OHDSI CHINA 2024 Recap

Changran Wang

Fudan University

2024/12

1. OHDSI Tutorials
2. OHDSI Projects
3. OHDSI Industrial Co-op

1. OHDSI Tutorials

OHDSI Tutorial

- 2024 Jun 1st. One Day Tutorial during the Shanghai Biomedical Info Conference. (8 hours)

- 50 participants.

OHDSI Tutorial

- 2024 Nov 7th. One Day Tutorial during the CSMI 30th Annual Symposium. (6 hours)

- 230+ participants.

OHDSI Courses

Fudan:
Undergrad Course in Medical School:
Biomedical Informatics.
With Virtual Machine Practice.
16 weeks, 54 hours course (16 with OHDSI)

SJTU:
Graduate Course: Introduction to Clinical Research.
With Clinical Shadowing.
8 weeks, 32 hours course

OHDSI Tutor for Hebei Medical University

- Bring on one physician and one graduate student for shadowing over 50 days.
- Training with Medical Science Data Center.
- Join Zhongshan Hospital ETL project.
- Help to make OHDSI standard terminology Chinese translation in their sub major section (Cardiology) .

2. OHDSI Projects

OHDSI Standard Vocabulary Translate into Chinese Initiative

OHDSI
中國

OHDSI Global 2024 Submission

Building OHDSI with Privacy Computing in Shanghai Medical College, Fudan University

Wang Changran, Liu Lei, Wu Feizhen, Lin Li
Medical Science Data Center
Intelligent Medicine Institute
Shanghai Medical College
Fudan University

Background

The continuous advancement of global medical informatization has resulted in vast amounts of health data, reaching exabyte and zettabyte scales. However, these data are scattered across various institutions, hindering their orderly circulation. The integration of artificial intelligence (AI) with healthcare is emerging as a key driver in transforming medical technology. Health data are essential for clinical research, and multi-center research institutions that can securely aggregate data from various sources demonstrate superior efficiency. This approach facilitates the collection of extensive datasets, enabling deeper and more comprehensive data utilization.

Shanghai Medical College is positioned to seize this historic opportunity by participating in the pilot construction of high-level local universities in Shanghai. The institution aims to leverage AI in healthcare to enhance its strengths and address its weaknesses. By fostering innovation in clinical research and promoting multi-center research collaborations, Shanghai Medical College seeks to establish a robust multi-party data collaboration model, advancing clinical medical research. This integration will promote interdisciplinary cooperation and scientific innovation, accelerating the overall development of medical disciplines. Committed to becoming a top-tier domestic and world-class medical school, Shanghai Medical College will significantly contribute to public health improvements and the advancement of a healthy China and a healthy Shanghai.

Methods

Determine the quality management content of multi-center clinical research medical data, and confirm the multi-center clinical research medical data collection process and quality control content through literature review and expert consultation. On the basis of the investigation of the medical data quality management system, a standard framework for the construction of a multi-center medical data platform was constructed, and a multi-center clinical research data quality management system was established from multiple dimensions such as operating procedures, information collection, and quality control.

Based on the core technologies of privacy computing (federated learning, secure sandbox, multi-party secure computing, etc.), the privacy computing engine (PCP) is used to ensure the safe flow of data. Referring to the experience of multi-center clinical research projects and guided by the OHDSI-OMOP model, a multi-center clinical research approach is proposed, which closely combines the project lead and participating units, bringing together multi-party research data on the platform for joint application in research can increase the dimension and breadth of clinical research data, and relies on the project to build a data platform Cooperation in the cultivation of medical talents and the research and promotion of new technologies.

This project builds a clinical data collaborate platform (CDCP), improves data collection and governance capabilities, system design is shown as figure 1. According to the cooperation mode of the OHDSI model, create a unified medical terminology system by using web Protégé, accelerate the process of medical data circulation and application, and empower clinical research cooperation and medical data sharing with advanced technology. We also create a data security sharing mechanism, and improves the integration of data resources. Provide relevant platform support for "building multiple high-level multi-center clinical medical research projects".

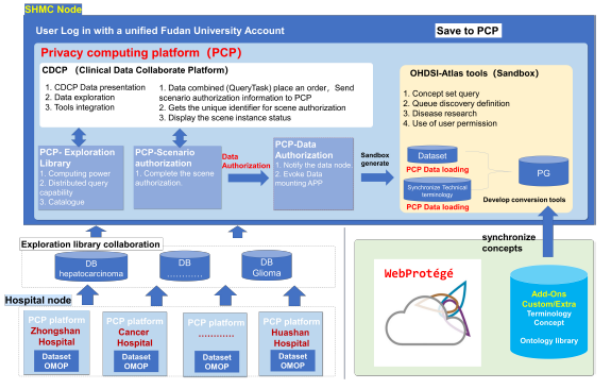

Figure 1: CDCP + PCP Design

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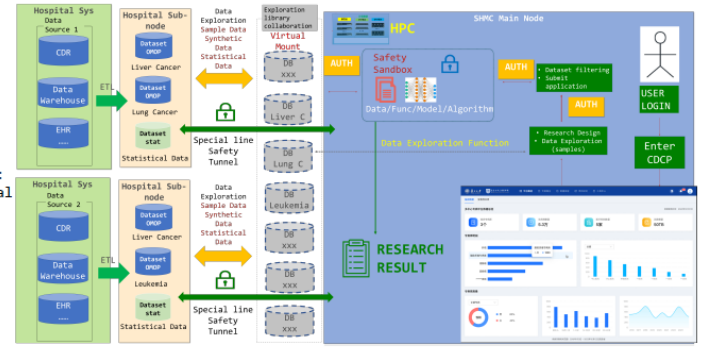


Figure 2: Conceptual Topology

Results

As a crucial support platform for multi-center clinical research, aligned with the actual needs of Shanghai Medical College at Fudan University and in accordance with relevant laws and regulations, this initiative provides robust medical data management support for multi-center research projects that adhere to medical ethics and pertinent regulations. A basic privacy computing platform is established within each hospital to host distributed databases, which undergo ETL processes to conform to the OHDSI format. The dataflow is shown as Figure 2.

This platform empowers multicenter clinical research at Fudan University. The fusion of multi-center data offers several key advantages to the medical research efforts at Shanghai Medical College. In recent years, multi-center clinical research has been increasingly conducted across various disease fields, with multiple research units and researchers collaboratively executing work based on the same design and objectives. These studies encompass clinical drug trials and more generalized clinical investigations, including prospective and retrospective studies.

The sandbox environment created on the main node HPC cluster allows researchers to access necessary data without viewing actual patient details, thus maintaining data privacy. This invisible data access, coupled with the ability to utilize OHDSI analytic tools, provides significant advantages. Researchers can perform complex analyses and derive insights without compromising patient confidentiality. This capability not only enhances the efficiency and scope of clinical research but also fosters collaboration across institutions, driving forward medical innovation and improving patient outcomes.

