https://bmjpublichealth.bmj.com/

https://bmjpublichealth.bmj.com/content/3/2/e003585

BMJ Public Health is an international, open access and peer-reviewed journal of public health.

BMJ Public Health is an international, open access and peer-reviewed journal, publishing work related to all aspects of public health, from global issues such as the impact of climate change on population health, to studies conducted in specific locations.

Underpinning the journal is BMJ's primary purpose: to share knowledge and expertise that improve health outcomes through better evidence, better decisions and better systems. *BMJ Public Health* will work with the public health community, at all levels, to publish rigorous qualitative and quantitative research and analysis to drive evidence-based public health policy and practice.

Chair of the Advisory Board: Professor Helena Legido-Quigley, George Institute for Global Health, Imperial College London

Editorial team

Call for papers! BMJ Public Health invites submissions for the following topic collections:

- Migration and Health: A Solution-Focused Approach
- Rational Sustainability Perspectives in Public Health

Authors

BMJ Public Health accepts submissions on a range of article types, including original research, reviews and protocols.

Author Information | Submit a paper

The Author Information section provides specific article requirements to help you turn your research into an article suitable for *BMJ Public Health*.

Information is also provided on editorial policies and open access.

Latest Articles

ORIGINAL RESEARCH:

Self-harm and suicidal behaviours among undergraduate students in Gandaki Province, Nepal: a cross-sectional study

30 December 2025

PROTOCOL:

Behavioural economics intervention to implement a nutrition ranking system in food pantries: Be Well cluster randomised controlled trial protocol

30 December 2025

ORIGINAL RESEARCH:

Willingness-to-pay for community-based health insurance among formal and informal doctors in Dhaka, Bangladesh: a comparative cross-sectional study

30 December 2025

ORIGINAL RESEARCH:

Qualitative evaluation of the Mentor Mothers' programme in Nigerian military hospitals: the path to meeting PMTCT targets

30 December 2025

ORIGINAL RESEARCH:

Understanding the epidemiology of TB-HIV co-infection in Indonesia: evidence from the 2023 national TB registry

29 December 2025

Related Journals

BMJ Global Health

Current issue

Visit this journal

Journal of Epidemiology and Community Health (JECH)

Current issue

Visit this journal

Lifestyle Medicine Advances

Current issue

Visit this journal

Intended for healthcare professionals

About

Acceptance rate:

32%

Time to first decision without review:

10 days*

Time from acceptance to publication:

30 days*

Total content views:

319,441

Total Altmetric mentions:

20,799

More journal metrics

How we get these metrics

*median number of days

Aims and scope

BMJ Public Health is an international, open access and peer-reviewed journal of public health. We publish work related to all aspects of public health, from global issues such as the impact of climate change on population health, to studies conducted in specific locations.

Underpinning the journal is BMJ's primary purpose: to share knowledge and expertise that improve health outcomes through better evidence, better decisions and better systems. BMJ Public Health will work with the public health community, at all levels, to publish rigorous qualitative and quantitative research and analysis to drive evidence-based public health policy and practice.

The journal welcomes submissions on a range of topics, including health policy, health systems, gender issues in health, mental and behavioural health, digital health, infectious diseases, non-communicable diseases, chronic diseases and disease outbreaks. We also welcome submissions that focus on the social determinants of health and well-being, including nutrition, socio-economic status, health literacy, physical activity, and the environment using a broad range of methods from the social and biomedical sciences.

BMJ Public Health is a companion journal to BMJ Global Health.

Editorial Board

For information about the *BMJ Public Health* editorial team, please refer to the Editorial Board page.

Journal information

Publication Model

BMJ Public Health is owned by BMJ.

Publication Model

Open access

Frequency

Continuous online publication

Launch date

2023

Digital Archives

Portico, LOCKSS

Indexed by

DOAJ; Google Scholar; PubMed Central

Peer review model

Single anonymised; the names of reviewers are hidden from the author

Online ISSN

2753-4294

Journal Statistics 2024

Acceptance rate: 32%

Speed

Time to first decision with review: 137 days (median)

Time to first decision without review: 10 days (median)

Time from acceptance to publication: 30 days (median)

Reach

Total content views: 319,441

Total Altmetric mentions: 20,799

DORA

The impact that academic research has cannot be defined by one single metric. In 2013, BMJ signed the San Francisco Declaration on Research Assessment (DORA). We did this to show our support for using multiple measures and metrics to portray journals' impact; moving away from the Impact Factor as a single measure.

How we get these metrics

Affiliations

C O P E
Member since 2013
JM08854

BMJ is a founding member of COPE (the Committee on Publication Ethics), which provides a forum for publishers and Editors of scientific journals to discuss issues relating to the integrity of the work submitted to or published in their journals.

MEMBER OF OASPA

The mission of OASPA is to support and represent the interests of open access journal publishers globally in all scientific, technical, and scholarly disciplines. BMJ Publishing Group has been a member since 2009.

creative commons

Open Access articles in BMJ Public Health are licensed using either Creative Commons Attribution (CC BY) or Attribution Non-Commercial (CC BY-NC) license. These licenses let others distribute, remix, tweak and build upon your work.

+AllTrials

BMJ is a founding organisation of the AllTrials initiative, which calls for all past and present clinical trials to be registered and their results reported.

CONTENT

Latest content

Archive

JOURNAL

About

Editorial board

Sign up for email alerts

Thank you to our reviewers

AUTHORS

Instructions for authors

Submit an article

Open access at BMJ

HELP

Contact us

Reprints

Permissions

Feedback form

Accessibility

Online ISSN: 2753-4294

Table of contents

July 2025 - Volume 3 - 2

COMMENTARY

4 November 2025 • Open access

Decision support tools in the absence of equipoise: the case for vaccination

Daphne Bussink-Voorend, Marlies EJL Hulscher, Glyn Elwyn

ORIGINAL RESEARCH

30 December 2025 • Open access

Prev issue Next issue

Bangladesh: a comparative cross-sectional study

25 December 2025 • Open access

Heatwave and dementia: a systematic analysis for the Global Burden of Disease Study 2019

Yinhan Chen, Yanan Luo, Le Yu, Xiaoying Zheng, Qiang Luo

25 December 2025 • Open access

Estimating the value of face coverings during the COVID-19 epidemic: a dynamic causal modelling study

Cam Bowie, Anthony Costello, Karl Friston

25 December 2025 • Open access

Smoking reduction trajectories and their association with smoking cessation: a secondary analysis of longitudinal clinical trial data

Anthony Barrows, Elias Klemperer, Hugh Garavan, Nicholas Allgaier, Nicola Lindson, Gemma Taylor

25 December 2025 • Open access

Prevalence, risk factors and knowledge of noise-induced hearing loss among metal fabricators in Mbarara city, Uganda: a cross-sectional study

Brian Agaba, Doreen Nakku, Esther Nakasagga, Daniel Atwine

25 December 2025 • Open access

Reducing stigma towards incarcerated populations: a systematic review of intervention studies

Tazeen Majeed, Jo Taylor, David Stuckler, Erica Breuer, Cristiane Silvestre Paula, Tanmay Bagade, Smriti Nepal, Manuela Jarrett, Leigh Haysom, Elizabeth Sullivan, Sara Evans-Lacko

25 December 2025 • Open access

Pandemic risk-related behaviour change in England from June 2020 to March 2022: the cross-sectional REACT-1 study among over 2 million people

Nicholas Steyn, Marc Chadeau-Hyam, Matthew Whitaker, Christina Atchison, Deborah Ashby, Graham S Cooke, Helen Ward, Paul Elliott, Christl A Donnelly

21 December 2025 • Open access

Prevalence of postpartum family planning uptake and its association with couples' joint decision-making: a community-based cross-sectional study in rural Sindh, Pakistan

Jannat Khurram, Fauzia Basaria Hasnani, Sarah Saleem, Shiyam Sunder Tikmani

18 December 2025 • Open access

Chloe Xiaoyun Chan, Yingqiu Dong, Pamela Lim, Shikha Kumari, Ajay Nambiar, Yu Han Chee, Diarmuid Paul Murphy, Rajesh Babu, Choon Chiet Hong, Yaser Hasan Muhammed

9 December 2025 • Open access

Occupational physical activity and risk of all-cause, cardiovascular disease and cancer mortality among adults in the USA: a national cohort study

Yinchu Li, Jingkuo Li, Lubi Lei, Fang Yu, Yanwu Yu, Zhenyan Zhao, Lihua Zhang

9 December 2025 • Open access

Depression and the revolving door of HIV care: using multistate approaches to understand complex longitudinal exposure/outcome relationships among a cohort of people entering HIV care in Cameroon from 2019 to 2020

Lindsey M Filiatreau, Peter Vanes Ebasone, Aaloke Mody, Anastase Dzudie, Marcel Yotebieng, Milton Wainberg, Angela M Parcesepe

9 December 2025 • Open access

Association of lifestyle change after H. pylori eradication with cardiovascular disease: a nationwide Korean NHIS cohort study

Jinju Choi, Kyungdo Han, Cheol Min Shin, Jin-Hyung Jung, Se Yun Kim, Seung-Gyun Im, Hyemin Jo, Ho-Kyoung Lee, Eun Hyo Jin, Seung Joo Kang, Joo Hyun Lim, Yoon Jin Choi, Dong Ho Lee

9 December 2025 • Open access

Acceptability of a carbon monoxide monitoring feature of a smoking cessation mobile application: a virtual focus group study

Lydia Tesfaye, Michael Wakeman, Gunnar Baskin, Tim Gregory, Greg Gruse, Erin Leahy, Brandon Kendrick, Sherine El-Toukhy

9 December 2025 • Open access

Impact of prenatal depression, anxiety and stress on low birth weight: a retrospective case-control study in Karachi, Pakistan

Fatima Nazir, Sameera Ali Rizvi, Tahir Munir

7 December 2025 • Open access

Global, regional and national population attributable fraction of potentially modifiable risk factors for dementia in the adult population: an analysis using global health databases

Stefano Giannoni-Luza, Daniele Urso, Giancarlo Logroscino

7 December 2025 • Open access

Impact of COVID-19 non-pharmaceutical interventions on bacterial infections in children: an international electronic health record-based study

Joany M Zachariasse, Alba Gutiérrez-Sacristán, Simran Makwana, Xiudi Li, Surbhi Bhatnagar, David A Hanauer, Mundeep K Kainth, Michele Morris, Paula Rubio-Mayo, Carlos Sáez, Mohsin Ali Shah, Bruce J Aronow, Rafael Badenes, Tianxi Cai, Noelia Garcia Barrio, Richard W Issitt, Kenneth D Mandl, Gregorio P Milani, Karyn Moshal, Jane W Newburger, Gilbert S Omenn, Nekane Romero-Garcia, Francesca Sperotto, Anastasia Spiridou, Shyam Visweswaran, Zongqi Xia, Florence T Bourgeois, Paul Avillach

4 December 2025 • Open access

Complex, multilevel barriers and solutions for nutrition security in the USA: a community-based participatory research approach

Brittany D Linde, Rachel J Meadows, Ellyn Maese, Chris Miljanich, Hannah Frome, Matthew Dufrene

3 December 2025 • Open access

A competency-based leadership framework for public health trainers in Meghalaya: insights from a multi-method study

Dipika Bumb, Pallavi Gupta, Shalini C Nooyi, Nayanjeet Chaudhury

3 December 2025 • Open access

Evaluating the long-term cost-effectiveness of the COBRA-BPS programme in Pakistan

Carlos Chivardi, Zainab Samad, Tao Chen, Simon Mark Walker

3 December 2025 • Open access

Mixed-methods study assessing the acceptability and feasibility of Human Challenge Studies for Disease X in Healthy UK Adults in a SARS-CoV-2 pandemic setting

Katherine RW Emary, Rebecca te Water Naude, Arabella Stewart, Maia Patrick-Smith, John A Henry, Marcus English, Tonia M Thomas, Naomi Douglas, Maria Moore, Andrew J Pollard, Samantha Vanderslott, Susanne H Hodgson

3 December 2025 • Open access

Awareness and use of oral nicotine pouches among youth and young adults, 2022–2024: repeat cross-sectional surveys in Canada, England, the USA and New Zealand

Jessica L Reid, Robin Burkhalter, Jude Ball, Kenneth Michael Cummings, Katherine East, Richard Edwards, Geoffrey T Fong, Andrew Hyland, Richard O'Connor, David Hammond

3 December 2025 • Open access

Colm Walsh, Lisa Bunting, Gavin Davidson, Ciaran Mulholland, Claire McCartan, Nicola Doherty, Mark Shevlin

25 November 2025 • Open access

Excess mortality at ages 20–64 from 2020 to 2024: a comparative analysis of 16 European countries

Gianfranco Alicandro, Alberto Giovanni Gerli, Carlo La Vecchia

25 November 2025 • Open access

Association of paternal preconception hepatitis B virus infection with the risk of preterm birth between 2010 and 2020 in China: a population-based cohort study

Chuanyu Zhao, Ying Yang, Hanbin Wu, Jueming Lei, Meiya Liu, Jiaxin Li, Xinyi Lyu, Xuan Hu, Yiyao Jin, Tsomo TENZIN, Ziyi Cheng, Wanyi Fu, Jihong Xu, Yuan He, Yuanyuan Wang, Zuoqi Peng, Ya Zhang, Hongguang Zhang, Qiaomei Wang, Yiping Zhang, Haiping Shen, Donghai Yan, Xu Ma

21 November 2025 • Open access

Burden of SARS-CoV-2 infection and severe illness in South Africa (March 2020–August 2022): a synthesis of epidemiological data

Larisse Bolton, Stefano Tempia, Sibongile Walaza, Waasila Jassat, Kaiyuan Sun, Debbie Bradshaw, Rob Dorrington, Jackie Kleynhans, Neil Martenson, Anne von Gottberg, Nicole Wolter, Juliet R C Pulliam, Cheryl Cohen

21 November 2025 • Open access

Mixed-methods investigation into the prevalence, patterns and determinants of prisoner self-harm during the COVID-19 pandemic in England and Wales compared with prepandemic self-harm (COPE)

Kerry Gutridge, Matthias Pierce, Auden Edwardes, Louise Robinson, Emma Plugge, Paula Harriott, Jenny Shaw, Kathryn M Abel

21 November 2025 • Open access

Strengthening research capacity in Cameroon: qualitative insights on the impact of mentorship, training and funding on receiving seed grants

Julie Marie Buser, Jovanny Fouogue, Ella August, Rachel Louise Gray, Demsash Hailu, Tamrat Endale, Yolanda R Smith, Jeanne Fouedjio

21 November 2025 • Open access

Chronic kidney disease progression, long-term nursing care burden and habitual physical activity: an observational study in Japan

Yuki Ohashi, Akitaka Sugishita, Haruka Kurokawa, Yoko Hori, Sawako Kato, Masaaki Mizuno, Masahiro Nakatochi

