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Biography 講者介紹

Chen Mao, Professor, Deputy Dean of School of Public Health, Southern Medical University, he has been awarded "Chang Jiang Scholars Program" as a young scholar and appointed Distinguished Professor of "Pearl River Scholar" in Guangdong Province. He is the principal of the National Research Institute of and Talent Training Demonstration Base of Healthcare Big Data approved by the National Health Commission, and the principal of the Engineering Research Center of the Ministry of Education. He won the 9th Shulan Medical Youth Award and the 24th Guangdong Youth Medal. He has committed to carrying out epidemiological research based on the healthcare big data, and has published more than 90 articles as first or corresponding author in *BMJ, Ann Intern Med, Chinese Medical Journal,* and other well-known journals. Three articles were selected as ESI highly cited papers and three articles were recommended by F1000. The H-index is 34. As principal investigator, he has 5 national research projects including the National Natural Science Foundation of China.

毛琛，二級教授，南方醫科大學公共衛生學院副院長、流行病學系主任；教育部青年長江學者、珠江學者特聘教授；國家衛健委國家健康醫療大數據研究院和人才培訓示範基地負責人，教育部工程研究中心負責人；獲樹蘭醫學青年獎、廣東省青年五四獎章。致力於開展基於健康醫療大數據的流行病學研究，以通訊/第一作者在BMJ、Ann Intern Med、《中華醫學雜誌》等發表論文90餘篇，3篇入選ESI高被引，3篇獲F1000推薦，H指數34；主持國自然面上項目等國家級課題5項。

Abstract 題目摘要

Epidemiological research based on the healthcare big data:
Opportunities and challenges
基於健康醫療大數據的流行病學研究：機遇和挑戰

Data has shown explosive growth with the development and application of emerging information technologies such as the Internet of Things and mobile Internet. In 2015, promoting the application and development of healthcare big data was included in the national development strategy, marking that healthcare big data has become a basic strategic resource. During the COVID-19 pandemic, healthcare big data has played a huge role in epidemic research and identification, identification of infected people, tracing of close contacts, and resumption of work and production. Large scale, multiple types, rapid updates, great value, and authenticity characterize healthcare big data. However, there are multiple challenges in computation, data analysis, study design, and bias. In response to the development strategy of healthcare big data applications, the team prepared to build the National Research Institute of and Talent Training Demonstration Base of Healthcare Big Data approved by the National Health Commission and has built a big data supercomputing platform. In addition, as Shenzhen is one of the regions with the highest level of medical and health informatization in China, it has realized the information connectivity of social health system, electronic medical record system, and cause of death monitoring system in the health management of the elderly, hypertension, diabetes, etc. Based on the above system, the team establish the Shenzhen Health Data Cohort. Relying on the established healthcare big data research platform, through multi-level and all-round data mining, the team has achieved a series of research results on the epidemiology of infectious diseases and non-communicable diseases. Among them, based on the big data of public health and travel monitoring, we clarified the secondary risk of close contacts and the transmission risk of asymptomatic infected persons in different settings, providing scientific support for optimizing and adjusting epidemic prevention and control policies. In addition, we elucidated the health effects of fish oil on the risk of cardiovascular disease and mortality in the real world based on a large population cohort, providing a scientific basis for the primary prevention of cardiovascular diseases.

隨著物聯網、移動互聯網等新興信息技術的發展應用，數據呈現爆發式增長。2015年，促進健康醫療大數據的應用和發展被納入國家發展戰略，標誌著健康醫療大數據成為基礎性戰略資源。新冠肺炎疫情期間，健康醫療大數據在疫情研判、感染者識別、密切接觸者追蹤、復工復產等方面發揮了巨大作用。健康醫療大數據具有規模大、類型多、更新快、價值大和真實性的特徵。然而，在計算、數據分析、研究設計、偏倚等方面存在多重挑戰。為響應健康醫療大數據應用發展戰略，團隊籌建國家健康醫療大數據研究院（國家衛健委批准建設；全國三家同級機構之一）和人才培訓示範基地並建成大數據超算平台。另外，鑑於深圳是全國醫療健康信息化水平最高的地區之一，在老年人、高血壓、糖尿病等健康管理方面實現了社康系統、電子病歷系統、死因監測系統等的信息聯通，團隊基於上述系統建立基於國家基本公共衛生服務項目的深圳隊列。依托建成的健康醫療大數據研究平台，通過多層次、全方位數據挖掘，團隊取得了一系列傳染病與慢性病流行病學研究成果。其中，基於公共衛生及行程監測大數據，闡明了不同場景中新冠密切接觸者續發風險及無症狀感染者傳播風險，為優化調整疫情防控政策提供科學支持；另外，基於超大規模人群隊列，闡明了真實世界中魚油對心血管疾病發病及死亡風險的健康效應，為心血管疾病的一級預防提供科學依據。