Conclusions

In response to the needs of Shanghai Medical College at Fudan University and in compliance with relevant laws and medical ethics, a robust support platform for multi-center clinical research has been established. This platform features a basic privacy computing infrastructure within hospitals to host distributed databases conforming to the OHDSI format, facilitating the secure management of multi-center research data. Currently, the system comprises three sub nodes, two disease categories, and four distributed databases.

The fusion of multi-center data within this framework offers significant advantages for clinical research, including enhanced data volume and diversity, which are crucial for comprehensive medical studies. Researchers can access necessary data through a secure sandbox environment on the main node HPC cluster, ensuring patient privacy while allowing the use of advanced OHDSI analytic tools. This approach has already proven beneficial in recent studies, which encompass clinical drug trials and broader clinical investigations. The ability to perform complex analyses without compromising patient confidentiality enhances the efficiency and scope of clinical research, fostering collaboration across institutions and driving medical innovation.

Currently, the platform is focused on three sub nodes and two disease categories, utilizing four distributed databases. However, the vision for the future is expansive. Plans are underway to increase the number of sub nodes to six, significantly broadening the data and research capabilities of the platform. Additionally, there is a strategic initiative to pilot collaborations with overseas institutions and other research entities, leveraging main nodes to conduct multi-center clinical research on a global scale.

This planned expansion will further enhance the platform's capacity for high-level research, fostering greater collaboration and innovation in the field of clinical medicine. By integrating advanced privacy computing technologies and adhering to stringent ethical standards, the platform aims to set a new benchmark in multi-center clinical research, ultimately contributing to improved patient outcomes and the advancement of medical science. This comprehensive approach ensures that the platform will remain at the forefront of clinical research, continually evolving to meet the growing needs of the medical community.

OHDSI Projects

Two systematic reviews

- **Practice status and challenges of OMOP common data model application in China** (submitted to *Chinese Journal of Epidemiology*, under review)

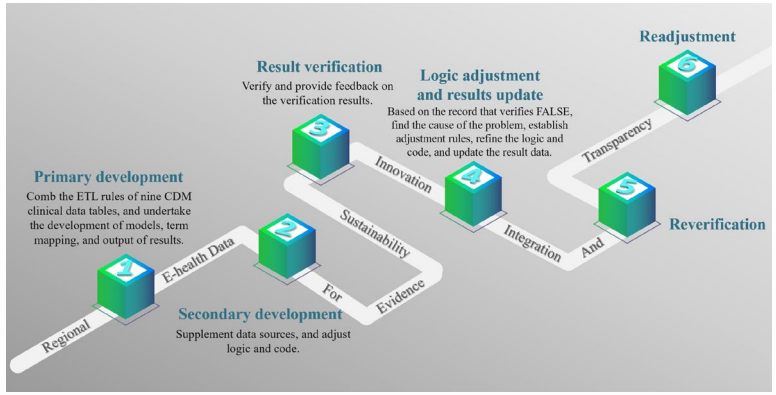


Fig 1.The process of data standardization of Yinzhou Regional E-health Data for Evidence Sustainability, Innovation, inteGration, and traNsparency (REDESIGN)

- **Systematic review in pharmacoepidemiologic research based on common data model: a bibliometric perspective** (intended for submission)

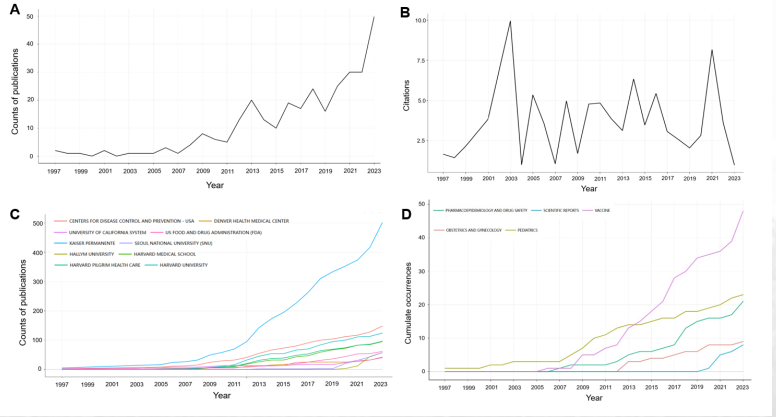


Fig 2.General trends of included studies

Questionnaire survey

- **A survey on the acceptance of the conversion of regional databases to standardized common data models from the perspective of the Chinese population** (intended for submission)
- The study explored participants' understanding of CDM and the OMOP, as well as their views on the necessity of CDM for regional databases in China
- Key results:

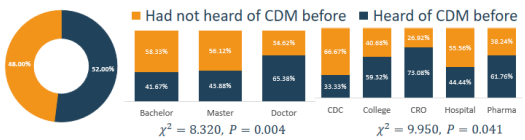


Figure 2. Proportion of CDM Awareness in different factors.

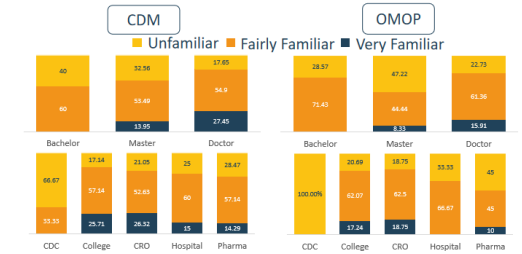
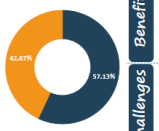


Figure 3. Association between Familiarity and Different Factors.

- **More than half** of the participants believe that OMOP could become the mainstream choice for CDM in Chinese regional databases.



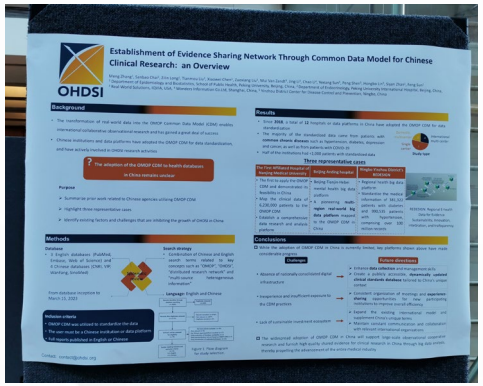
Benefits
- Enhance the **operability and comparability** of data in Chinese regional databases
- Help drive **innovation** and **progress** in the research field
- Facilitate the **sharing**, **comparison**, and **integration** of data from different sources.