21 November 2025 • Open access

Role of alcohol in urgent ambulance contacts in the Capital Region of Denmark: a 9-year population-based study across sex and age groups

Alberte Brix Curtis, Laura Staxen Bruun, Helle Collatz Christensen, Stig Nikolaj Fasmer Blomberg, Fredrik Folke, Karen Smith, Ulrik Becker, Janne Tolstrup

19 November 2025 • Open access

Integrating gender in health interventions for adapting to extreme heat in low- and middle-income countries: a scoping review

Karthika Kumar, Gabriela De Jesus Cipriano Flores, Zeinab Umme Mulla, Jane E Hirst

19 November 2025 • Open access

Occupation: a predisposing factor for SARS-CoV-2 infection among hospital employees? A single-centre retrospective cohort study conducted in Austria

Maximilian Egg, Tibor Spath, Sophie Brunner-Ziegler, Claudia A Hana, Helga Radner-Lechner, Nikolaus Urban, Stefan Czerny, Florian Thalhammer, Robert Strassl, Bernd Jilma, Bernhard Parschalk, Maximilian Schnetzinger, Alessandra Handisurya

19 November 2025 • Open access

Access to emergency care in primary healthcare system in Tanzania: a mixed-method community-based study in a resource-limited setting

Gimbo Hyuha, Manase Kilonzi, Nathanael Sirili, Notikela Nyamle, George Kiwango, Juma Athumani Mfinanga, Raya Mussa, Gasto Frumence, Hendry R Sawe

13 November 2025 • Open access

Mixed-methods psychosocial autopsy study of suicide in young and middle-aged individuals in the Netherlands

Elias Balt, Saskia Mérelle, Stefan Vrinzen, Merijn Eikelenboom, Amra Žerić, Dewi Wiggers, Renske Gilissen, Daan Creemers, Arne Popma

13 November 2025 • Open access

Racial and ethnic variation in perceived relative harm of tobacco and nicotine products: an experimental study

Teresa DeAtley, Matthew D Stone, Andrea C Johnson, Melissa Mercincavage, Andrea C Villanti, David W Wetter, Janet Audrain-McGovern, Cristine Delnevo, Andrew A Strasser

4 November 2025 • Open access

Valérie Potard, Fabienne Caby, Malamine Gassama, Emilie Lanoy, Sylvie Abel, Firouzé Bani-Sadr, Agathe Becker, Sylvie Bregigeon, Blandine Denis, Pierre de Truchis, Claudine Duvivier, Christine Katlama, Isabelle Lamaury, Guillaume Martin-Blondel, Jean-Luc Meynard, Lionel Piroth, Axel Ursenbach, Olivier Robineau, Pierre Tattevin, Dominique Costagliola, Sophie Grabar

13 November 2025 • Open access

Role of tuberculosis symptoms in transmission risk to cell contacts in prisons

Wanessa da Silva Peres Bezerra, Esther Jung, Mariana Garcia Croda, Roberto Dias de Oliveira, Andrea da Silva Santos, Daniel Henrique Tsuha, Paulo Cesar Pereira dos Santos, Eunice Atsuko Totumi Cunha, Julio Henrique Rosa Croda, Jason Randolph Andrews

13 November 2025 • Open access

Association between catastrophic health expenditure and mortality in older people in 11 European health systems: a longitudinal analysis between 2006 and 2020

Raffaele Palladino, Christopher Millett, Michele Sorrentino, Michelangelo Mercogliano, Paolo Montuori, Thomas Hone

13 November 2025 • Open access

Temporal comorbidity patterns preceding MASLD-related major adverse liver outcomes: a nationwide population-based case–control study in Sweden

Joost Boeckmans, Linnea Widman, Rickard Strandberg, Ying Shang, Axel Wester, Hannes Hagström

13 November 2025 • Open access

Community-level factors influencing the duration of buprenorphine treatment in individuals with opioid use disorder: a cohort study using US longitudinal claims data

Paula A Jaimes-Buitron, Kehe Zhang, Yanmin Gong, Yuanxiong Guo, Cici Bauer, Carolina Vivas-Valencia

10 November 2025 • Open access

Factors associated with repeat contact with an out-of-hours mental health crisis service: an observational study

Kate Gemma Richards, Emily Eyles, Paul Scott, Mark Jackson, Heleni Covary, Theresa Redaniel

10 November 2025 • Open access

Brazilian conditional cash transfer programme’s impact on youth human capital outcomes: the 2004 Pelotas Birth Cohort

Jessica Mayumi Maruyama, Cristiane Silvestre Paula, Carolina Ziebold, Luciana Tovo-Rodrigues, Iná S Santos, Aluísio J D Barros, Joseph Murray, Sara Evans-Lacko, Alicia Matijasevich

7 November 2025 • Open access

Smoking cessation after referral from hospital to community stop smoking services: an observational study

Rowan Cherodian, Matthew Franklin, Susan Baxter, James Chilcott, Duncan Gillespie

7 November 2025 • Open access

Alcohol consumption during pregnancy in Scotland following public health interventions: population-based study

Michael Kinsella, Martin Shaw, Aizhan Kyzayeva, Alastair Leyland, Jill P Pell, Deborah Lawlor, Scott Nelson, Rachel Joyce Kearns

5 November 2025 • Open access

Exploring barriers to social distancing during the COVID-19 pandemic in Zimbabwe: a qualitative study

Masceline Jenipher Mutsaka-Makuvaza, Nicholas Midzi, Lincoln Sunganai Charimari, Priscilla Mangwiro, Gladys Mugadza

4 November 2025 • Open access

Effect of informational videos on vaccine perceptions among unvaccinated individuals: a randomised educational intervention

Seung-Keun Martinez, Silvia Sonderegger, Andy Brownback, Guillermo Cruces, Monika Pompeo, Joanne Morling

4 November 2025 • Open access

Network analysis of demographics, dietary habits and health-related quality of life among northern Chinese population

Samuel Chacha, Hui Jing, Yuxin Teng, Ziping Wang, Yan Huang, Yijun Kang, Ivonne Louis, Saumu Ali, Florian Emanuel Ghaimo, Issa Matinya, Abdallah Maurice Mahungu, Elfrida Kumalija, Shaonong Dang

4 November 2025 • Open access

Governance for public health across health and allied sectors: a scoping review

Sohel Saikat, Redda Seifeldin, Yu Zhang, Maryjane Nweje, Sabrina Shivji, Gerard Schmets, Neil Squires, Anne-Catherine Viso, Duncan Selbie

31 October 2025 • Open access

Prevalence of risk factors of major non-communicable diseases among adolescents in schools of Rapti-Sonari rural municipality of Banke district: a cross-sectional study in Nepal

Bigyan Subedi, Paras Modi Pangeni, Shrija Rijal, Prashanna Man Maharjan, Manish Rajbanshi, Kshitij Kunwar, Lokendra Oli, Khem B Karki

31 October 2025 • Open access

Clinical and demographical aspects of a new neurology outpatient clinic in a developing country: a descriptive retrospective study

Matheus Ballestero, Beatriz Gabrielle Ishikawa Ducci, Daniel Souza da Silva, Milena Carvalho Libardi, Judith Thomas Tayra, Ricardo Santos de Oliveira

31 October 2025 • Open access

Community health volunteers and contraceptive use among adolescent girls and young women in Kenya: a three-wave analysis

William Rudgard, Broline Sagini Asuma, Caroline Kabiru, Chris Desmond, Anthony Idowu Ajayi, Lucie Cluver

31 October 2025 • Open access

Health disparities in complicated lower respiratory tract infections: a population-based cohort study in The Hague, The Netherlands

Ernst D van Dokkum, Martijn Sijbom, Saskia le Cessie, Dennis O Mook-Kanamori, Marc A Bruijnzeels, Adriënne S van der Schoor, Karlijn te Paske, Kirsten Langeveld, Leo G Visser, Mattijs E Numans, Cees van Nieuwkoop, Hanneke Borgdorff

31 October 2025 • Open access

Exploring the influence of human-animal bonds on suicide characteristics: cross-sectional study of human-animal bond associated suicide in the USA using the National Violent Death Reporting System

Andreina Giron, Rebecca John, Alice Martino, Laura F Goodman, Peter Yu, Maryam Gholizadeh, Marizen R Ramirez, John Schomberg

30 October 2025 • Open access

Climate change anxiety among young women living in the urban slums of Kampala, Uganda: findings from the baseline assessment of the TOPOWA cohort study

Monica H. Swahn, Gideon Matovu, Charles Natuhamya, Kelly E Murray, David M Ndetei, Jane Palmier, Anna Nabulya, Serge Wandji, Revocatus Twinomuhangi

30 October 2025 • Open access

Female sex workers and cervical cancer screening in Kilimanjaro region: Uptake and Behavioural Determinants in Health Belief Model Perspectives: A community-based cross-sectional study

Gumbo D Silas, Innocent H Peter Uggh, Bernard Njau, Esther Majaliwa, Patricia Swai, Alma Redson Nzunda, Gaudensia Olomi, John E Mtenga, Prisca Marandu, Leah Mmari, Happiness Kilamwai, Bariki Mchome, Blandina Theophil Mmbaga, Alex Mremi

30 October 2025 • Open access

27 October 2025 • Open access

Community-based serological screening for Chagas disease in London: a cross-sectional, observational pilot study

Natalie Elkheir, Liliana Sanchez Zelaya, Laura Valderrama Penagos, Laura Lopez, Rodrigo Ville, Estefania Sienra-Iracheta, Temitope Fisayo, Pat Lok, Fionnuala Ryan, Ana Bayona, Jose Garcia Romero, Clare E Warrell, Nicolas Massie, Cristina Fernandez-Turienzo, Valentina De Sario, Jenna Abaakouk, Karina Guzman Miranda, Amel Alfulaij, Cristina Suarez, Maria-Cristina Loader, Catherine Dominic, Maykon Diego Melo, Marcelle Costa Marinho, Marcela Bojorquez Segura, Heloise Gerber, Anna Bote-Casamitjana, Patricia Miralhes, Alyssa Chase-Vilchez, Declan Crilly, Jaimie Wilson-Goldsmith, Barbara de Barros, Jessica Carter, Helen Liddy, Niamh Murphy, Debbie Nolder, Amaya Bustinduy, Laura E Nabarro, Peter L Chiodini, David Moore

23 October 2025 • Open access

What drives inequality in modern family planning use among urban women residents? A cross-sectional analysis using the inequality of opportunity framework in Uganda's secondary cities

Rornald Muhumuza Kananura, Catherine Birabwa, Ronald Wasswa, Jacquellyn Nambi Ssanyu, Kharim Mwebaza Muluya, Sarah Namutamba, Moses Kyangwa, Felix Kizito, Othman Kakaire, Richard Mugahi, Peter Waiswa

23 October 2025 • Open access

Ethnocentric perceptions, impacts and influences of problematic alcohol use in a global community sample: a mixed-methods study

Harini Chakkera, Richard Butterfield, Srishti Sardana, Amrit Mukkatira, B Unnikrishnan, Sharada Rai, Kariappa Appachu, Roshni Kundranda, Georgia J Michlig

23 October 2025 • Open access

Risk factors for the intra-individual double burdens of malnutrition among reproductive-age women in India: a secondary analysis of three rounds of the National Family and Health Survey

Hannah Gardner, Vani Sethi, Tuck Seng Cheng, Manisha Nair

23 October 2025 • Open access

Temporal changes in occupational risks of COVID-19 hospitalisation in Germany, 2020–2021: a case–cohort study

Karla Romero Starke, René Mauer, Ulrich Bolm-Audorff, Janice Hegewald, Gabriela Brückner, Katrin Schüssel, Helmut Schröder, Albert Nienhaus, Andreas Seidler

22 October 2025 • Open access

Death risk in nursing homes between the prepandemic period and the COVID-19 era: a retrospective cohort study in Murcia Region, Spain

Jesús Humberto Gómez, Inés Sánchez-Rodríguez, Jesus Soriano-López, Rocio García-Pina, Natalia Alejandra Cabrera-Castro, Inmaculada Moreno-Diaz, Ana María Corbalán-Fernández, Antonio Sola-Roca, Enrique Molina de los Cobos, Maria Carmen Sánchez-Montesinos, Joaquín Palomar-Rodriguez, Maria-Dolores Chirlaque

22 October 2025 • Open access

Disparities in cancer incidence, stage at diagnosis, treatment and mortality across socioeconomic groups in Finland: a register-based population study

Xianhua Zai, Peng Li, Luca Dei Bardi, Kaarina Korhonen, Margherita Moretti, Mikko Myrskylä, Pekka Martikainen

22 October 2025 • Open access

Perceived discrimination and cardiovascular risk factors in mid-life women: results from Project Viva, a longitudinal cohort in the USA

Benjamin Grobman, Sheryl L Rifas-Shiman, Izzuddin M Aris, Wei Perng, Jorge E Chavarro, Stephen P Juraschek, Emily Oken, Marie-France Hivert, Mingyu Zhang

11 August 2025 • Open access

Past trends and future projections of psychological distress among general population in Finland

Suvi Parikka, Marja Holm, Jaana Suvisaari, Jouni Lahti, Jaakko Reinikainen, Hanna Tolonen, Annamari Lundqvist

21 October 2025 • Open access

Mixed-methods process evaluation of the EACH-B intervention in UK secondary schools: Delivery fidelity, stakeholder responses and contextual influences

Sarah Jenner, Mary Barker, Sofia Strömmer, Sarah Shaw, Laila Khawaja, Millie Barrett, Kathryn Woods-Townsend, Donna Lovelock, Lisa Bagust, Naomi Leonard, Wendy Lawrence, Danielle Lambrick, Judit Varkonyi-Sepp, Hamid Homatash, Patricia Coakley, Christina Vogel, Leanne Morrison, Mary Christina Horsfall, Hazel Inskip, Janis Baird

21 October 2025 • Open access

Workplace violence among healthcare providers in India: a mixed-method study

Deepak Anil, Thekke Veedu Sreena, Divya Kindiyode Lakshmi Narayanan, Sunil Kumar Doddaiah, Archa AnilkumarSini, Disha Dilip Karkera, Rangavajjala Naga Sanjeeva Abhigna Mahathi, Suresh Vismaya

21 October 2025 • Open access

Improving measurement of girls and young women's reproductive experiences: qualitative findings from research in Kenyan family planning clinics

Erin A Hartman, Manuela Colombini, Jane Namwebya, Eunice Asala, Wilkister Ombidi, Florence Thungu, Neha S Singh, Ana Maria Buller, Cicely Marston

21 October 2025 • Open access

Maternal region of birth and stillbirth trends in Victoria, Australia, 2012–2019: a cohort study

Natalie Holowko, Natalie Y Liu, Sharon Weerasingha, Roshan Selvaratnam, Mary-Ann Davey, Tanya Farrell, Miranda Davies-Tuck

21 October 2025 • Open access

Proportion of cancer attributable to modifiable factors in the Netherlands in 2019: a secondary data analysis

