting medical technology novelty searches, they should refer to standards formulated by the China Academic Library and Information System to ensure quality. In resource sharing and service collaboration, they could learn from practices of the Medical Library Alliance of Inner Mongolia Medical University.

5 Conclusion

The health information management practices of British health think tank libraries have gradually matured, forming a progressive system encompassing information collection, organization, analysis, and compilation/dissemination. Data sources are extensive and authoritative, with systematic health surveys and autonomous data collection ensuring comprehensive and systematic health information. The construction of thematic databases supports systematic integration and efficient utilization of domain-specific health information. High-quality information analysis serves as the critical link between data and decision-making, providing scientific basis for public health decisions. The compilation and dissemination of outcomes not only enhances think tanks' social influence but also improves public understanding of public policies and research findings.

British health think tank libraries adhere to four principles—evidence grading, open access, privacy protection, and professional competence—throughout their

health information management processes, ensuring quality and sustainability from data collection to outcome dissemination. For China's health think tank library and information service departments, improvements can be made in three aspects: strengthening life-cycle management of health information, complying with professional knowledge systems and standard norms, and enhancing macro-level guidance. By referencing British experiences and exploring health information management pathways suitable for China' s national conditions, these departments can enhance their information service quality, increase the application effects and social benefits of research outcomes, and play a greater role in building health information service systems.

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Note: Figure translations are in progress. See original paper for figures.