Challenges
- There are **barriers** between different data sources
- Mapping requires a significant amount of **manual work**, **time**, and **cost**
- Some **China-specific information** cannot be matched to standard concept IDs

OHDSI Projects

Conference communication

ISPE's 16th Asian Conference on Pharmacoepidemiology



2023 OHDSI Asia-Pacific Symposium

- Professor Sun was invited to give a 90-minute specialized lecture about CDM at the First National Chief Data Officer Seminar Series for Healthcare (Oct 19 2024, Beijing, China)
- Oral and poster presentation at 2024 OHDSI APAC symposium

Fund program

The open project for 2024 at the National Medical Products Administration's Key Laboratory for Pharmacovigilance Research and Evaluation:

Comparative Research on Design Factors and Statistical Analysis for Post-Marketing Drug Evaluation Based on Different Common Data Models (CDR2024R01001)

2024 年度立项课题名单

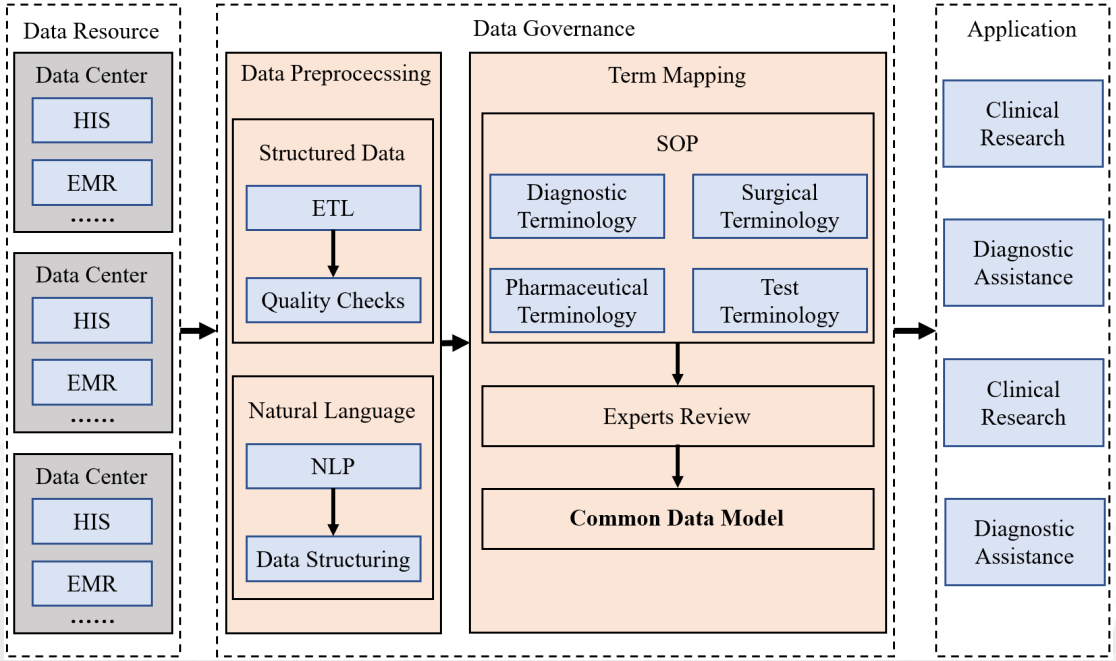
序号	课题名称	单位	课题编号
1	基于不同通用数据模型开展上市后药品评价的设计要素和统计分析策略对比研究	北京大学	CDR2024R01001
2	药品不良反应监测协作平台运行机制及信号管理研究	广东省药品不良反应监测中心	CDR2024R01002
3	哨点医院医疗器械警戒工作指南研究	山东省药品不良反应监测中心	CDR2024R01003
4	我国药物警戒数据共享与数据交换现状与发展研究	上海市药品和医疗器械不良反应监测中心	CDR2024R01004
5	药品不良反应报告智能辅助评价工具研究	广东省药品不良反应监测中心	CDR2024R01005
6	医疗机构药物警戒体系建设研究	南京大学医学院附属鼓楼医院	CDR2024R01006

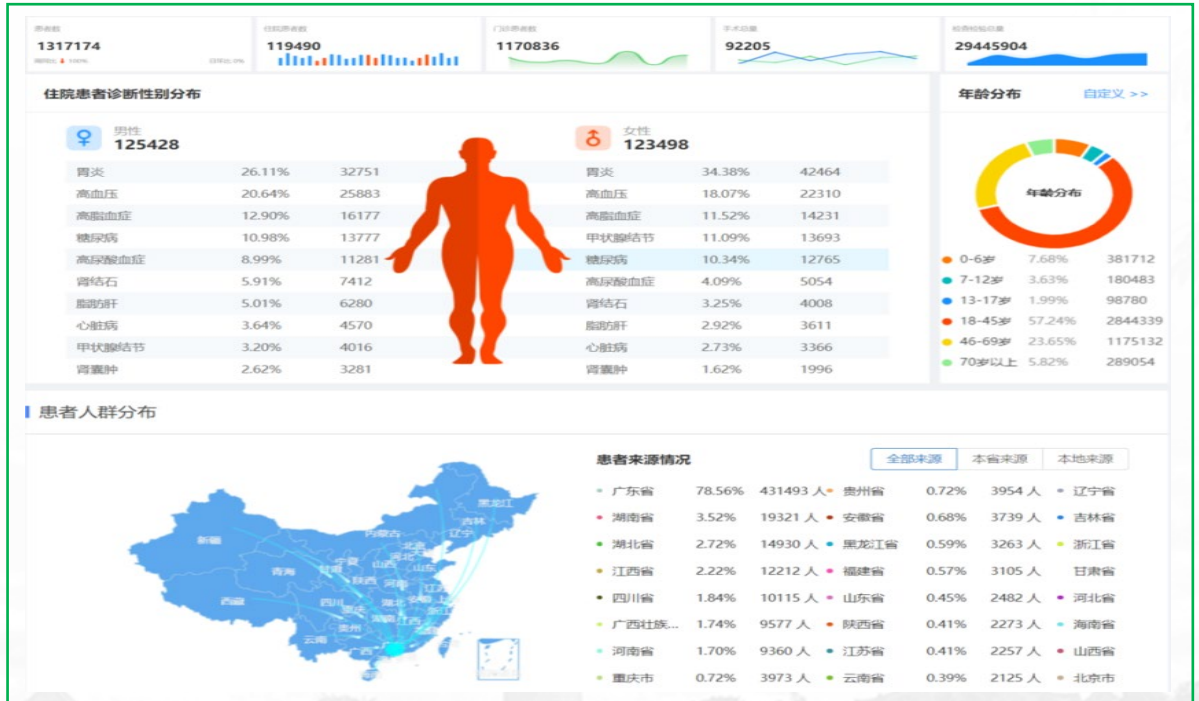
Study on Data Governance Based on OHDSI

Study on Data Governance of the Healthcare Big Data Platform Based on Common Data Model

- In order to promote the application of personalized healthcare big data and artificial intelligence in clinical diagnosis and treatment and health management, explore the mechanism of healthcare data sharing, openness and payment, create an environment for data circulation and innovative application, drive the new business form of digital economy, and promote the digital transformation of healthcare field with big data, a clinical big data scientific research analysis platform has been researched and built.