Caren Lanting, Ellian Lebbink, Ernest de Vroome, Iris Eekhout

17 October 2025 • Open access

Surge in C-section deliveries during the COVID-19 pandemic: insights from a cross-sectional study in Gujarat, India

Farjana Memon, Mahalaqua Nazli Khatib, Deepak Saxena, Komal Shah, Anish Sinha, Ami V Mehta, Claire Heffernan

17 October 2025 • Open access

Exploring healthcare priorities, barriers, access and experiences of a family-centred approach among families seeking asylum in North London

Aileen Ni Chaoilte, Nuria Sanchez Clemente, Rebecca Lilygreen, Allison Ward, Nicky Longley, Sarah Eisen

17 October 2025 • Open access

Exploring the perspectives and experiences of food-insecure adults who are also tobacco dependent: a qualitative study in North East England

Kerry Brennan-Tovey, Nida Ziauddeen, Laura Hamilton, Carol Gorman, Eileen Kaner, Darren McMahon, Susan Jean Mountain, Sheena E Ramsay, Claire Thompson, Maria Raisa Jessica Aquino

17 October 2025 • Open access

Association between near visual display device usage and the eye's accommodation and vergence parameters: a cross-sectional study of high school children in Cape Coast, Ghana

Charles Darko-Takyi, Thomas Welbeck Mills, Samuel Bert Boadi-Kusi, Michael Ntodie, Carl Halladay Abraham, Emmanuel Kwasi Abu, Sedinam Amewuzah, Emmanuel Essien, Bright Osei Wiafe, Stephen Ocansey

15 October 2025 • Open access

Predicting risk factors of non-utilisation of postnatal care in three neighbouring East African countries: application of the decision tree

Chenai Mlandu, Zvifadzo Matsena-Zingoni, Eustasius Musenge

15 October 2025 • Open access

Information systems for enhancing multisectoral and multilevel preparedness and response to climate-sensitive infectious diseases in Latin America and the Caribbean: a scoping review

Jenny Elizabeth Ordoñez-Betancourth, Yewel V Vanessa Sanchez-Tinjacá, Sheryl Iona Vidales Abrahams, Sebastián Castaño Duque, Camila González, Juliana Helo Sarmiento, Natalia Niño-Machado, Monica Pinilla-Roncancio, Catalina González-Uribe

15 October 2025 • Open access

Assessing the preparedness of primary healthcare facilities for the implementation of universal test and treat in uThukela District, South Africa: a cross-sectional study

Eunice Turawa, Wisdom Basera, Mbuzeleni Hlongwa, Thubelihle Mathole, Debbie Bradshaw, Edward Nicol

15 October 2025 • Open access

Determinants of awareness, treatment and control of hypertension among the hypertensive population aged 40 years and above in Myanmar from a community perspective: a community-based, cross-sectional study

May Sabai Soe, Su Su Hlaing, Aye Sandar Mon

15 October 2025 • Open access

Home and epigenome: exploring the role of DNA methylation in the relationship between poor housing quality and depressive symptoms

Faye Sanders, Vilte Baltramonaityte, Alexandre A Lussier, Andrew D A C Smith, Erin C Dunn, Esther Walton

15 October 2025 • Open access

Interrupted time series and non-linear regression analyses to evaluate the impact of the three consecutive COVID-19 national lockdowns on the general practice referrals of women experiencing domestic violence and abuse in England and Wales

Jasmina Panovska-Griffiths, Eszter Szilassy, Lucy Downes, Sharon Dixon, Anna Dowrick, Chris Griffiths, Gene Feder, Estela Capelas Barbosa

15 October 2025 • Open access

Impact of socioeconomic factors on cardiovascular diseases, diabetes and all-cause mortality in patients with uveitis: a Danish cohort study

Marie Ørskov, Henrik Vorum, Oliver Niels Klefter, Yousif Subhi, Steffen Heegaard, Maria Vittoria Cicinelli, Jimmi Wied, Piergiorgio Neri, Lasse Jørgensen Cehofski

15 October 2025 • Open access

Association between gender norms and attitudes towards abortion among very young adolescents in Kenya and Nigeria: a quantitative study

Matthew Ayodele Alabi, Bamidele Motunrola Bello, Beatrice Maina

7 October 2025 • Open access

Do perceptions of the harm of heated tobacco products differ by smoking status? A cross-sectional analysis of the Japan Society and New Tobacco Internet Survey (JASTIS) 2020 in Japan

Kuniko Yuri, Aya Higashiyama, Shigeki Takemura, Harumitsu Suzuki, Maggy Audrey Murielle Bassole Epse Brou, Yan Zhang, Naoki Aono, Takahiro Tabuchi, Akira Fujiyoshi

5 October 2025 • Open access

Public perceptions of health and economic impacts during COVID-19: Findings from a repeated cross-national survey in the US, UK and Germany (2020–2022)

Julia E Koller, Karoline Villinger, Emma Erhard, Harald T Schupp, Britta Renner

5 October 2025 • Open access

Multimorbidity in India: an analysis of prevalence and patterns of chronicity of diseases among older adults using Study on global AGEing and adult health (SAGE) Wave 2

Ananya Anurakta Pattanaik, Rikat ul ain Hashmi, Rutuparna Sibani Dandsena, Smiteerekha Sahoo, Priyanka Verma, Shishirendu Ghosal, Sushmita Kerketta, Srikanta Kanungo, Sanghamitra Pati

5 October 2025 • Open access

Social prescribing services for patients with musculoskeletal conditions compared with other long-term health conditions in the UK: a cross-sectional study

Qian Gao, Daisy Fancourt, Andrew Steptoe, Feifei Bu

5 October 2025 • Open access

Occupational hazards associated with respiratory symptoms among tannery and civil workers in Bangladesh: a cross-sectional study

Shahriar Hossain, Ryadul Alam, Juned Hussain Chowdhury, Md Mushfiqur Rahman Porosh, Rezaul Karim Ripon, Fahad Shahariar Nayon, Mahmudur Rahman

5 October 2025 • Open access

Sickle cell allele distribution in southern India: a population-based study in a rural–tribal context

Yogish Channa Basappa, Pooja Aggarwal, Prashanth N Srinivas, Lavanya B Ramegowda, Giriraj R Chandak, Deepa Bhat

2 October 2025 • Open access

Strategies to promote uptake and sustainability of Water, Sanitation and Hygiene (WASH) interventions in basic education institutions in conflict settings: a scoping review of the Horn of Africa

Leila H Abdullahi, Lisa Malesi Were, Mohamed Abdi Hassan, Gilbert Koome Rithaa

29 September 2025 • Open access

Stakeholders' perspectives on funding malaria, HIV/AIDS and tuberculosis services in Tanzania through domestic resources mobilisation: a qualitative study

Francis Donard Ngadaya, Kahabi Isangula, Happiness Kimambo, Grace Soka, Caritas Kitinya, Doreen Philbert, Lucy Mwenda, Gibson B Kagaruki, Godfather Kimaro, Esther Ngadaya, Amos Kahwa, Sayoki Mfinanga

29 September 2025 • Open access

Changes in inpatient and outpatient stroke admissions during COVID-19: a difference-in-differences analysis based on claims data from 242 acute care hospitals in Japan

Kazuhiro Abe, Shota Shibata, Atsushi Miyawaki, Ichiro Kawachi

29 September 2025 • Open access

Health outcomes of women with gestational diabetes mellitus in North West London: a 10-year longitudinal study

Gabrielle Goldet, Rakesh Dattani, Benjamin Pierce, Zia Ul-Haq, Tahereh Kamalati, Moulesh Shah, Andrew Frankel, Frederick Wai Keung Tam

29 September 2025 • Open access

Trends in myopia prevalence and projected visual impairment in Western Europe: a pooled analysis of Dutch population-based cohorts (1900–2000)

Sander Kneepkens, Clair A Enthoven, Jan Roelof Polling, Victor A de Vries, J Willem Lodewijk Tideman, Caroline Klaver

29 September 2025 • Open access

Maternal immunisation towards prevention of neonatal tetanus: insights from a cross-sectional study in Pru East Municipality, Ghana

Dennis Bardoe, Daniel Hayford, Isaac Owusu-Mensah, Robert Bagngmen Bio

25 September 2025 • Open access

How many democratic countries have conducted COVID-19 public inquiries? An exploratory study of government-led postpandemic reviews (2020–2024)

Kevin Bardosh, Maximilien Lacour, Kira Pronin, Norma Correa Aste, Roger Koppl

23 September 2025 • Open access

What works to reduce socioeconomic inequalities in hospitalisations and readmissions? Systematic review of the equity impacts of population-level, health service and integrative interventions

Sarah Sowden, Behrouz Nezafat Maldonado, Fiona Beyer, William Bell, Mark Lambert, Richard Thomson, Richard Cookson, Clare Bambra

23 September 2025 • Open access

Social and policy interventions to reduce hospital admissions among socioeconomically disadvantaged groups in OECD countries with universal health care: a systematic review

Behrouz Nezafat Maldonado, William Bell, Jasmine Olivera, Fiona Beyer, Mark Lambert, Richard Thomson, Richard Cookson, Clare Bambra, Sarah Sowden

7 October 2025 • Open access

Changes in energy content of menu items at out-of-home food outlets in England after calorie labelling policy implementation: a pre–post analysis (2021–2022)

Michael Essman, Thomas Burgoine, Yuru Huang, Andrew Jones, Megan Polden, Eric Robinson, Stephen J Sharp, Richard Smith, Martin White, Jean Adams

22 September 2025 • Open access

Building HIV/AIDS prevention communication strategies through community-informed formative research for a biobehavioural couple-based HIV prevention intervention for Latino men who have sex with men

Greg Langan, Omar Martinez, Sarah B Bass, Omar Valentin, Max Supino, Kristine Kim, Juan Franco, Brian Mattera, Ashley French, Nelson Ortega, Ryan Tingler, Janel Leyden-Noels, Isa Fernandez, Mallory O Johnson

21 September 2025 • Open access

Health programme spillover effects on childhood vaccination in India: a difference-in-differences analysis of the Zinc and Oral Rehydration Salts Programme using retrospective demographic health surveys data

Raf Van Gestel, Mujaheed Shaikh, Flore Vermijs, Carlos Riumallo-Herl

21 September 2025 • Open access

Antibiotic use in the commercial poultry sector of Uganda and its public health implications: a cross-sectional survey

Israel Mugezi, Vivian Twemanye, Emmanuel Isingoma, Ceaser Adibaku Nyolimati, Jonathan Mayito, Richard Namwano Walwema, Francis Kakooza, Ross Fitzgerald, Anna Rose Okurut Ademun, Wilfred Opira, Adrian Muwonge

21 September 2025 • Open access

Exploring the lived experiences of patients with type 2 diabetes mellitus-related complications in a healthcare setting in Singapore: a phenomenological study

P V AshaRani, Kumarasan Roystonn, Madhumitha Ramu, Yeow Wee Brian Tan, Fiona Devi, Muhammad Iskandar Shah, Peizhi Wang, Sum Chee Fang, Subramaniam Tavintharan, Tan Hwee Huan, Lee Eng Sing, Chong Siow Ann, Mythily Subramaniam

18 September 2025 • Open access

Estimates of energy intake, requirements and imbalances based on anthropometric measurements at global, regional and national levels and for sociodemographic groups: a modelling study

Marco Springmann

17 September 2025 • Open access

Variant connective tissue as a risk factor for long COVID: a case-control study of data from a retrospective online survey of adults in the USA and UK

Regina A Torok, Jeffrey Lubell, Rena M Rudy, Jessica Eccles, Lisa Quadt

17 September 2025 • Open access

Cross-sectional study of healthcare professionals' estimates of the health numeracy of inpatients and outpatients in a UK secondary care setting

Calisha Allen, Chad Byworth, Rajashree Murki, Sarah Beale, Akifah Mojadady, Lubnaa Ghoora, Jameela Nagri, Chetan D Parmar

17 September 2025 • Open access

Generic competition and price developments in the USA, Germany and Switzerland (2007–2023): a longitudinal observational study

Simon Hediger, Luca Locher, Kerstin Noëlle Vokinger

18 September 2025 • Open access

You Need to Know: evaluation of a uterine cancer awareness campaign for Black and Asian ethnic minority women in North East London

Anisha Chitrakar, Natalie Darko, Nessa Millet, Sherrice Weekes, Harjeet Dhanota, Alexandra Lawrence, Caroline Cook, Esther L Moss

16 September 2025 • Open access

Snakebite incidence, knowledge and practices among rural subsistence farmers in Pwani Region, Tanzania: a cross-sectional study

8 September 2025 • Open access

Epidemiological trends and economic burden of genital warts in Dutch primary care

Clazinus Veijer, Julia Maria Bes, Christiaan Dolk, Maarten Jacobus Postma, Lisa Aniek de Jong

8 September 2025 • Open access

Well-being among people with long and short COVID: a serial cross-sectional study in Victoria, Australia

Aimée Altermatt, Anna L Wilkinson, Katherine Heath, Defeng Jin, Thi Nguyen, Alexander J Thomas, Tianhui Ke, Yanqin Zhang, Rebecca E Ryan, Lisa Gibbs, Alisa Pedrana, Dean Lusher, Stephanie Fletcher-Lartey, Mark Stoové, Katherine B Gibney, Margaret Hellard

8 September 2025 • Open access

Changes in mental health care utilisation before and during the COVID-19 pandemic among people living with HIV in the USA: a retrospective cohort study using the All of Us dataset

Atena Pasha, Shan Qiao, Jiajia Zhang, Ruilie Cai, Buwei He, Xueying Yang, Chen Liang, Sharon Weissman, Xiaoming Li

8 September 2025 • Open access

'Overhaul Medicare and perhaps train us better': a qualitative study of primary care general practitioners' perspectives on how to implement the low back pain clinical care standards

Nathalia Costa, Chung-Wei Christine Lin, Fiona Blyth, Carmen Huckel-Schneider, Rachelle Buchbinder, Danijela Gnjidic, Aili Langford, Denise O'Connor, Carl Schneider, Simon French

8 September 2025 • Open access

Health facility and contextual correlates of HIV test positivity: a multilevel model of routine programmatic data from Malawi

Miyu Niwa, Dylan Green, Tyler Smith, Brandon Klyn, Yohane Kamgwira, Sara Allinder, Deborah Hoege, Suzike Likumbo, Charles B Holmes, Gift Kawalazira, Linley Chewere

8 September 2025 • Open access

Relations of problematic online dating app use with mental and sexual health: a cross-sectional study in Swiss university students

Babette L. Winter, Clarissa Janousch, Fabienne S. V. Wehrli, Jan S. Fehr, Benjamin Hampel, Boris B. Quednow

8 September 2025 • Open access

Missed opportunities for vaccination among healthcare-seeking children: a cross-sectional study in Bishkek, Kyrgyzstan, 2023

Gulzada Dadanova, Roberta Horth, Aisuluu Kubatova, Gulbara Ishenapysova, Dinagul Otorbaeva, Dilyara Nabirova

8 September 2025 • Open access

Is why we drink alcohol important when considering the potential public health benefit of alcohol-free and low-alcohol drinks? A cross-sectional study investigating associations between alcohol drinking motives and alcohol-free and low-alcohol drink consumption among adults in Great Britain

Lucy C Burke, Colin Angus, Jamie Brown, Inge Kersbergen

5 September 2025 • Open access

Retrospective population-based study of 132 000 Canadians on the relationship between community belonging and diabetes incidence

Sarah M Mah, Mackenzie Hurst, Mindy Lu, Laura C Rosella

4 September 2025 • Open access

Vaping health perceptions and never vaping among Australian adolescents: a strength-based analysis of cross-sectional survey data

Amelia Yazidjoglou, Christina Watts, Grace Joshy, Sam Egger, Emily Banks, Becky Freeman

4 September 2025 • Open access

Treatment outcomes and associated factors of severe acute malnutrition among under-5 children in Jigjiga public hospitals, Somali region, Ethiopia: a retrospective cohort study

Mustafe Mahamud Abdi, Iid Muktar Jama, Abdilahi Ibrahim Muse, Girma Tadesse Wedajo, Mohamed Omar Osman, Kalkidan Hassen Abate

4 September 2025 • Open access

Machine-learning-based model for analysing and accurately predicting factors related to burnout in healthcare workers

Chao Liu, Yen-Ching Chuang, Lifen Qin, Lijie Ren, Ching-Wen Chien, Tao-Hsin Tung

4 September 2025 • Open access

Practical integrated healthcare prevention and management of children's health quality of respiratory functions: a systematic review

Wen-Yi Liu, Tao-Hsin Tung, Leiyu Shi

3 September 2025 • Open access

28 August 2025 • Open access

Long way to impact health: outputs and outcomes of a four-year multilevel participatory family health promotion programme in a low-income neighbourhood

Gerda Wink, Gerdine Fransen, Koos van der Velden, Maria van den Muijsenbergh, Annemarie Wagemakers

28 August 2025 • Open access

Machine learning model for predicting hepatitis C seroconversion in methadone maintenance patients in China

Xinyu Lu, Qing Yue, He Jing, Gangliang Zhong, Zhen Ning, Jiang Du, Min Zhao

28 August 2025 • Open access

Trends in the illicit tobacco market in New Zealand: a consumption gap analysis

Pyi Pyi Phyo, Christopher Bullen

28 August 2025 • Open access

Measurement and interpretation of the Harare HIV combination prevention cascade in priority populations: a population survey of adolescent girls and young women and young men in Zimbabwe

Louisa Moorhouse, Jeffrey W Imai-Eaton, Tawanda Dadirai, Rufurwokuda Maswera, Tafadzwa Museka, Phyllis Mandizvidza, Freedom Dzamatira, Blessing Tsenesa, Timothy B Hallett, Constance Nyamukapa, Simon Gregson

23 September 2025 • Open access

Trends in use of alcohol-free or low alcohol drinks in attempts to reduce alcohol consumption in Great Britain, 2020-2024: a population-based study

Vera Buss, Dimitra Kale, Melissa Oldham, Lion Shahab, Abigail Stevely, Inge Kersbergen, Jamie Brown

25 August 2025 • Open access

Attitude towards menstruation, prevalence of premenstrual syndrome and coping mechanisms among adolescent girls in Kerala, India: a cross-sectional study

Ambily Vijayan Gopika, Sobha George, Brilly Michael Rose, Jeby Jose Olickal, Kavumpurathu Raman Thankappan

24 August 2025 • Open access

Pregnancy risk behaviour among sexually active adolescent girls aged 10–17 years in high HIV prevalence districts in Uganda: a cross-sectional secondary analysis of the 2018 AGYW survey data

Alex Mulyowa, Juliana Namutundu, Rhoda K Wanyenze, Joseph K B Matovu

24 August 2025 • Open access

Nowhere to go: a qualitative study examining the health of people who experience emergency shelter service restrictions in Hamilton, Ontario, Canada

Suraj Bansal, Stephanie Di Pelino, Jammy Pierre, Kathryn Chan, Amanda Lee, Rachel Liu, Olivia Mancini, Avital Pitkis, Fiona Kouyoumdjian, Larkin Lamarche, Robin Lennox, Marcie McIlveen, Timothy O'Shea, Claire Bodkin

22 August 2025 • Open access

Postcode health inequalities in aortic valve surgery in North East England: retrospective study of disparities in presentation and hospital outcomes

Benjamin Irene Omoregbee, Emeka B. Kesieme, Dumbor L. Ngaage

19 August 2025 • Open access

Non-medical costs incurred by critically ill patients with dengue, sepsis and tetanus within a major referral hospital in Southern Vietnam: a cost of illness study

Trinh Manh Hung, Thanh Nguyen Nguyen, Mau Toan Le, Phuc Hau Nguyen, Thanh Phong Nguyen, Thi Hue Tai Luong, Buu Chau Le, Ba Thanh Pham, Thi Trang Khiet Tieu, Thi Diem Thuy Tran, Minh Yen Lam, Sophie Yacoub, Sayem Ahmed, Louise Thwaites, , Hugo C Turner

19 August 2025 • Open access

Impact of the Flo Cycle Tracking App on menstrual knowledge and health in low-income and middle-income countries: a longitudinal study

Frederick G B Goddard, Carley Prentice, Adam C Cunningham, April M Ballard, Liudmila Zhaunova

18 August 2025 • Open access

Exploring the associations of weather and climate with HIV in sub-Saharan Africa: a systematic review

Matylda Buczkowska, Adam Trickey, Gina E C Charnley, Anthea Gabot, George Hutchings, Collins C Iwuji, Ilan Kelman

18 August 2025 • Open access

Family planning in Jordan: a cross-sectional study on service availability, knowledge and attitudes among women

Yousef Khader, Sara Abu Khudair, Mohanad Nsour, Mohammad S Alyahya, Eman Badran, Raeda AlQutob

18 August 2025 • Open access

Can we adapt fairly? Scoping review of health equity implications of flood risk in coastal communities

Grace Turner, Sari Kovats, Rachel Brisley, Sally Brown, Owen Landeg, Louise O'Connor

18 August 2025 • Open access

Association of patient, physician and visit characteristics with inappropriate antibiotic prescribing in Japanese primary care: a cross-sectional study

Atsushi Miyawaki, Joseph B Ladines-Lim, Daichi Sato, Kei Kitajima, Jeffrey A Linder, Michael A Fischer, Kao-Ping Chua, Yusuke Tsugawa

17 August 2025 • Open access

Advancing dementia care: a review of Italy's public health response within the WHO Global Action Plan and European strategies

Antonio Ancidoni, Simone Salemme, Domitilla Marconi, Guido Bellomo, Sara Maria Pani, Nicoletta Locuratolo, Eleonora Lacorte, Flavia Lucia Lombardo, Ilaria Bacigalupo, Elisa Fabrizi, Marco Canevelli, Francesco Sciancalepore, Patrizia Lorenzini, Ilaria Palazzesi, Alice Paggetti, Francesco Della Gatta, Paola Piscopo, Emanuela Salvi, Francesca Zambri, Annachiara Di Nolfi, Vittorio Palermo, Paolo Sciattella, Chiara Bini, Francesco Saverio Mennini, Caterina Bianca Neve Aurora Bianchi, Fiammetta Landoni, Maria Assunta Giannini, Teresa Di Fiandra, Nicola Vanacore, ,

17 August 2025 • Open access

Clustering of circumstances during the first 1000 days after conception and their association with school performance: a population-based cohort study from the Netherlands

Malon Van den Hof, Ilona Veer, Ruben van Gaalen, Tessa Roseboom

17 August 2025 • Open access

Knowledge of sexual and reproductive health and rights among University of Rwanda students: a cross-sectional study

Alice Muhayimana, Theoneste Ntalindwa, Aline Uwase, Kaberuka Gerard, Jean Damascene Niringiyumukiza, Allen Jean de la Croix Ingabire, Emmanuel Nzabonimana, Irene Josephine Kearns, Marie Laetitia Ishimwe Bazakare, Fulgence Maniriho, Jean de Dieu Habimana, Vedaste Bagweneza, Mathias Nduwingoma

17 August 2025 • Open access

Variation in coronary revascularisation and mortality after myocardial infarction across three public health insurance schemes in Thailand: an observational analysis from nationwide claims data

Woranan Witthayapipopsakul, Orawan Anupraiwan, Gumpanart Veerakul, Anne Mills, Ipek Gurol-Urganci, Jan van der Meulen

14 August 2025 • Open access

Household ownership of latrines does not ensure use: a scoping review

Nicolas Gaffan, Alphonse Kpozehouen, Cyriaque Degbey, Yolaine Glele Ahanhanzo, Moussiliou Noël Paraïso

14 August 2025 • Open access

10 August 2025 • Open access

Design and maintenance of community-based cohorts in sub-Saharan Africa: a longitudinal evaluation of participant attrition in SchistoTrack

Christin Puthur, Betty Nabatte, Benjamin Tinkitina, Narcis B Kabatereine, Goylette F Chami

10 August 2025 • Open access

Childhood diarrhoeal disease in South Asian countries: a population-based analysis

Abdur Razzaque Sarker, Anik Hasan, Nuzhat Nawar, Rasedul Islam

10 August 2025 • Open access

Associations between exercise patterns and health outcomes in sedentary and non-sedentary individuals: a longitudinal population-based study in Geneva, Switzerland

Mayssam Nehme, David De Ridder, Gabriel Kathari, Hélène Baysson, Stephanie Schrempft, Aminata Bouhet, Julien Lamour, María-Eugenia Zaballa, Stephane Joost, Silvia Stringhini, , Idris Guessous

10 August 2025 • Open access

Cross-cultural insights into non-communicable disease perceptions: a five-nation survey

Jorge A Rios-Duarte, Ricardo A Peña-Silva, Carlos O Mendivil

7 August 2025 • Open access

Assessing heat stress, ambulatory hypertension and thermal symptoms in fish smokers along coastal areas in Ghana: a cross-sectional study

Edward Wilson Ansah, Emmanuel Ankomah-Appiah, Thomas Hormenu

7 August 2025 • Open access

Are there inequalities in the attendance at and effectiveness of behavioural weight management interventions for adults in the UK? An individual participant data meta-analysis

Jack M Birch, Julia Mueller, Sarah Damery, Stephen J Sharp, Rebecca A Jones, Michael P Kelly, Annie S Anderson, Nerys Astbury, Paul Aveyard, Rebecca J Beeken, Angela Craigie, Colin Greaves, Susan Jebb, Alex McConnachie, Kiran Nanchahal, Beth Stuart, Martin White, Simon J Griffin, Amy L Ahern

7 August 2025 • Open access

Role and experiences of youth community health volunteers in a community health coaching programme for older adults in Singapore: a qualitative study

Jasmine Yee Ru Cheng, Audrey Shu Ting Kwan, Jed Jasman, Elliott Weizhi Sim, Alicia Shi Yao Chee, Ka Shing Yow, Jie Xin Lim, Si Qi Lim, Thaddeus Chi En Cheong, Nerice Heng Wen Ngiam, Muhammad Razzan Razaki, Xiaoting Huang, Lynn Pei Zhen Teo,

4 August 2025 • Open access

Epidemiological and clinical profile of hepatitis B infection in ART-naïve people living with HIV in Maputo, Mozambique: a cross-sectional study

Lucia Mabalane Chambal, Charlotta Nilsson, Elias Manjate, Corssino Tchavana, Orvalho Augusto, Vanda dos Muchangos, Júlia Muando, Esperanca Sevene

3 August 2025 • Open access

Geo-mapping of government healthcare facilities providing diagnostic laboratory services in Delhi, India: a pilot study

Garima Jain, Kshitij Misra, Sandeep Agrawal, Ashish Dutt Upadhyay, Ankit Singh, Surya Durbha, Usha Agrawal

3 August 2025 • Open access

Effect of a multicomponent HPV intervention on self-reported HPV vaccine uptake and intention among French adolescents and parents: results from the national, cluster-randomised PrevHPV trial

Josée Dussault, Amandine Gagneux-Brunon, Anne-Sophie Le Duc-Banaszuk, Sébastien Bruel, Morgane Michel, Aurélie Gauchet, Damien Oudin Doglioni, Jonathan Sicsic, Jocelyn Raude, Anne-Sophie Barret, Nathalie Thilly, Judith E Mueller

3 August 2025 • Open access

Distribution and extended triage of high-risk human papillomavirus genotyping based on vaginal self-sampling

Jingran Li, Chen Yao, Chao Zhao, Mingzhu Li, Ling Li, Zhixin Lin, Zhijun Zhang, Jihong Deng, Rong Liu, Yingying Hu, Songling Zhang, Bei Lin, Ruifang An, Yun Zhao, Xinfeng Qu, Hui Du, Ruifang Wu, Lihui Wei

3 August 2025 • Open access

Art therapy to reduce burnout and mental distress in healthcare professionals in acute hospitals: a randomised controlled trial

Megan Tjasink, Catherine Elizabeth Carr, Paul Bassett, Gehan Soosaipillai, Dennis Ougrin, Stefan Priebe

3 August 2025 • Open access

Exercise professionals in extended scope of practice roles: a qualitative exploration of a new model of rehabilitation

Sheree McCormick, Iva Cukic, Jenny Alexanders, Gillian Yeowell, Francis Fatoye, Benjamin M Kelly, Victoria Fitzgerald, Tim Cable, Patrick Doherty, Davina Deniszczyc, Panayiotis Michael

3 August 2025 • Open access

31 July 2025 • Open access

Exposure to secondhand smoke from cigarettes and secondhand aerosol from tobacco and nicotine products in indoor and outdoor public spaces in the European Union: a cross-sectional study

Charlotte Xin Li, Pin-Chun Wang, Ariadna Feliu, Anthony A Laverty, Cristina Martinez, Armando Peruga, Charis Girvalaki, Cornel Radu Loghin, Constantine I Vardavas, Filippos T Filippidis

30 July 2025 • Open access

To whom should we prescribe doxy-PEP? A retrospective review of public health surveillance data for bacterial STI diagnoses among gay, bisexual, and other men who have sex with men in Ottawa, Canada

Patrick O'Byrne, Dara Spatz Friedman, Lauren Orser

30 July 2025 • Open access

Social determinants of heat-related mortality in England: a time-stratified case-crossover study using primary care records

Ross Thompson, Sari Kovats, Helen Macintyre, Shakoor Hajat, Emer O'Connell

27 July 2025 • Open access

Dietary patterns, nutrient adequacy and influencing factors among inmates in Osun State, Nigeria

Tobiloba Emmanuel Adekanmbi, Olaitan Rashidat Adekanmbi, Oladejo Adepoju, Mary Ajatta