Data Governance processing based on common data model





Clinical big data research and analysis platform interface

Articles

基于通用数据模型的健康医疗大数据平台数据治理研究*

张弘政　刘速速　李　琳　承琅林　周　毅

（中山大学中山医学院　广州 510080）

〔摘要〕　以健康医疗大数据平台建设过程中的数据治理实践为例，从数据抽取与清洗、文本数据结构化和数据映射等方面探讨基于通用数据模型的多中心健康医疗大数据质量提升方法和技术，总结相关实践问题与经验，为跨机构、跨部门的健康医疗大数据治理提供参考。

〔关键词〕　健康医疗；大数据平台；通用数据模型；数据治理；数据质量

〔中图分类号〕R-058　〔文献标识码〕A　〔DOI〕10.3969/j.issn.1673-6036.2022.06.001

Study on Data Governance of the Healthcare Big Data Platform Based on Common Data Model　*ZHANG Hongzheng, LIU Mimi, LI Lin, CHENG Yinlin, ZHOU Yi, Zhongshan School of Medicine, Sun Yat-sen University, Guangzhou 510080, China*

〔Abstract〕　Taking the data governance practice in the construction of the healthcare big data platform as an example, the quality improvement methods and technologies of multi-center healthcare big data based on Common Data Model (CDM) are discussed from the aspects of data extraction and cleaning, text data structuring and data mapping, etc., and relevant practical problems and experiences are summarized, so as to provide references for interagency and cross-sectoral healthcare big data governance.

〔Keywords〕　health care; big data platform; Common Data Model (CDM); data governance; data quality

1　引言

1.1　研究背景

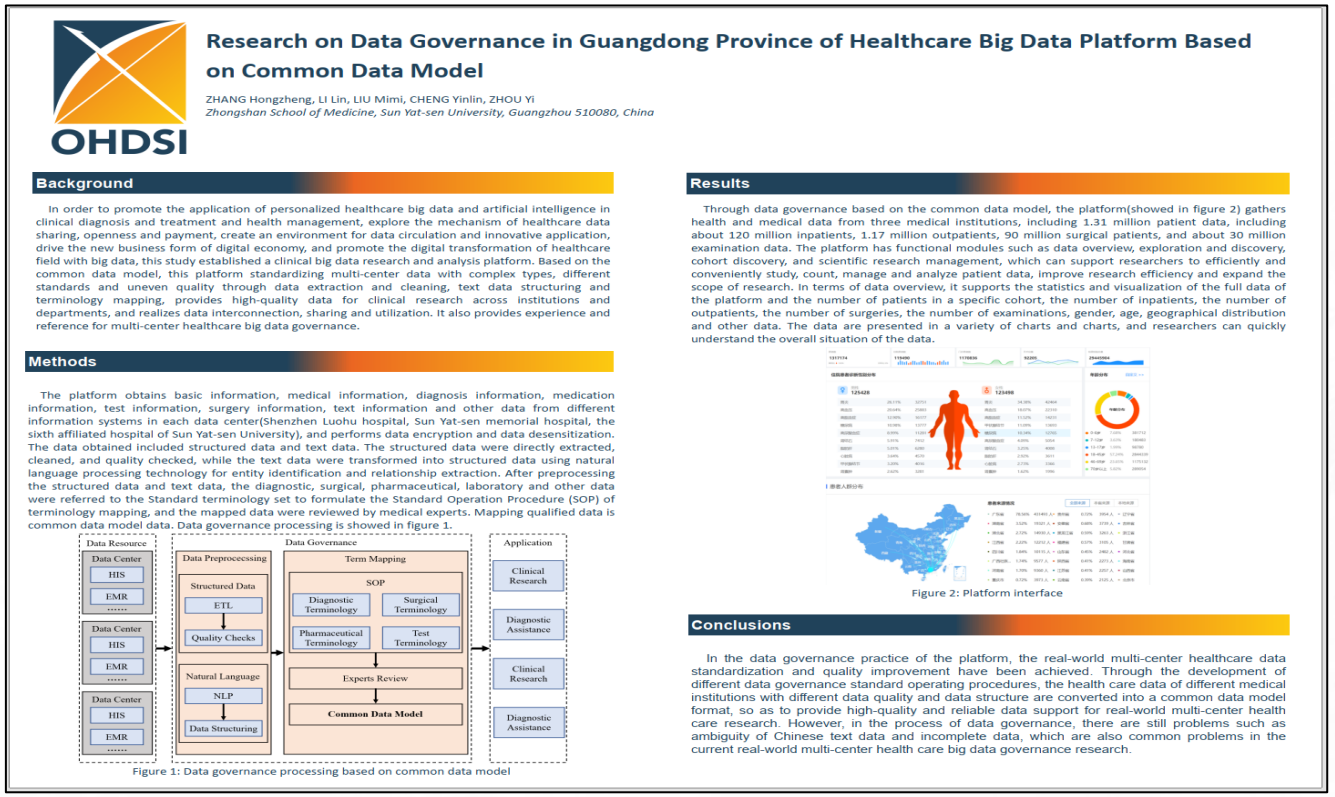
随着“互联网+”、大数据、人工智能、云计算等新兴技术的不断发展和应用，医疗卫生领域信息化程度和水平不断提升，随之产生的健康医疗数据也呈现快速增长[1-2]。这些健康医疗数据多源、多模态、异构且分散存储在不同医疗机构，具有巨大潜在价值，需要以真实世界多中心研究模式统一管理、高效共享和挖掘利用。但是目前我国医疗机构的健康医疗数据存在质量不高[3]、缺乏统一标准[4]等问题，开展多中心的大数据研究困难重重，真实世界健康医疗大数据也难以被真正挖掘和利

〔收稿日期〕　2022-05-23

〔作者简介〕　张弘政，硕士研究生；通信作者：周毅，教授，博士生导师。

〔基金项目〕　国家重点研发计划“友好智慧健康宜居环境系统集成研究”（项目编号：2021YFC2009402）；国家自然科学基金项目“基于非线性动力学驱动的癫痫发作预测深度学习研究”（项目编号：61876194）；广东省自然科学基金项目“基于机器学习的癫痫发作预测脑电及多模态数据模型研究”（项目编号：2021A1515011897）；广东省科技创新战略专项“泌尿系常见病智能诊疗与健康管理关键技术研究与示范”（项目编号：2020110200004）；广东省重大科技专项“膀胱癌人工智能一体化精准诊断平台的研发”（项目编号：2018B010109006）。

OHDSI APAC Poster



OHDSI

Research on Data Governance in Guangdong Province of Healthcare Big Data Platform Based on Common Data Model

ZHANG Hongzheng, LI Lin, LIU Mimi, CHENG Yinlin, ZHOU Yi
Zhongshan School of Medicine, Sun Yat-sen University, Guangzhou 510080, China

Background

In order to promote the application of personalized healthcare big data and artificial intelligence in clinical diagnosis and treatment and health management, explore the mechanism of healthcare data sharing, openness and payment, create an environment for data circulation and innovative application, drive the new business form of digital economy, and promote the digital transformation of healthcare field with big data, this study established a clinical big data research and analysis platform. Based on the common data model, this platform standardizing multi-center data with complex types, different standards and uneven quality through data extraction and cleaning, text data structuring and terminology mapping, provides high-quality data for clinical research across institutions and departments, and realizes data interconnection, sharing and utilization. It also provides experience and reference for multi-center healthcare big data governance.