27 July 2025 • Open access

Landscape of paediatric pain in Sub-Saharan Africa: a scoping review

Anisa Bhettay, Kotie Bester, Romy Parker, Kim MacQuilkan, Salome Maswime, Raymond Ndikontar, Rebecca Gray

27 July 2025 • Open access

Associations of age at menopause, bilateral oophorectomy, hysterectomy and hormone replacement therapy with glycaemia and risk of dementia: a study based on the population-based UK Biobank cohort

Anouk Geraets, Katherine Ford, Patrick May, Emma Kidd, Anja Leist

27 July 2025 • Open access

Effects of the introduction of a routine rotavirus vaccination programme on vaccination coverage and factors in a Japanese municipality: the VENUS Study

Megumi Maeda, Fumiko Murata, Haruhisa Fukuda

27 July 2025 • Open access

Barriers to breast cancer-related care among women in Pakistan: a systematic review

Muhammad Abdul Rehman, Syed Mohammad Taqi, Areeba Ikram, Erfa Tahir, Ayesha Khalid

27 July 2025 • Open access

Circumstances surrounding opioid toxicity deaths within shelters in Ontario, Canada, before and during the COVID-19 pandemic: a population-based descriptive cross-sectional study

Bisola Hamzat, Pamela Leece, Daniel McCormack, Alice Holton, Zoë Dodd, Michelle Firestone, Ashley Smoke, Brett Wolfson-Stofko, Hayley Smuts, Jason Sereda, Jase Watford, Tyler Watts, Tara Gomes

27 July 2025 • Open access

Association between device-based measured physical activity timing and depression risk: a prospective cohort study of UK Biobank participants

Gali Albalak, David van Bodegom, Piraveena Thangarajah, Erik J Giltay, Diana van Heemst, Raymond Noordam

27 July 2025 • Open access

Medical knowledge, political tension, and social relevance: a content and framing analysis of vaccine-related TV broadcasts in the Philippines

Jonas Wachinger, Mark Donald C Reñosa, Georgina Janowski, Ma Leslie Ulmido, Jerric Rhazel Guevarra, Jeniffer Landicho, Shannon A McMahon

27 July 2025 • Open access

Frequency of myopia and associated risk factors in the adolescent population (10–16 years) of Karachi, Pakistan: a cross-sectional study

Khadija Awais Sumra, Illiyun Banani, Shiza Atif, Tushar Subash, Nitin Kumar Khajurani, Konain Imran, Ujala Sultan, Ali Mustansir, Umm E Abiha, Ali Mubashar Maqbool, Sehrish Ali, Kaleem Ahmad Zafar, Romaina Iqbal, Uzma Shamsi

27 July 2025 • Open access

Health-related quality of life among adult hypertensive patients globally: a systematic review and meta-analysis

Baye Tsegaye Amlak, Addisu Getie, Mengistu Abebe Messelu, Temesgen Ayenew, Fisha Alebel GebreEyesus, Mamo Solomon Emire, Mihretie Gedfew, Setarg Ayenew Birhanie, Daniel Gashaneh Belay

23 July 2025 • Open access

Group B streptococcus in pregnant women and neonates in Africa: a scoping review

Lisa Malesi Were, Jenifer Akoth Otieno, Barbara Miheso, Lilian Mosero Mayieka, Moses Alobo, Sagam Kimutai Caleb, Eleanor Ochodo

22 July 2025 • Open access

What are community perspectives and experiences around GLP-1 receptor agonist medications for weight loss? A cross-sectional survey study in the UK

Nadja Auerbach, Vivian N Liu, David Roy Huang, Ashley Kieran Clift, Mahmoud Al-Ammouri, Austen El-Osta

22 July 2025 • Open access

Prevalence and factors associated with violence against women who exchange sex for money in Gulu City, Northern Uganda: a cross-sectional study

Winnie Kibone, Pebalo Francis Pebolo, Ronald Olum, Jerom Okot, Jimmyy Opee, Silvia Awor, Simple Ouma, Michael Kakinda, Grace Madraa, Felix Bongomin

22 July 2025 • Open access

Association between follow-up visit frequency, medication types prescribed, and glycaemic outcomes among diabetic patients in China's Basic Public Health Services programme: a retrospective cohort study

Gang Liu, Yao Yi, Jiatong Sun, Haisu Feng, Bingxin Hu, Wenjie Hu, Huiqiao Gu, Ruming Bu, Yawen Jiang

21 July 2025 • Open access

Nationwide trends of online consultations in China: a 10-year sequential cross-sectional study of 65 305 clinicians

Joshua Tran, Ziyu Hao, Zongting Xie, Karen Yiu, Adele Li, Kelvin Tsoi

20 July 2025 • Open access

'I really feel pity for them': health workers' readiness to offer maternal health services to urban refugee adolescents in Kampala, Uganda—a qualitative study

Olivia Nakisita, Christopher Garimoi-Orach, Justine Nnakate Bukenya, Arthur Bagonza, Elizabeth Nabiwemba, Christine Kayemba Nalwadda

17 July 2025 • Open access

Incidence and predictors of non-communicable diseases among people with HIV at a specialised hospital in Hawassa, Ethiopia: a retrospective cohort study

Endrias Markos Woldesemayat, Wonago Petros, Yilkal Simachew, Kebede Tefera, Tsion Tesfaye, Jaime H Vera

17 July 2025 • Open access

Prevalence of malnutrition among hospital admissions to English NHS hospitals over two economically constrained decades: evidence from routine health data

8 July 2025 • Open access

Racial and ethnic disparities in preventive care among adults with type 1 diabetes: findings from the 2022 Behavioural Risk Factor Surveillance System

Julie A Wagner, Angela Bermúdez-Millán, Richard Feinn

5 July 2025 • Open access

Antispike IgG antibody decay after immunisation with fractional versus full booster doses of COVID-19 vaccines: a 6-month longitudinal analysis of the FRACT-COV trial in Brazil

Juliana Barros Verruck, Marco Antonio Moreira Puga, Roberto Dias de Oliveira, Patricia Vieira da Silva, Vivek Charu, Haley Hedlin, Di Lu, Amy Zhang, Victor Ritter, Blake Shaw, Joelle I Rosser, Jessica Couvillion Seidman, Alice Scott Carter, Farah Qamar, Stephen Luby, Denise Garrett, Julio Croda

5 July 2025 • Open access

Can health information and decision aids decrease inequity in health care? A systematic review

Christin Ellermann, Jana Sophie Hinneburg, Christoph Wilhelm, Felix Georg Rebitschek

5 July 2025 • Open access

Sexual health of Syrian women in protracted forced displacement: the syndemic interplay of violence, war trauma, poor mental health and food insecurity

Sasha Fahme, Ghina R Mumtaz, Maia Sieverding, Sara Chehab, Mostafa El Nakib, Laith Abu-Raddad, Jennifer Downs, Myung Hee Lee, Jocelyn DeJong, Daniel Fitzgerald

3 July 2025 • Open access

Resource utilisation and cost of hospitalisation with community-acquired pneumonia among older adults in India, 2018–2020

Aslesh Ottapura Prabhakaran, Ritvik Amarchand, Suman Kanungo, Prabu Rajkumar, Sumit Dutt Bhardwaj, Rakesh Kumar, Giridara Gopal Parameswaran, Girish Kumar CP, Varsha Potdar, Alok Kumar Chakrabarti, Nisha Makkar, Byomkesh Manna, Radhika Gharpure, Aashish Choudhary, Shivram Dhakad, Avinash Choudekar, Kathryn E Lafond, Eduardo Azziz-Baumgartner, Ismael R Ortega-Sanchez, Siddhartha Saha, Anand Krishnan

PROTOCOL

30 December 2025 • Open access

Behavioural economics intervention to implement a nutrition ranking system in food pantries: Be Well cluster randomised controlled trial protocol

Pamela D Perez, Katherine C Faulkner, Yingfei Wu, Marlene B Schwartz, Caitlin Caspi, Rachel Burgun, Laura Ortiz, Jenny Jia, Jessica Cheng, Yuchiao Chang, Douglas E Levy, Anne N Thorndike

25 December 2025 • Open access

Protocol for a quasi-experimental analysis: using retail sales data to evaluate impacts of the high fat, sugar and salt (HFSS) product placement restrictions legislation in England

Victoria L Jenneson, Francesca Pontin, Emily Ennis, Alison Fildes, Alexandra M Johnstone, Michelle A Morris

11 August 2025 • Open access

Research protocol design and implementation of a hybrid no-touch and low-touch prospective observational study during the COVID-19 public health emergency: the VISION study

Becky Straub, Katie R Mollan, Jessica R Keys, Chanhwa Lee, Ronald Swanstrom, Lakshmanane Premkumar, Timothy P Sheahan, Shuntai Zhou, William A Fischer, David A Wohl

25 December 2025 • Open access

Establishing a community event-based surveillance system in Kadoma City, Zimbabwe: a mixed-methods study protocol

Clayton Munemo, Daniel Chirundu, Tsitsi Juru, Gerald Shambira, Addmore Chadambuka, Notion Gombe, Gibson Mandozana, Mufuta Tshimanga

15 October 2025 • Open access

Community-based intervention to address antibiotic resistance: protocol for an embedded mixed-methods intervention trial

Sweety Suman Jha, Arista Lahiri, Madhumita Dobe, Budhaditya Mukherjee, Atul Raj, Amit Banik, Chandrashekhar Taklikar

18 August 2025 • Open access

AI4HealthyCities: a protocol for a mixed-method ethnographic study on the social determinants of cardiovascular health in New York City

Anna-Maria Volkmann, Elizabeth Adamson, Emma Boxley, David Napier, Peter Speyer, Reekarl Pierre, Wenqin Zhang, Yongkang Zhang

18 August 2025 • Open access

Impact of firefighters' work schedule on cardiovascular disease risk, wellbeing and safety in firefighters: protocol for the SWIFT study, a multidisciplinary prospective and cross-sectional study

Walaa F Abdelmoaty, Shelby L Watkins, Aanuoluwakiitan Ayeni, David A Hurtado, Andrew W McHill, Jeremy J Biggs, Kurt T Hegmann, Steven A Shea, Todd Bodner, Nicole P Bowles

31 July 2025 • Open access

Prospective cohort study to evaluate Lassa fever incidence, symptoms and coinfection with malaria in West Africa: the Enable Lassa Research Programme ('ENABLE 1.5') – study protocol

Henshaw Mandi, Danny Asogun, Olufemi Ayodeji, Benedict N Azuogu, Anton Camacho, William Fischer, Roice Fulton, Donald Samuel Grant, Stephan Günther, Ndapewa Ithete, Elsie Illori, Kamji Jan, Carol Kagia, Nele Martens, Sonia Menon, Aminata Ndiaye, Mark Ndifon, Robert Nsaibirni, Michael Ntiri, Paul Oloo, Sylvanus Okogbenin, Suzanne Penfold, Minnie Sankawulo-Ricks, Marion Sillah, Patrick Suykerbuyk, Nadia Tornieporth, Nathalie J Vielle, Margaret Williams, David Wohl, Fang Xie, Solomon Yimer, J Gabrielle Breugelmans

31 July 2025 • Open access

Determinates of STI prevention service utilisation among young and hard-to-reach populations: a protocol for a mixed-methods study in Foggia district, Italy, 2025

Sabino Mutino, Giulia Ciccarese, Angelo Salvatore Campanozzi, Francesca Fortunato, Domenico Martinelli

21 July 2025 • Open access

ParkProReakt—evaluation of a proactive approach to healthcare in Parkinson's disease: a study protocol for a randomised controlled trial

Marlena van Munster, Johanne Stümpel, Anna J Pedrosa, Kati Niemand, Ingmar Wellach, Dirk Becker, Isabel Doblinger, Kristina Schmidt, René Reiners, Daniel Wolferts, Anika Martin, Marius Nisslmüller, Keywan Sohrabi, Volker Groß, Birgit Samans, Patrick Fischer, Mohammed Osman Ashraf, Rebecca Wichartz, Marcin Grzegorzek, Xinyu Huang, Artur Piet, Mona Irsfeld, Christian Trense, Paulina M Olgemöller, Ümran Seven, Ann-Kristin Folkerts, Elke Kalbe, Hannes Böbinger, Jens Dapper, Lars Wohlfahrt, Max Geraedts, Natalie Altschuck, Linda Kerkemeyer, Carsten Eggers, David J Pedrosa

20 July 2025 • Open access

Burnout and its subsequent impact on quality of care provided by nursing occupations in the long-term care sector: a scoping review protocol

Alexia M Haritos, Bao-Zhu Stephanie Long, Ali Bani-Fatemi, Aaron Howe, Yiyan Li, Behdin Nowrouzi-Kia

REVIEW

28 October 2025 • Open access

Gender, self-care and toxic exposures: a narrative review of personal care product use and health equity implications

Eleni Prifti, Austen El-Osta

13 October 2025 • Open access

SHORT REPORT

CORRECTION

2 December 2025 • Open access

Correction: A retrospective study to understand the differences in maternal mortality among women admitted in critical and stable conditions in Malawi

24 November 2025 • Open access

Correction: Ethnocentric perceptions, impacts and influences of problematic alcohol use in a global community sample: a mixed-methods study

13 November 2025 • Open access

Correction: Impact of multicultural doula support on pregnant migrant women's healthcare service utilisation in Norway: a multi-centre case–control study

26 August 2025 • Open access

Correction: Spatial distribution of effective coverage of child immunisation in Ethiopia

31 July 2025 • Open access

Correction: Development and validation of a biological frailty score based on CRP, haemoglobin, albumin and vitamin D within an electronic health record database in France : a cross-sectional study

31 July 2025 • Open access

Correction: Development of prediction models of COVID-19 vaccine uptake among Lebanese and Syrians in a district of Beirut, Lebanon: a population- based study

CONTENT

Latest content

Archive

JOURNAL

About

Editorial board

Sign up for email alerts

Thank you to our reviewers

AUTHORS

Instructions for authors

Submit an article

Open access at BMJ

HELP

Contact us

Reprints

Permissions

Feedback form

Accessibility

BMJ Group

Website Terms & Conditions

Privacy & Cookies

Contact BMJ

Cookie settings

Online ISSN: 2753-4294

Current Issue

July 2025 - Volume 3 - 2

COMMENTARY

4 November 2025 • Open access

Decision support tools in the absence of equipoise: the case for vaccination

Daphne Bussink-Voorend, Marlies EJL Hulscher, Glyn Elwyn

ORIGINAL RESEARCH

30 December 2025 • Open access

Willingness-to-pay for community-based health insurance among formal and informal doctors in Dhaka, Bangladesh: a comparative cross-sectional study

Md Fuad Al Fidah, Syeda Sumaiya Efa, Md Ziaul Islam

30 December 2025 • Open access

Self-harm and suicidal behaviours among undergraduate students in Gandaki Province, Nepal: a cross-sectional study

Manu Kumari Lamtari Magar, Abhishek Sapkota, Alisha Thapa, Upkar Gurung, Arvind Kumar Shahi, Mani Neupane, Krishna Prasad Sapkota

30 December 2025 • Open access

Qualitative evaluation of the Mentor Mothers' programme in Nigerian military hospitals: the path to meeting PMTCT targets

Josephine Moshe Ibu, Tracy Mbuba Ibu, Akon Emmanuel Ndiok, Kator David Igbudu

Prev issue

Understanding the epidemiology of TB-HIV co-infection in Indonesia: evidence from the 2023 national TB registry

Machrumnizar Machrumnizar, Tris Eryando, Adang Bachtiar, Rina Kurniasri Kusumaratna, Meiyanti Meiyanti, Endang Djuana, Nikmatul Hidayah, Arifah Alfiyyah

28 December 2025 • Open access

Association of disability with COVID-19 outcomes in older adults: a prospective analysis of the US health and retirement study

Wenjie Zeng, Inyoung Jun, Rosha A Loach, Aryaman S Sriram, Nichole E Stetten, Panayiotis V Benos, Nicole M Marlow

25 December 2025 • Open access

Inequality in the accumulation of diseases and medications among older adults: a longitudinal cohort study 2016–2021

Tran Quoc Bao Tran, Stefanie Lip, Chris McParland, Barbara I Nicholl, Jocelyn M Friday, Jim Lewsey, Daniel Mackay, Ruth Dundas, Clea Du Toit, Alan Stevenson, Jill P Pell, Frances S Mair, Sandosh Padmanabhan

25 December 2025 • Open access

Prevalence of sexual dysfunction and the associated factors among postpartum women who visit Debre Tabor Comprehensive Specialized Hospital, Northwest Ethiopia in 2024: a facility-based cross-sectional study

Selamawit Girma Tadesse, Addisu Molla Abeje, Shimeles Biru, Rahel Amare Shumet, Adugna Gedefaw Alemu, Hiwot Dejen Fekadie, Belaynew Alemye Mengistie, Dessie Alemnew, Dagne Addisu, Abirham Wallelign Bayabil, Besfat Berihun Erega, Begizew Yimenu Mekuria, Assefa Kebie Mitiku, Tegegne Wale Belachew, Getachew Worku Melse, Kedir Ali Getahun, Eyaya Habtie Dagnaw

25 December 2025 • Open access

Heatwave and dementia: a systematic analysis for the Global Burden of Disease Study 2019

Yinhan Chen, Yanan Luo, Le Yu, Xiaoying Zheng, Qiang Luo

25 December 2025 • Open access

Estimating the value of face coverings during the COVID-19 epidemic: a dynamic causal modelling study

Cam Bowie, Anthony Costello, Karl Friston

25 December 2025 • Open access

Smoking reduction trajectories and their association with smoking cessation: a secondary analysis of longitudinal clinical trial data

Anthony Barrows, Elias Klemperer, Hugh Garavan, Nicholas Allgaier, Nicola Lindson, Gemma Taylor

25 December 2025 • Open access

Prevalence, risk factors and knowledge of noise-induced hearing loss among metal fabricators in Mbarara city, Uganda: a cross-sectional study

Brian Agaba, Doreen Nakku, Esther Nakasagga, Daniel Atwine

25 December 2025 • Open access

Reducing stigma towards incarcerated populations: a systematic review of intervention studies

Tazeen Majeed, Jo Taylor, David Stuckler, Erica Breuer, Cristiane Silvestre Paula, Tanmay Bagade, Smriti Nepal, Manuela Jarrett, Leigh Haysom, Elizabeth Sullivan, Sara Evans-Lacko

25 December 2025 • Open access

Pandemic risk-related behaviour change in England from June 2020 to March 2022: the cross-sectional REACT-1 study among over 2 million people

Nicholas Steyn, Marc Chadeau-Hyam, Matthew Whitaker, Christina Atchison, Deborah Ashby, Graham S Cooke, Helen Ward, Paul Elliott, Christl A Donnelly

21 December 2025 • Open access

Prevalence of postpartum family planning uptake and its association with couples' joint decision-making: a community-based cross-sectional study in rural Sindh, Pakistan

Jannat Khurram, Fauzia Basaria Hasnani, Sarah Saleem, Shiyam Sunder Tikmani

18 December 2025 • Open access

‘In this era, the digital era, telehealth is a tool that we can use to provide specialized care’: a qualitative evaluation of the implementation of programmes that use digital health to improve antenatal care in rural and jungle areas of Honduras and Peru

Ariadna Capasso, Carmen Olinda Alcalde Valdivia, Paola Jhosselyn Barrientos Mejía, Melvin Chávez Núñez, Amalia Ayala, Rosa Marlen Flores Oviedo, Gissela Fernandez, Iveth Larissa Moreno, Flor Ramos, Norma Llenny Cruz Vilcarromero, Yeniffer Blass, Marly Asunta Zumaeta Villavicencio, Luzlita Canta Zumaeta, Clyde Cowan Muñoz Vargas, Julia Beatriz López Puicón, Llaquelina Pizarro Mendoza, Ivy Lorena Talavera Romero, Suzanne Serruya, Bremen de Mucio, Mercedes Colomar

18 December 2025 • Open access

Figure rating scales used in sub-Saharan africa for body image assessment: a scoping review

Jamaiica S Hurston, Eliza A Huefner, Grace G Smith, Simon Pierre Bigirimana, Anne E Sumner

18 December 2025 • Open access

Proportionate income spent on nicotine and tobacco products and the use of untaxed cigarettes in Germany: findings from a cross-sectional survey

Stephanie Klosterhalfen, Daniel Kotz

18 December 2025 • Open access

Mass SARS-CoV-2 testing in US correctional facilities during the pandemic: a longitudinal analysis

Charlotte Kim, Byron S Kennedy, Mary Lansing, Robert P Richeson, Matt Hitchings, Albert I Ko, Margaret L Lind

17 December 2025 • Open access

Challenges and strategies for early diagnosis and management of type 2 diabetes mellitus at the primary healthcare level in rural Western Vidarbha, India: a qualitative study

Umesh Kawalkar, Abhay Gaidhane, Sumit Aggarwal, Amar Mankar, Nitin Ambadekar, Priti Kogade

17 December 2025 • Open access

Initiatives to enhance referral patterns from primary care to specialist kidney care:a systematic review and meta-analysis

Anukul Ghimire, Vinash Kumar Hariramani, Abdullah Abdulrahman, Feng Ye, Janice Y Kung, Somkanya Tungsanga, Alan Grill, Alexander Singer, Ayub Akbari, Branko Braam, David Collister, Elena Qirjazi, Kailash Jindal, Mark Courtney, Matthew Cooper, Matthew James, Marcello Tonelli, Nikhil Shah, Paul E Ronksley, Sabin Shurraw, K Scott Brimble, Scott Klarenbach, Sophia Chou, Soroush Shojai, Vinay Deved, Andrew Wong, Deenaz Zaidi, Ikechi Okpechi, Aminu K Bello

17 December 2025 • Open access

Impact of the resumption of proactive recommendation of HPV vaccination on HPV vaccination rates in Japan: an interrupted time series analysis based on the VENUS study

Mahiro Sazawa, Chieko Ishiguro, Wataru Mimura, Megumi Maeda, Fumiko Murata, Haruhisa Fukuda

17 December 2025 • Open access

Early life adversity and the comorbidity of psychopathology and cardiometabolic disorders: insights from the UK Biobank

Patrícia P Silveira, Andre K. Portella, Zihan Wang, João Paulo M Hoppe, Irina Pokhvisneva, Michael J Meaney

17 December 2025 • Open access

Factors associated with the uptake of clinical breast examination for early detection of breast cancer: interaction analysis of the 2022 Tanzania Demographic and Health Survey and Malaria Indicator Survey

Tumaini Nyamhanga, Pankras Luoga, Heavenlight Paulo, Peter Wangwe, Jovinary Adam, Rosemary Eustace

17 December 2025 • Open access

Multicountry surveillance study of acute febrile disease of unknown cause in sub-Saharan Africa

Essia Belarbi, Ann Christin Vietor, Adriano Mendes, Etilé A Anoh, Arsène Zongo, Abdoulaye Diarrassouba, Ange Oho Roseline Badjo, Aminata Ouattara, Satourou Arsène Some, Firmin Nongodo Kabore, Armel Poda, Sara Tomczyk, Tim Eckmanns, Abdoul-Salam Ouedraogo, Bamourou Diané, Nicola Page, Fabian H Leendertz, Grit Schubert, Chantal Akoua-Koffi, Marietjie Venter

17 December 2025 • Open access

Healthcare use and costs of functional somatic disorder in Denmark: a population-based cohort study (DanFunD)

Marie Weinreich Petersen, Kaare Bro Wellnitz, Eva Oernboel, Tina Birgitte Wisbech Carstensen, Thomas Meinertz Dantoft, Anne Ahrendt Bjerregaard, Torben Joergensen, Per Fink

9 December 2025 • Open access

Suicide decedent presentations to the Emergency Department: a 10-year data linkage analysis evaluating non-mental health-related presentations in the year preceding suicide in Victoria, Australia

Sarah Nicole Simons, Sara Vogrin, Jennie Hutton, Hamed Akhlaghi, Zac Seidler

9 December 2025 • Open access

Economics of inpatient diabetic foot ulcer care in a multiethnic Asian population: a retrospective analysis of cost drivers and impact of high-cost users

Chloe Xiaoyun Chan, Yingqiu Dong, Pamela Lim, Shikha Kumari, Ajay Nambiar, Yu Han Chee, Diarmuid Paul Murphy, Rajesh Babu, Choon Chiet Hong, Yaser Hasan Muhammed

9 December 2025 • Open access

Occupational physical activity and risk of all-cause, cardiovascular disease and cancer mortality among adults in the USA: a national cohort study

Yinchu Li, Jingkuo Li, Lubi Lei, Fang Yu, Yanwu Yu, Zhenyan Zhao, Lihua Zhang

9 December 2025 • Open access

Depression and the revolving door of HIV care: using multistate approaches to understand complex longitudinal exposure/outcome relationships among a cohort of people entering HIV care in Cameroon from 2019 to 2020

Lindsey M Filiatreau, Peter Vanes Ebasone, Aaloke Mody, Anastase Dzudie, Marcel Yotebieng, Milton Wainberg, Angela M Parcesepe

9 December 2025 • Open access

Association of lifestyle change after H. pylori eradication with cardiovascular disease: a nationwide Korean NHIS cohort study

Jinju Choi, Kyungdo Han, Cheol Min Shin, Jin-Hyung Jung, Se Yun Kim, Seung-Gyun Im, Hyemin Jo, Ho-Kyoung Lee, Eun Hyo Jin, Seung Joo Kang, Joo Hyun Lim, Yoon Jin Choi, Dong Ho Lee

9 December 2025 • Open access

Acceptability of a carbon monoxide monitoring feature of a smoking cessation mobile application: a virtual focus group study

Lydia Tesfaye, Michael Wakeman, Gunnar Baskin, Tim Gregory, Greg Gruse, Erin Leahy, Brandon Kendrick, Sherine El-Toukhy

9 December 2025 • Open access

Impact of prenatal depression, anxiety and stress on low birth weight: a retrospective case-control study in Karachi, Pakistan

Fatima Nazir, Sameera Ali Rizvi, Tahir Munir

7 December 2025 • Open access

Global, regional and national population attributable fraction of potentially modifiable risk factors for dementia in the adult population: an analysis using global health databases

Stefano Giannoni-Luza, Daniele Urso, Giancarlo Logroscino

7 December 2025 • Open access

Impact of COVID-19 non-pharmaceutical interventions on bacterial infections in children: an international electronic health record-based study

Joany M Zachariasse, Alba Gutiérrez-Sacristán, Simran Makwana, Xiudi Li, Surbhi Bhatnagar, David A Hanauer, Mundeep K Kainth, Michele Morris, Paula Rubio-Mayo, Carlos Sáez, Mohsin Ali Shah, Bruce J Aronow, Rafael Badenes, Tianxi Cai, Noelia Garcia Barrio, Richard W Issitt, Kenneth D Mandl, Gregorio P Milani, Karyn Moshal, Jane W Newburger, Gilbert S Omenn, Nekane Romero-Garcia, Francesca Sperotto, Anastasia Spiridou, Shyam Visweswaran, Zongqi Xia, Florence T Bourgeois, Paul Avillach

4 December 2025 • Open access

Complex, multilevel barriers and solutions for nutrition security in the USA: a community-based participatory research approach

Brittany D Linde, Rachel J Meadows, Ellyn Maese, Chris Miljanich, Hannah Frome, Matthew Dufrene

3 December 2025 • Open access

A competency-based leadership framework for public health trainers in Meghalaya: insights from a multi-method study

Dipika Bumb, Pallavi Gupta, Shalini C Nooyi, Nayanjeet Chaudhury

3 December 2025 • Open access

Evaluating the long-term cost-effectiveness of the COBRA-BPS programme in Pakistan

Carlos Chivardi, Zainab Samad, Tao Chen, Simon Mark Walker

3 December 2025 • Open access

Mixed-methods study assessing the acceptability and feasibility of Human Challenge Studies for Disease X in Healthy UK Adults in a SARS-CoV-2 pandemic setting

Katherine RW Emary, Rebecca te Water Naude, Arabella Stewart, Maia Patrick-Smith, John A Henry, Marcus English, Tonia M Thomas, Naomi Douglas, Maria Moore, Andrew J Pollard, Samantha Vanderslott, Susanne H Hodgson

3 December 2025 • Open access

Awareness and use of oral nicotine pouches among youth and young adults, 2022–2024: repeat cross-sectional surveys in Canada, England, the USA and New Zealand

Jessica L Reid, Robin Burkhalter, Jude Ball, Kenneth Michael Cummings, Katherine East, Richard Edwards, Geoffrey T Fong, Andrew Hyland, Richard O'Connor, David Hammond

3 December 2025 • Open access

Adverse childhood experiences and mental health in a low-income setting characterised by silence and taboos: a cross-sectional analysis of hidden trauma in Togolese school-going adolescents (2025)

Arnold Junior Sadio, Fifonsi Adjidossi Gbeasor-Komlanvi, Abdul-Halick Mama, Martin Kouame Tchankoni, Komlan Gérard Koglo, Innocent Gabkiangbe, Gilbert Aku Agbetoglo, Georgette Attisso, Ahmat Ousmane, Victoire Banka, Abdel Kadère Alfa, Sibabe Agoro, Sonia Kanekatoua, Mathilde Husky, Didier Koumavi Ekouevi

30 November 2025 • Open access

The mental health toll of conflict-induced violence on teachers: evidence from a longitudinal survey in DRC and Niger

Diego De La Fuente Stevens, Jean-Benoit Falisse, Christian Polepole Bazuzi, Samuel Matabishi, Gauthier Marchais

30 November 2025 • Open access

Differential impact of the COVID-19 pandemic on chlamydia and gonorrhoea cases among youth and young adults in Canada: an interrupted time series analysis