Methods

The platform obtains basic information, medical information, diagnosis information, medication information, test information, surgery information, text information and other data from different information systems in each data center(Shenzhen Luohu hospital, Sun Yat-sen memorial hospital, the sixth affiliated hospital of Sun Yat-sen University), and performs data encryption and data desensitization. The data obtained included structured data and text data. The structured data were directly extracted, cleaned, and quality checked, while the text data were transformed into structured data using natural language processing technology for entity identification and relationship extraction. After preprocessing the structured data and text data, the diagnostic, surgical, pharmaceutical, laboratory and other data were referred to the Standard terminology set to formulate the Standard Operation Procedure (SOP) of terminology mapping, and the mapped data were reviewed by medical experts. Mapping qualified data is common data model data. Data governance processing is showed in figure 1.

Figure 1: Data governance processing based on common data model

Results

Through data governance based on the common data model, the platform(showed in figure 2) gathers health and medical data from three medical institutions, including 1.31 million patient data, including about 120 million inpatients, 1.17 million outpatients, 90 million surgical patients, and about 30 million examination data. The platform has functional modules such as data overview, exploration and discovery, cohort discovery, and scientific research management, which can support researchers to efficiently and conveniently study, count, manage and analyze patient data, improve research efficiency and expand the scope of research. In terms of data overview, it supports the statistics and visualization of the full data of the platform and the number of patients in a specific cohort, the number of inpatients, the number of outpatients, the number of surgeries, the number of examinations, gender, age, geographical distribution and other data. The data are presented in a variety of charts and charts, and researchers can quickly understand the overall situation of the data.

Figure 2: Platform interface

Conclusions

In the data governance practice of the platform, the real-world multi-center healthcare data standardization and quality improvement have been achieved. Through the development of different data governance standard operating procedures, the health care data of different medical institutions with different data quality and data structure are converted into a common data model format, so as to provide high-quality and reliable data support for real-world multi-center health care research. However, in the process of data governance, there are still problems such as ambiguity of Chinese text data and incomplete data, which are also common problems in the current real-world multi-center health care big data governance research.

3. Industrial Co-op

1. OHDSI-Compliant Pediatrics RWD Network supported by MOST

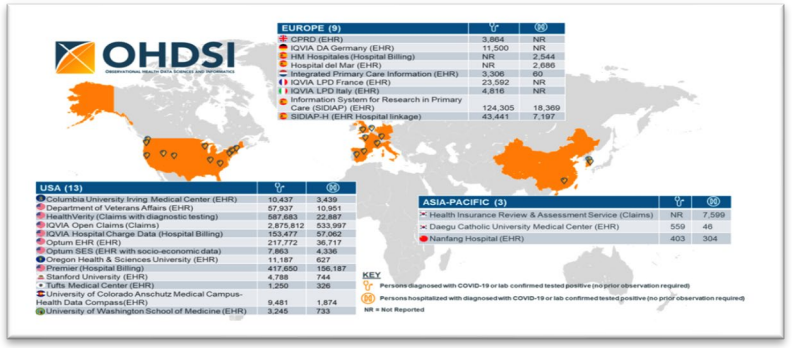
COVID-19 Study in Children

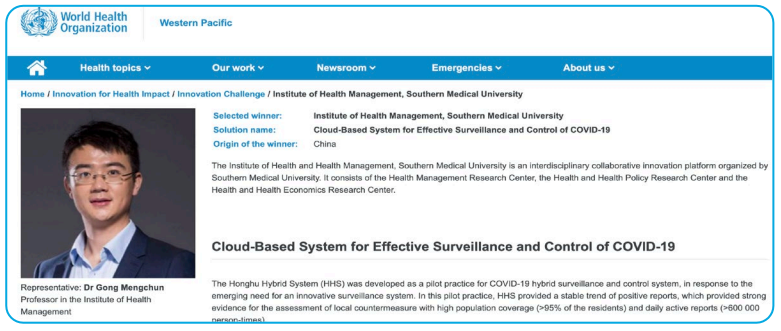
ARTICLES | SEPTEMBER 01 2021

Thirty-Day Outcomes of Children and Adolescents With COVID-19: An International Experience

Talita Duarte-Salles, PhD; David Vizcaya, PhD; Andrea Pistillo, MSc; Paula Casajust, MSc; Anthony G. Sena, BA; Lana Yin Hui Lai, PhD; Albert Prats-Uribe, MD; Waheed-Ul-Rahman Ahmed, PhD; Thamir M. Alshammari, PhD; Heba Alghoul, PhD; Osaid Alser, PhD; Edward Burn, PhD; Seng Chan You, PhD; Carlos Areia, PhD; Clair Blacketer, MPH; Scott DuVall, PhD; Thomas Falconer, MSc; S… Eng Hooi Tan, PhD; Vojtec… Martina Recalde, MPH; El… Lin Zhang, PhD; Ying Zhai… Patrick Ryan, PhD; Kristin…

PEDIATRICS®





Multiple Pediatrics Subspecialty RWD Networks

Autoimmune Diseases

- **首个**多中心、大样本、多组学研究队列及网络
- **中国**儿童免疫性疾病大数据研究**技术标准**
- “十四五”国家重点研发计划项目
  妇幼专项
  (2021YFC2702000)

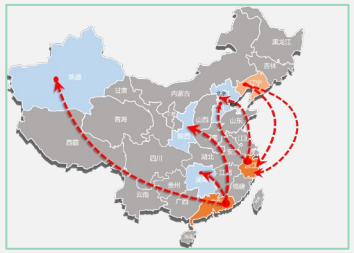
北京协和医院
神州医疗

Solid Tumors

- **首个**适应异构分布式数据环境
- **国家级**诊、疗、防数据智能网络平台
- “十四五”国家重点研发计划项目
  妇幼专项
  (2022YFC2705000)

中国医学科学院肿瘤医院
神州医疗

Infectious Diseases



- **国内首个建设**
- **全国**范围内儿童传染病哨点网络建设
- “十四五”国家重点研发计划项目
  妇幼专项
  (2022YFC2006400)

重庆医科大学儿童医院
神州医疗

Rare Diseases

- **智能一体化**服务平台及诊疗体系
- 早期发现、诊疗质控、全周期**精准干预**
- “十四五”国家重点研发计划项目
  妇幼专项
  (2023YFC2706300)