Farhan Khandakar, Nichole Austin, Zihang Lu, Sahar Saeed

30 November 2025 • Open access

Parental experiences and support needs following a prenatal diagnosis of congenital heart disease: a qualitative study across the continuum of care in Turkey

Zeynep Bengi Eren, Berk Kabadayi, Oğuz Taha Ayaz, Aleyna Keskin, Ahmet Yigit Sanlialp, Hale Yapici Eser, Mete Han Kizilkaya, Ender Odemis

30 November 2025 • Open access

Pathways to suicide prevention: a population-based cohort study of the mediating role of Bolsa Família in psychosocial stressors in the 100 million Brazilian cohort

Patrícia Fortes Cavalcanti de Macêdo, Gilciane Ceolin, Flávia Jôse Oliveira Alves, Rumenick Pereira Silva, Mauricio Lima Barreto, Luis F S Castro-de-Araujo, Daiane B Machado

28 November 2025 • Open access

Harnessing traditional knowledge and experiences on food consumption in Uganda: a mixed-methods study exploring indigenous fruits and vegetables with potential cardiometabolic benefits

Tonny Kiyimba, Peter Yiga, Michael Bamuwamye, Eline Van Damme, Patrick Ogwok, Bart Van der Schueren, Christophe Matthys

28 November 2025 • Open access

Assessment of quality of life among undergraduate students using WHOQOL questionnaire in Nepal: a cross-sectional study

Prashamsa Bhandari, Kiran Paudel, Snehi Bajracharya, Biddhya Khanal, Kamal Gautam, Tara Ballav Adhikari, Durga Prasad Pahari, Roman Shrestha

28 November 2025 • Open access

Burdens and risk factors for mortality in adolescents and young adults aged 10–24 years in Australia and comparison with OECD countries between 2000 and 2021: Global Burden of Disease Study 2021

Zahra Ali Padhani, Jodie C Avery, Salima Meherali, Gizachew A Tessema, Zohra S Lassi

27 November 2025 • Open access

Changing parental perceptions to childhood immunisations during the COVID-19 pandemic in the UK: evidence from three cross-sectional surveys between 2020 and 2022

Rosie Thistlethwayte, Alexandre de Figueiredo

27 November 2025 • Open access

Between duty and family: exploring predictors of work-interfering family guilt and work–family conflict among healthcare workers in Pakistan

Naureen Rehman, Muzna Hashmi, Muhammad Ismail Ibrahim, Mohiba Ali Khowaja, Fauzia Basaria Hasnani, Saleema Gulzar

27 November 2025 • Open access

How do financial considerations influence medical decision-making? A qualitative-empirical study in German cancer medicine

Julia Felicitas Leni König, Birthe Aufenberg, Gereon Brei, Sophia Reitmayer, Sabine Sommerlatte, Wolfgang Greiner, Jan Schildmann, Eva Caroline Winkler, Katja Mehlis

27 November 2025 • Open access

Can a volunteer-based service create an effective, locally appropriate and scalable model of prehospital care for traffic injury victims on the national highways of Bangladesh? Operational outcomes after 10 years of TraumaLink

Jon Scott Moussally, Arup Chandra Saha

25 November 2025 • Open access

Prevalence and impact of adverse childhood experiences and extrafamilial violence: a representative survey of adults in Northern Ireland

Colm Walsh, Lisa Bunting, Gavin Davidson, Ciaran Mulholland, Claire McCartan, Nicola Doherty, Mark Shevlin

25 November 2025 • Open access

Excess mortality at ages 20–64 from 2020 to 2024: a comparative analysis of 16 European countries

Gianfranco Alicandro, Alberto Giovanni Gerli, Carlo La Vecchia

25 November 2025 • Open access

Association of paternal preconception hepatitis B virus infection with the risk of preterm birth between 2010 and 2020 in China: a population-based cohort study

Chuanyu Zhao, Ying Yang, Hanbin Wu, Jueming Lei, Meiya Liu, Jiaxin Li, Xinyi Lyu, Xuan Hu, Yiyao Jin, Tsomo TENZIN, Ziyi Cheng, Wanyi Fu, Jihong Xu, Yuan He, Yuanyuan Wang, Zuoqi Peng, Ya Zhang, Hongguang Zhang, Qiaomei Wang, Yiping Zhang, Haiping Shen, Donghai Yan, Xu Ma

21 November 2025 • Open access

Burden of SARS-CoV-2 infection and severe illness in South Africa (March 2020–August 2022): a synthesis of epidemiological data

Larisse Bolton, Stefano Tempia, Sibongile Walaza, Waasila Jassat, Kaiyuan Sun, Debbie Bradshaw, Rob Dorrington, Jackie Kleynhans, Neil Martenson, Anne von Gottberg, Nicole Wolter, Juliet R C Pulliam, Cheryl Cohen

21 November 2025 • Open access

Mixed-methods investigation into the prevalence, patterns and determinants of prisoner self-harm during the COVID-19 pandemic in England and Wales compared with prepandemic self-harm (COPE)

Kerry Gutridge, Matthias Pierce, Auden Edwardes, Louise Robinson, Emma Plugge, Paula Harriott, Jenny Shaw, Kathryn M Abel

21 November 2025 • Open access

Strengthening research capacity in Cameroon: qualitative insights on the impact of mentorship, training and funding on receiving seed grants

Julie Marie Buser, Jovanny Fouogue, Ella August, Rachel Louise Gray, Demsash Hailu, Tamrat Endale, Yolanda R Smith, Jeanne Fouedjio

21 November 2025 • Open access

Chronic kidney disease progression, long-term nursing care burden and habitual physical activity: an observational study in Japan

Yuki Ohashi, Akitaka Sugishita, Haruka Kurokawa, Yoko Hori, Sawako Kato, Masaaki Mizuno, Masahiro Nakatochi

21 November 2025 • Open access

Role of alcohol in urgent ambulance contacts in the Capital Region of Denmark: a 9-year population-based study across sex and age groups

Alberte Brix Curtis, Laura Staxen Bruun, Helle Collatz Christensen, Stig Nikolaj Fasmer Blomberg, Fredrik Folke, Karen Smith, Ulrik Becker, Janne Tolstrup

19 November 2025 • Open access

Integrating gender in health interventions for adapting to extreme heat in low- and middle-income countries: a scoping review

Karthika Kumar, Gabriela De Jesus Cipriano Flores, Zeinab Umme Mulla, Jane E Hirst

19 November 2025 • Open access

Occupation: a predisposing factor for SARS-CoV-2 infection among hospital employees? A single-centre retrospective cohort study conducted in Austria

Maximilian Egg, Tibor Spath, Sophie Brunner-Ziegler, Claudia A Hana, Helga Radner-Lechner, Nikolaus Urban, Stefan Czerny, Florian Thalhammer, Robert Strassl, Bernd Jilma, Bernhard Parschalk, Maximilian Schnetzinger, Alessandra Handisurya

19 November 2025 • Open access

Access to emergency care in primary healthcare system in Tanzania: a mixed-method community-based study in a resource-limited setting

Gimbo Hyuha, Manase Kilonzi, Nathanael Sirili, Notikela Nyamle, George Kiwango, Juma Athumani Mfinanga, Raya Mussa, Gasto Frumence, Hendry R Sawe

13 November 2025 • Open access

Mixed-methods psychosocial autopsy study of suicide in young and middle-aged individuals in the Netherlands

Elias Balt, Saskia Mérelle, Stefan Vrinzen, Merijn Eikelenboom, Amra Žerić, Dewi Wiggers, Renske Gilissen, Daan Creemers, Arne Popma

13 November 2025 • Open access

Racial and ethnic variation in perceived relative harm of tobacco and nicotine products: an experimental study

Teresa DeAtley, Matthew D Stone, Andrea C Johnson, Melissa Mercincavage, Andrea C Villanti, David W Wetter, Janet Audrain-McGovern, Cristine Delnevo, Andrew A Strasser

4 November 2025 • Open access

Impact of multicultural doula support on pregnant migrant women's healthcare service utilisation in Norway: a multi-centre case–control study

Hanna Oommen, Linda Reme Sagedal, Jennifer Jean Infanti, Ulrika Byrskog, Marit Stene Severinsen, Mirjam Lukasse

13 November 2025 • Open access

Trends and characteristics of hospitalisation and mortality among centenarians in old-age homes and communities: a territory-wide study in Hong Kong, 2012–2021

Hong-jie Yu, Eric Tsz-Chun Lai, Ruby Yu, Jean Woo

13 November 2025 • Open access

Associations between social determinants of health and COVID-19 outcomes by variants of concern: a Bayesian spatiotemporal analysis

Fanyu Xiu, Michael A Irvine, Natalie Prystajecky, Linda Hoang, Linwei Wang, Sharmistha Mishra, Beate Sander, Stefan Baral, Naveed Z Janjua, Hind Sbihi

13 November 2025 • Open access

Implementation and fidelity of reactive surveillance and response strategies for malaria elimination: a systematic review and meta-analysis

Win Han Oo, Nilar Aye Tun, Kaung Myat Thu, Julia C Cutts, Win Htike, Ei Phyu Htwe, May Chan Oo, Aung Khine Zaw, Paul Anthony Agius, Freya J I Fowkes

13 November 2025 • Open access

Association between mental health status and patient satisfaction: a cross-sectional study in three Damascus hospitals, Syria

Rawan Daboul, MHD Ghazi Aboulkher, Jamal Ataya, Mohammad Hamdi, Rustum Mackieh

17 November 2025 • Open access

Initiation of opioid agonist treatment following hospital-treated opioid toxicities and the risk of repeat events in Ontario, Canada: a cohort study using inverse probability of treatment weights

Shaleesa Ledlie, Mina Tadrous, Ahmed M Bayoumi, Daniel McCormack, Jessica T Kent, Jes Besharah, Charlotte Munro, Tara Gomes

13 November 2025 • Open access

Association between late access to care and mortality for PWH: insights from the French Hospital Database on HIV (ANRS CO4-FHDH) from 2002 to 2016

Valérie Potard, Fabienne Caby, Malamine Gassama, Emilie Lanoy, Sylvie Abel, Firouzé Bani-Sadr, Agathe Becker, Sylvie Bregigeon, Blandine Denis, Pierre de Truchis, Claudine Duvivier, Christine Katlama, Isabelle Lamaury, Guillaume Martin-Blondel, Jean-Luc Meynard, Lionel Piroth, Axel Ursenbach, Olivier Robineau, Pierre Tattevin, Dominique Costagliola, Sophie Grabar

13 November 2025 • Open access

Role of tuberculosis symptoms in transmission risk to cell contacts in prisons

Wanessa da Silva Peres Bezerra, Esther Jung, Mariana Garcia Croda, Roberto Dias de Oliveira, Andrea da Silva Santos, Daniel Henrique Tsuha, Paulo Cesar Pereira dos Santos, Eunice Atsuko Totumi Cunha, Julio Henrique Rosa Croda, Jason Randolph Andrews

13 November 2025 • Open access

Association between catastrophic health expenditure and mortality in older people in 11 European health systems: a longitudinal analysis between 2006 and 2020

Raffaele Palladino, Christopher Millett, Michele Sorrentino, Michelangelo Mercogliano, Paolo Montuori, Thomas Hone

13 November 2025 • Open access

Temporal comorbidity patterns preceding MASLD-related major adverse liver outcomes: a nationwide population-based case–control study in Sweden

Joost Boeckmans, Linnea Widman, Rickard Strandberg, Ying Shang, Axel Wester, Hannes Hagström

13 November 2025 • Open access

Community-level factors influencing the duration of buprenorphine treatment in individuals with opioid use disorder: a cohort study using US longitudinal claims data

Paula A Jaimes-Buitron, Kehe Zhang, Yanmin Gong, Yuanxiong Guo, Cici Bauer, Carolina Vivas-Valencia

10 November 2025 • Open access

Factors associated with repeat contact with an out-of-hours mental health crisis service: an observational study

Kate Gemma Richards, Emily Eyles, Paul Scott, Mark Jackson, Heleni Covary, Theresa Redaniel

10 November 2025 • Open access

Brazilian conditional cash transfer programme’s impact on youth human capital outcomes: the 2004 Pelotas Birth Cohort

Jessica Mayumi Maruyama, Cristiane Silvestre Paula, Carolina Ziebold, Luciana Tovo-Rodrigues, Iná S Santos, Aluísio J D Barros, Joseph Murray, Sara Evans-Lacko, Alicia Matijasevich

7 November 2025 • Open access

Smoking cessation after referral from hospital to community stop smoking services: an observational study

Rowan Cherodian, Matthew Franklin, Susan Baxter, James Chilcott, Duncan Gillespie

7 November 2025 • Open access

Alcohol consumption during pregnancy in Scotland following public health interventions: population-based study

Michael Kinsella, Martin Shaw, Aizhan Kyzayeva, Alastair Leyland, Jill P Pell, Deborah Lawlor, Scott Nelson, Rachel Joyce Kearns

5 November 2025 • Open access

Exploring barriers to social distancing during the COVID-19 pandemic in Zimbabwe: a qualitative study

Masceline Jenipher Mutsaka-Makuvaza, Nicholas Midzi, Lincoln Sunganai Charimari, Priscilla Mangwiro, Gladys Mugadza

4 November 2025 • Open access

Effect of informational videos on vaccine perceptions among unvaccinated individuals: a randomised educational intervention

Seung-Keun Martinez, Silvia Sonderegger, Andy Brownback, Guillermo Cruces, Monika Pompeo, Joanne Morling

4 November 2025 • Open access

Network analysis of demographics, dietary habits and health-related quality of life among northern Chinese population

Samuel Chacha, Hui Jing, Yuxin Teng, Ziping Wang, Yan Huang, Yijun Kang, Ivonne Louis, Saumu Ali, Florian Emanuel Ghaimo, Issa Matinya, Abdallah Maurice Mahungu, Elfrida Kumalija, Shaonong Dang

4 November 2025 • Open access

Governance for public health across health and allied sectors: a scoping review

Sohel Saikat, Redda Seifeldin, Yu Zhang, Maryjane Nweje, Sabrina Shivji, Gerard Schmets, Neil Squires, Anne-Catherine Viso, Duncan Selbie

31 October 2025 • Open access

Prevalence of risk factors of major non-communicable diseases among adolescents in schools of Rapti-Sonari rural municipality of Banke district: a cross-sectional study in Nepal

Bigyan Subedi, Paras Modi Pangeni, Shrija Rijal, Prashanna Man Maharjan, Manish Rajbanshi, Kshitij Kunwar, Lokendra Oli, Khem B Karki

31 October 2025 • Open access

Clinical and demographical aspects of a new neurology outpatient clinic in a developing country: a descriptive retrospective study

Matheus Ballestero, Beatriz Gabrielle Ishikawa Ducci, Daniel Souza da Silva, Milena Carvalho Libardi, Judith Thomas Tayra, Ricardo Santos de Oliveira