武汉同济医院
神州医疗

- **国家级儿童相关疾病多模态数据平台建设经验**
- **涵盖儿童免疫性疾病、儿童肿瘤及血液疾病、儿童感染性疾病、儿童罕见病**
- **神州医疗是上述国家级平台唯一的信息化技术支撑单位**

The Lancet Child & Adolescent Health
Volume 8, Issue 10, October 2024, Pages 762-772

Articles

Childhood-onset systemic lupus erythematosus in China, 2016–21: a nationwide study

Sihao Gao MD [a] *, Zhongxun Yu MD [a] *, Xudong Ma MD [d] *, Jialu Sun PhD [e] *, Prof Aiguo Ren PhD [f g], Sifa Gao PhD [d], Mengchun Gong MD [h], Prof Xiang Zhou MD [b c i] †, Mingsheng Ma MD [a] †, Prof Hongmei Song MD [a] †

THE LANCET
Child & Adolescent Health

- 儿童风湿病结核感染及结核潜伏感染的流行病学调查
- 中国多中心儿童期起病的原发性干燥综合征的临床特点及预后
- A20单倍剂量不足临床特征、治疗及预后分析-全国多中心回顾性研究
- 中国儿童JIA临床特点及治疗现状分析
- 幼年特发性关节炎过渡期患者的临床特点及治疗现状
- 难治性儿童系统性红斑狼疮的临床及免疫学特征分析
- 儿童单基因狼疮的临床识别模型验证
- 儿童多发性大动脉炎的临床特征、治疗及预后分析
- 系统性红斑狼疮分类标准在中国儿童人群的验证

Rapid Development of RWE Studies in China

神州医疗
Digital Health ^ Intelligence

National Key Research and Development Plan:
Maternal and Child Health Special Project:
Pediatric Rare Diseases Project

- Led by Tongji Hospital, Huazhong University of Science and Technology
- Subject 5 Undertaken by **DHC Co., LTD.** (Chief Scientist Mengchun Gong)
- **Joint Technical Research** by 10 National Institutions
- The **Sole** pediatric rare diseases project during the 14th Five-year Plan Period

南方醫科大學 Southern Medical University

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Article | Open Access | Published: 22 June 2023

Predicting in-hospital outcomes of patients with acute kidney injury

Changwei Wu, Yun Zhang, Sheng Nie, Daqing Hong, Jiajing Zhu, Zhi Chen, Bicheng Liu, Huafeng Liu, Qiongqiong Yang, Hua Li, Gang Xu, Jianping Weng, Yaozhong Kong, Qijun Wan, Yan Zha, Chunbo Chen, Hong Xu, Ying Hu, Yongjun Shi, Yilun Zhou, Guobin Su, Ying Tang, Mengchun Gong, Li Wang, ... Guisen Li

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Nature Communications **14**, Article number: 3739 (2023) | Cite this article

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Acute kidney injury (AKI) is prevalent and a leading cause of in-hospital death worldwide. Early prediction of AKI-related clinical events and timely intervention for high-risk patients could improve outcomes. We develop a deep learning model based on a nationwide multicenter cooperative network across China that includes 7,084,339 hospitalized patients, to dynamically predict the risk of in-hospital death (primary outcome) and dialysis (secondary outcome) for patients who developed AKI during hospitalization. A total of 137,084 eligible patients with AKI constitute the analysis set. In the derivation cohort, the area under the receiver operator curve (AUROC) for 24-h, 48-h, 72-h, and 7-day death are 95·05%, 94·23%, 93·53%, and 93·09%, respectively. For dialysis outcome, the AUROC of each time span are 88·32%, 83·31%, 83·20%, and 77·99%, respectively. The predictive performance is consistent in both internal and external validation cohorts. The model can predict important outcomes of patients with AKI, which could be helpful for the early management of AKI.

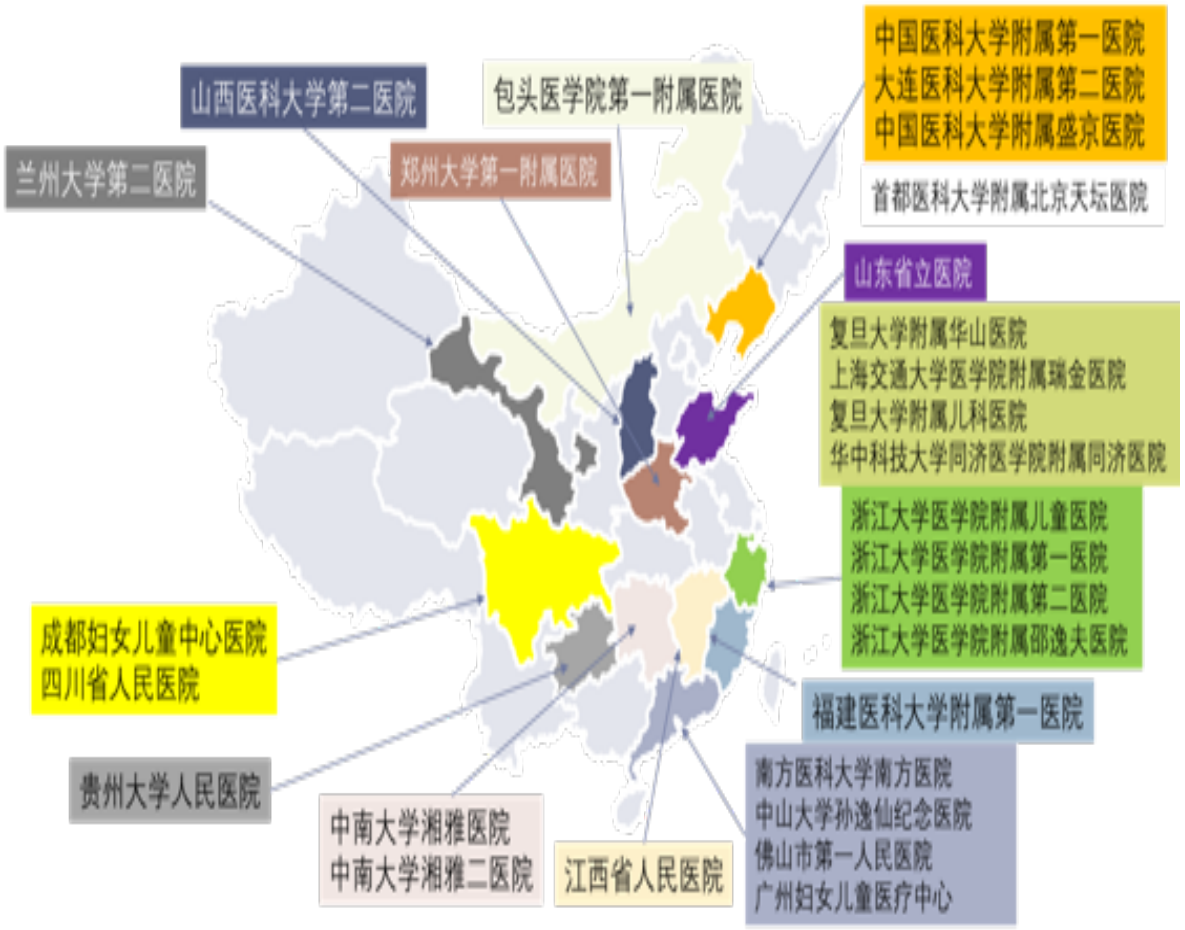
2. OHDSI-compliant Centralized Database in National Medical Centers

An EMR database of 30 million records

- Since 2019
- Southern Medical University, Nanfang Hospital
- National Clinical Research Center for Kidney Disease
- China Health Information and Big Data Association for Healthcare, Nephrology Specialty Committee
- **Largest** Single Centralized Electronic Medical Record Database for Nephrology
- Morality data
- Long-term follow-up data

CRDS- the Largest OHDSI-compliant Database in China

- 50+ Large tertiary hospital
- 35 million patient records
- Specialized Data Model for Nephrology
- Specialized Terminology Set for Nephrology
- Clinical Research Platform



The Largest RWE Study Center in China- OHDSI-compliant

- Predicting in-hospital outcomes of patients with acute kidney injury. Nat Commun. 2023 Jun 22;14(1):3739.
- Statin initiation and risk of incident kidney disease in patients with diabetes. CMAJ. 2023 May 29;195(21):E729-E738.
- Epidemiology and outcomes of post-AKI proteinuria. Clin Kidney J. 2023 May 26;16(11):2262-2270.
- Clinical predictive factors and prediction models for end-stage renal disease in Chinese patients with type 2 diabetes mellitus. Clin Transl Med. 2023 Jul;13(7):e1323.
- Immunosuppression versus Supportive Care on Kidney Outcomes in IgA Nephropathy in the Real-World Setting. Clin J Am Soc Nephrol. 2023 Sep 1;18(9):1186-1194.
- Post-treatment level of LDL-C and all-cause mortality in patients with atherosclerotic cardiovascular disease: evidence from real-world setting. Eur J Prev Cardiol. 2023 Nov 15:zwad354.

Nation-wide Impact RWE studies in Nephrology

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JOURNAL ARTICLE

Incidence, risk factors and outcome of postoperative acute kidney injury in China

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Yichun Cheng, Sheng Nie, Xingyang Zhao, Xin Xu, Hong Xu, Bicheng Liu, Jianping Weng, Chen Chunbo, Huafeng Liu, Qiongqiong Yang, Hua Li, Yaozhong Kong, Guisen Li, Qijun Wan, Yan Zha, Ying Hu, Yongjun Shi, Yilun Zhou, Guobin Su, Ying Tang, Mengchun Gong, Fan Fan Hou, Shuwang Ge, Gang Xu

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Published: 23 January 2024 Article history

Signal Transduction and Targeted Therapy

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ARTICLE OPEN

Real-world effectiveness of early insulin therapy on the incidence of cardiovascular events in newly diagnosed type 2 diabetes

Sihui Luo[1], Xueying Zheng[1], Wei Bao[1,2], Sheng Nie[3], Yu Ding[1], Tong Yue[1], Yilun Zhou[4], Ying Hu[5], Hua Li[6], Qiongqiong Yang[7], Qijun Wan[8], Bicheng Liu[9], Hong Xu[10], Guisen Li[11], Gang Xu[12], Chunbo Chen[13], Huafeng Liu[14], Yongjun Shi[15], Yan Zha[16], Yaozhong Kong[17], Guobin Su[18], Ying Tang[19], Mengchun Gong[20], Linong Ji[21]✉, Fan Fan Hou[3]✉ and Jianping Weng[1]✉

Early insulin therapy is capable to achieve glycemic control and restore β-cell function in newly diagnosed type 2 diabetes (T2D), but its effect on cardiovascular outcomes in these patients remains unclear. In this nationwide real-world study, we analyzed electronic health record data from 19 medical centers across China between 1 January 2000, and 26 May 2022. We included 5424 eligible patients (mean age 56 years, 2176 women/3248 men) who were diagnosed T2D within six months and did not have prior cardiovascular disease. Multivariable Cox regression models were used to estimate the associations of early insulin therapy (defined as the first-line therapy for at least two weeks in newly diagnosed T2D patients) with the incidence of major cardiovascular events including coronary heart disease (CHD), stroke, and hospitalization for heart failure (HF). During 17,158 persons years of observation, we documented 834 incident CHD cases, 719 stroke cases, and 230 hospitalized cases for HF. Newly diagnosed T2D patients who received early insulin therapy, compared with those who did not receive such treatment, had 31% lower risk of incident stroke, and 28% lower risk of hospitalization for HF. No significant difference in the risk of CHD was observed. We found similar results when repeating the aforesaid analysis in a propensity-score matched population of 4578 patients and with inverse probability of treatment weighting models. These findings suggest that early insulin therapy in newly diagnosed T2D may have cardiovascular benefits by reducing the risk of incident stroke and hospitalization for HF.

Signal Transduction and Targeted Therapy (2024)9:154 ; https://doi.org/10.1038/s41392-024-01854-9

3. Multicenter Database Construction led by Medical Universities

- GDMU-CDM
- Developed based on OMOP-CDM
- Incorporating features from radiology and pathology
- First university-wide data model standard in China

广东医科大学发布《多模态临床诊疗通用数据模型标准》（1.0版本），助力医疗数据标准化与创新

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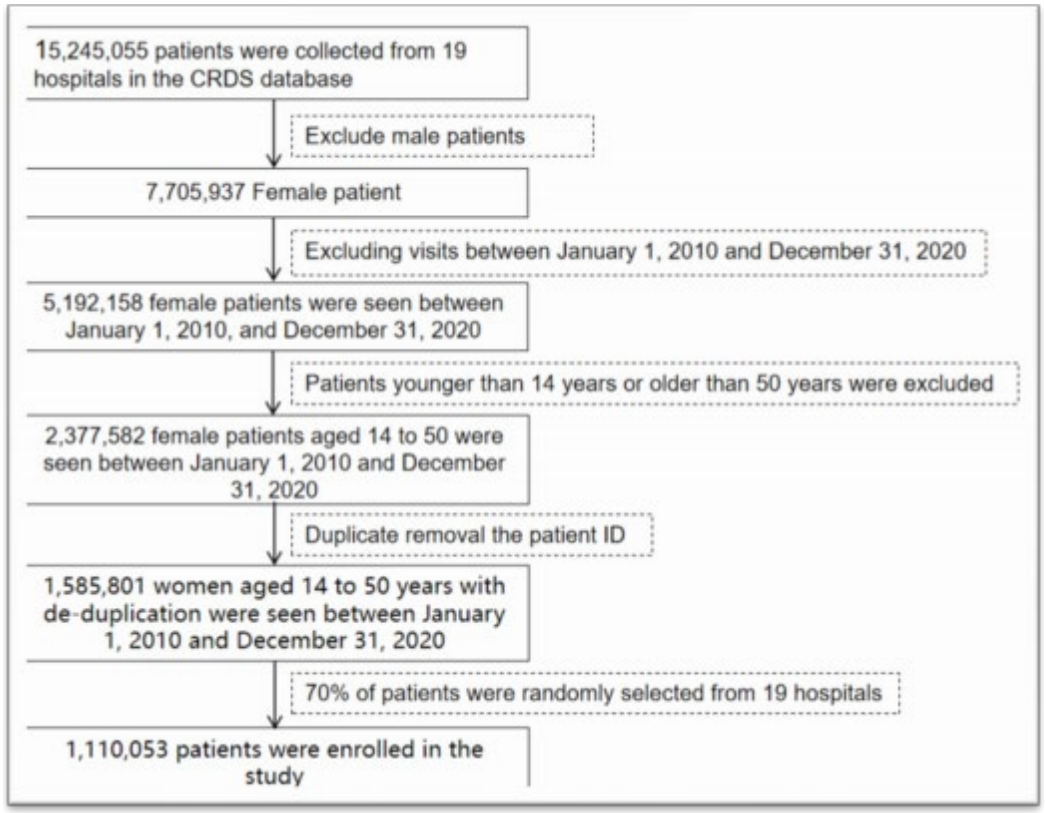
- Enable the industry for further improvement



4. Innovation for Further Data Sharing and Contribution to OHDSI Soceity

J Med Internet Res. 2024 Aug 20;26:e46455.

A Targeted Strategy for Sensitive Information Protection

EPPGI
Extraction Protocol of Pregnancy and Gestation Information

Table 4. Confusion matrix of EPPGI[a] method.

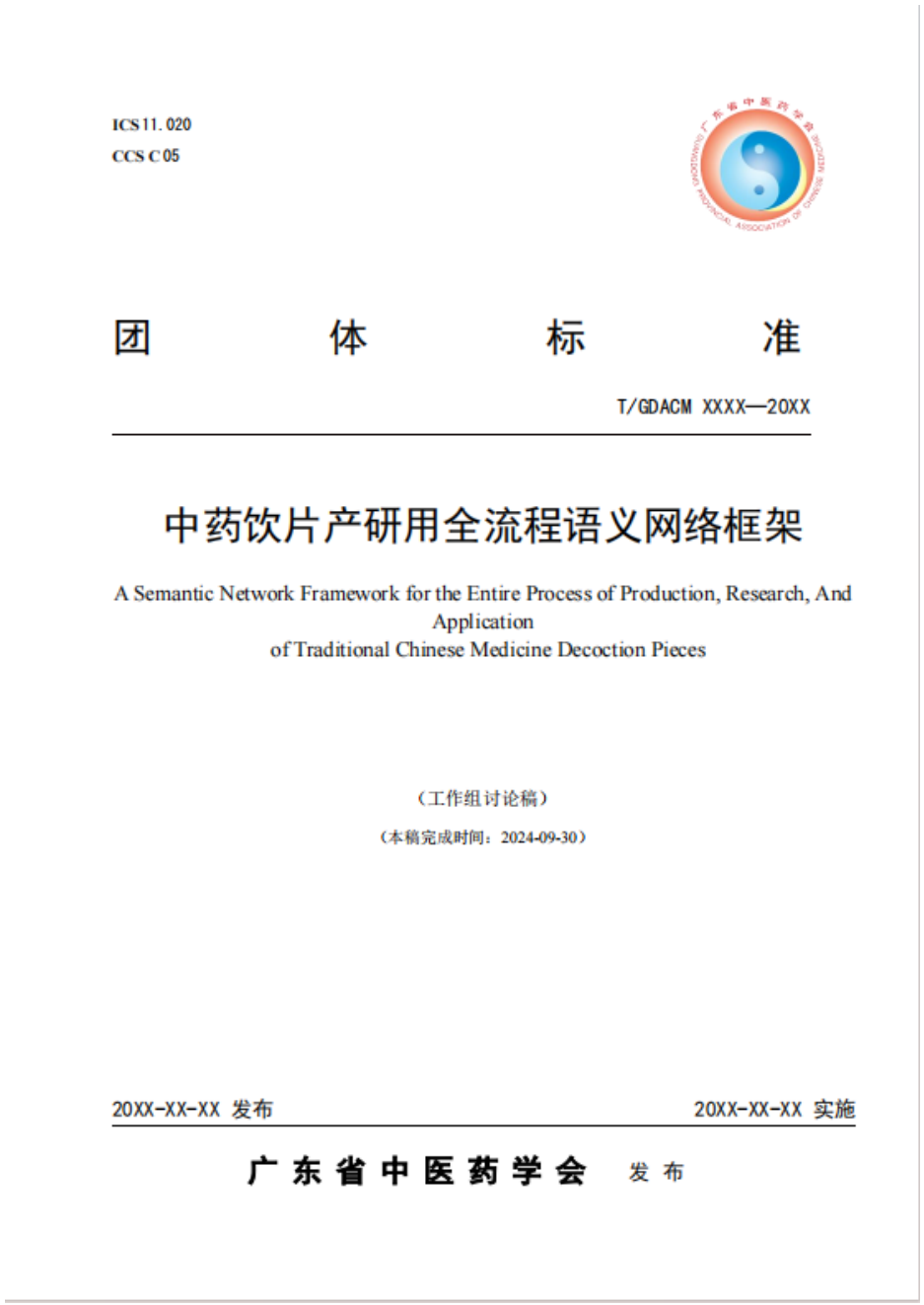
Prediction	Reference	
	0	1
0	377	2
1	0	621

[a]EPPGI: Extraction Protocol of Pregnancy and Gestation Information.

Table 5. Confusion matrix of the method using only diagnosis and marital history

Prediction	Reference	
	0	1
0	377	166
1	0	457

J Med Internet Res. 2024 Aug 20;26:e46455.



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A Semantic Network Framework for the Entire Process of Production, Research, And Application
of Traditional Chinese Medicine Decoction Pieces

（工作组讨论稿）

（本稿完成时间：2024-09-30）

20XX-XX-XX 发布　　20XX-XX-XX 实施

广东省中医药学会　发布

4. Innovation for Further Data Sharing and Contribution to OHDSI Soceity

- TCM Decotion Pieces Coding System
- Decotion: Prepared slices of Chinese crude drugs
- The basic data element for RWE studies in TCM
- Ready to be shared with OHDSI Society

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CHINA

OHDSI CHINA 2024 Recap

2024/12