31 October 2025 • Open access

Community health volunteers and contraceptive use among adolescent girls and young women in Kenya: a three-wave analysis

William Rudgard, Broline Sagini Asuma, Caroline Kabiru, Chris Desmond, Anthony Idowu Ajayi, Lucie Cluver

31 October 2025 • Open access

Health disparities in complicated lower respiratory tract infections: a population-based cohort study in The Hague, The Netherlands

Ernst D van Dokkum, Martijn Sijbom, Saskia le Cessie, Dennis O Mook-Kanamori, Marc A Bruijnzeels, Adriënne S van der Schoor, Karlijn te Paske, Kirsten Langeveld, Leo G Visser, Mattijs E Numans, Cees van Nieuwkoop, Hanneke Borgdorff

31 October 2025 • Open access

Exploring the influence of human-animal bonds on suicide characteristics: cross-sectional study of human-animal bond associated suicide in the USA using the National Violent Death Reporting System

Andreina Giron, Rebecca John, Alice Martino, Laura F Goodman, Peter Yu, Maryam Gholizadeh, Marizen R Ramirez, John Schomberg

30 October 2025 • Open access

Climate change anxiety among young women living in the urban slums of Kampala, Uganda: findings from the baseline assessment of the TOPOWA cohort study

Monica H. Swahn, Gideon Matovu, Charles Natuhamya, Kelly E Murray, David M Ndetei, Jane Palmier, Anna Nabulya, Serge Wandji, Revocatus Twinomuhangi

30 October 2025 • Open access

Female sex workers and cervical cancer screening in Kilimanjaro region: Uptake and Behavioural Determinants in Health Belief Model Perspectives: A community-based cross-sectional study

Gumbo D Silas, Innocent H Peter Uggh, Bernard Njau, Esther Majaliwa, Patricia Swai, Alma Redson Nzunda, Gaudensia Olomi, John E Mtenga, Prisca Marandu, Leah Mmari, Happiness Kilamwai, Bariki Mchome, Blandina Theophil Mmbaga, Alex Mremi

30 October 2025 • Open access

Unveiling the hidden burden: estimating the proportion of undiagnosed depression, hypertension and diabetes – a modelling study using survey data from adults in England, 2011–2019

Benjamin Barr, Anna Head, Brendan Collins, Chris Kypridemos

30 October 2025 • Open access

Studies on dietary sodium knowledge, attitudes and behaviours in the Americas: a scoping review

Alicia Tavares da Silva Gomes, Rola Al Ghali, Maria C Tan, Beatriz Franco-Arellano, Patricia Constante Jaime, JoAnne Arcand

30 October 2025 • Open access

Culture, context and crisis: understanding community engagement in Ghana's Ashanti and Northern regions amid COVID-19 – a qualitative study

Gyesi Razak Issahaku, Hanna-Tina Fischer, Emmanuel Appiah-Brempong, Daniel Opoku, Johanna Hanefeld

28 October 2025 • Open access

Prevalence and correlates of hypertension among women of reproductive age in Tanzania: a nationwide cross-sectional study

Pankras Luoga, Atuganile Mtawa, Jovinary Adam

28 October 2025 • Open access

Estimating the scale of hospital admissions for people experiencing homelessness in England: a population-based multiple systems estimation study using national Hospital Episode Statistics

Serena April Luchenski, Dankmar Böhning, Robert Aldridge, Fiona Stevenson, Shema Tariq, Andrew C Hayward

28 October 2025 • Open access

Community member perspectives on gun violence intervention in the southeast USA: a mixed-methods, cross-sectional study

Sarah B. Maness, Marlvis 'Butch' Kennedy, Morgan Maner, Shantell McLaggan, Kailey Smitherman, Kathleen Trejo Tello, Yu Lu

27 October 2025 • Open access

Prevalence of reproductive tract and sexually transmitted infections among symptomatic and asymptomatic women, validity of syndromic management, in urban and periurban low to mid socioeconomic neighbourhoods of North Delhi: an observational study

Neeta Dhabhai, Barsha Gadapani Pathak, Gitau Mburu, Deepak More, Ranadip Chowdhury, Teodora E C Wi, Leena Chatterjee, Devjani De, Rita Kabra, James Kiarie, Ndema Habib, Arjun Dang, Manvi Dang, Aradhna Bhargav, Binish Jawed, Sarmila Mazumder

27 October 2025 • Open access

Community-based serological screening for Chagas disease in London: a cross-sectional, observational pilot study

Natalie Elkheir, Liliana Sanchez Zelaya, Laura Valderrama Penagos, Laura Lopez, Rodrigo Ville, Estefania Sienra-Iracheta, Temitope Fisayo, Pat Lok, Fionnuala Ryan, Ana Bayona, Jose Garcia Romero, Clare E Warrell, Nicolas Massie, Cristina Fernandez-Turienzo, Valentina De Sario, Jenna Abaakouk, Karina Guzman Miranda, Amel Alfulaij, Cristina Suarez, Maria-Cristina Loader, Catherine Dominic, Maykon Diego Melo, Marcelle Costa Marinho, Marcela Bojorquez Segura, Heloise Gerber, Anna Bote-Casamitjana, Patricia Miralhes, Alyssa Chase-Vilchez, Declan Crilly, Jaimie Wilson-Goldsmith, Barbara de Barros, Jessica Carter, Helen Liddy, Niamh Murphy, Debbie Nolder, Amaya Bustinduy, Laura E Nabarro, Peter L Chiodini, David Moore

23 October 2025 • Open access

What drives inequality in modern family planning use among urban women residents? A cross-sectional analysis using the inequality of opportunity framework in Uganda's secondary cities

Rornald Muhumuza Kananura, Catherine Birabwa, Ronald Wasswa, Jacquellyn Nambi Ssanyu, Kharim Mwebaza Muluya, Sarah Namutamba, Moses Kyangwa, Felix Kizito, Othman Kakaire, Richard Mugahi, Peter Waiswa

23 October 2025 • Open access

Ethnocentric perceptions, impacts and influences of problematic alcohol use in a global community sample: a mixed-methods study

Harini Chakkera, Richard Butterfield, Srishti Sardana, Amrit Mukkatira, B Unnikrishnan, Sharada Rai, Kariappa Appachu, Roshni Kundranda, Georgia J Michlig

23 October 2025 • Open access

Risk factors for the intra-individual double burdens of malnutrition among reproductive-age women in India: a secondary analysis of three rounds of the National Family and Health Survey

Hannah Gardner, Vani Sethi, Tuck Seng Cheng, Manisha Nair

23 October 2025 • Open access

Temporal changes in occupational risks of COVID-19 hospitalisation in Germany, 2020–2021: a case–cohort study

Karla Romero Starke, René Mauer, Ulrich Bolm-Audorff, Janice Hegewald, Gabriela Brückner, Katrin Schüssel, Helmut Schröder, Albert Nienhaus, Andreas Seidler

22 October 2025 • Open access

Death risk in nursing homes between the prepandemic period and the COVID-19 era: a retrospective cohort study in Murcia Region, Spain

Jesús Humberto Gómez, Inés Sánchez-Rodríguez, Jesus Soriano-López, Rocio García-Pina, Natalia Alejandra Cabrera-Castro, Inmaculada Moreno-Diaz, Ana María Corbalán-Fernández, Antonio Sola-Roca, Enrique Molina de los Cobos, Maria Carmen Sánchez-Montesinos, Joaquín Palomar-Rodriguez, Maria-Dolores Chirlaque

22 October 2025 • Open access

Disparities in cancer incidence, stage at diagnosis, treatment and mortality across socioeconomic groups in Finland: a register-based population study

Xianhua Zai, Peng Li, Luca Dei Bardi, Kaarina Korhonen, Margherita Moretti, Mikko Myrskylä, Pekka Martikainen

22 October 2025 • Open access

Perceived discrimination and cardiovascular risk factors in mid-life women: results from Project Viva, a longitudinal cohort in the USA

Benjamin Grobman, Sheryl L Rifas-Shiman, Izzuddin M Aris, Wei Perng, Jorge E Chavarro, Stephen P Juraschek, Emily Oken, Marie-France Hivert, Mingyu Zhang

11 August 2025 • Open access

Past trends and future projections of psychological distress among general population in Finland

Suvi Parikka, Marja Holm, Jaana Suvisaari, Jouni Lahti, Jaakko Reinikainen, Hanna Tolonen, Annamari Lundqvist

21 October 2025 • Open access

Mixed-methods process evaluation of the EACH-B intervention in UK secondary schools: Delivery fidelity, stakeholder responses and contextual influences

Sarah Jenner, Mary Barker, Sofia Strömmer, Sarah Shaw, Laila Khawaja, Millie Barrett, Kathryn Woods-Townsend, Donna Lovelock, Lisa Bagust, Naomi Leonard, Wendy Lawrence, Danielle Lambrick, Judit Varkonyi-Sepp, Hamid Homatash, Patricia Coakley, Christina Vogel, Leanne Morrison, Mary Christina Horsfall, Hazel Inskip, Janis Baird

21 October 2025 • Open access

Workplace violence among healthcare providers in India: a mixed-method study

Deepak Anil, Thekke Veedu Sreena, Divya Kindiyode Lakshmi Narayanan, Sunil Kumar Doddaiah, Archa AnilkumarSini, Disha Dilip Karkera, Rangavajjala Naga Sanjeeva Abhigna Mahathi, Suresh Vismaya

21 October 2025 • Open access

Improving measurement of girls and young women's reproductive experiences: qualitative findings from research in Kenyan family planning clinics

Erin A Hartman, Manuela Colombini, Jane Namwebya, Eunice Asala, Wilkister Ombidi, Florence Thungu, Neha S Singh, Ana Maria Buller, Cicely Marston

21 October 2025 • Open access

Maternal region of birth and stillbirth trends in Victoria, Australia, 2012–2019: a cohort study

Natalie Holowko, Natalie Y Liu, Sharon Weerasingha, Roshan Selvaratnam, Mary-Ann Davey, Tanya Farrell, Miranda Davies-Tuck

21 October 2025 • Open access

Proportion of cancer attributable to modifiable factors in the Netherlands in 2019: a secondary data analysis

Caren Lanting, Ellian Lebbink, Ernest de Vroome, Iris Eekhout

17 October 2025 • Open access

Surge in C-section deliveries during the COVID-19 pandemic: insights from a cross-sectional study in Gujarat, India

Farjana Memon, Mahalaqua Nazli Khatib, Deepak Saxena, Komal Shah, Anish Sinha, Ami V Mehta, Claire Heffernan

17 October 2025 • Open access

Exploring healthcare priorities, barriers, access and experiences of a family-centred approach among families seeking asylum in North London

Aileen Ni Chaoilte, Nuria Sanchez Clemente, Rebecca Lilygreen, Allison Ward, Nicky Longley, Sarah Eisen

17 October 2025 • Open access

Exploring the perspectives and experiences of food-insecure adults who are also tobacco dependent: a qualitative study in North East England

Kerry Brennan-Tovey, Nida Ziauddeen, Laura Hamilton, Carol Gorman, Eileen Kaner, Darren McMahon, Susan Jean Mountain, Sheena E Ramsay, Claire Thompson, Maria Raisa Jessica Aquino

17 October 2025 • Open access

Association between near visual display device usage and the eye's accommodation and vergence parameters: a cross-sectional study of high school children in Cape Coast, Ghana

Charles Darko-Takyi, Thomas Welbeck Mills, Samuel Bert Boadi-Kusi, Michael Ntodie, Carl Halladay Abraham, Emmanuel Kwasi Abu, Sedinam Amewuzah, Emmanuel Essien, Bright Osei Wiafe, Stephen Ocansey

15 October 2025 • Open access

Predicting risk factors of non-utilisation of postnatal care in three neighbouring East African countries: application of the decision tree

Chenai Mlandu, Zvifadzo Matsena-Zingoni, Eustasius Musenge

15 October 2025 • Open access

Information systems for enhancing multisectoral and multilevel preparedness and response to climate-sensitive infectious diseases in Latin America and the Caribbean: a scoping review

Jenny Elizabeth Ordoñez-Betancourth, Yewel V Vanessa Sanchez-Tinjacá, Sheryl Iona Vidales Abrahams, Sebastián Castaño Duque, Camila González, Juliana Helo Sarmiento, Natalia Niño-Machado, Monica Pinilla-Roncancio, Catalina González-Uribe

15 October 2025 • Open access

Assessing the preparedness of primary healthcare facilities for the implementation of universal test and treat in uThukela District, South Africa: a cross-sectional study

Eunice Turawa, Wisdom Basera, Mbuzeleni Hlongwa, Thubelihle Mathole, Debbie Bradshaw, Edward Nicol

15 October 2025 • Open access

Determinants of awareness, treatment and control of hypertension among the hypertensive population aged 40 years and above in Myanmar from a community perspective: a community-based, cross-sectional study

May Sabai Soe, Su Su Hlaing, Aye Sandar Mon

15 October 2025 • Open access

Home and epigenome: exploring the role of DNA methylation in the relationship between poor housing quality and depressive symptoms

Faye Sanders, Vilte Baltramonaityte, Alexandre A Lussier, Andrew D A C Smith, Erin C Dunn, Esther Walton

15 October 2025 • Open access

Interrupted time series and non-linear regression analyses to evaluate the impact of the three consecutive COVID-19 national lockdowns on the general practice referrals of women experiencing domestic violence and abuse in England and Wales

Jasmina Panovska-Griffiths, Eszter Szilassy, Lucy Downes, Sharon Dixon, Anna Dowrick, Chris Griffiths, Gene Feder, Estela Capelas Barbosa

15 October 2025 • Open access

Impact of socioeconomic factors on cardiovascular diseases, diabetes and all-cause mortality in patients with uveitis: a Danish cohort study

Marie Ørskov, Henrik Vorum, Oliver Niels Klefter, Yousif Subhi, Steffen Heegaard, Maria Vittoria Cicinelli, Jimmi Wied, Piergiorgio Neri, Lasse Jørgensen Cehofski

15 October 2025 • Open access

Preconception care in South Asia: awareness, risk factors and interventions – a scoping review

Asmita Gupta, Vijayaprasad Gopichandran, Jane E Hirst, Usha Sriram

13 October 2025 • Open access

Epidemiology of early-onset and late-onset invasive infections in Australian neonates and infants: a retrospective multicentre study

Phoebe C M Williams, Mona Mostaghim, Jackson Harrison, Monica Lahra, Mark Greenhalgh, Matthew O'Sullivan, Michael Maley, Ju-Lee Oei, Archana Koirala, Himanshu Popat, Kei Lui, Brendan McMullan, Pamela Palasanthiran, Alison Kesson, David Isaacs, Adam William Bartlett

13 October 2025 • Open access

Patients' use of mHealth in their obesity treatment: a Swedish descriptive observational study

Kajsa Cederblad, Madeleine Blusi, Stephanie E Bonn, Anne Christenson

10 October 2025 • Open access

Measuring changes in prevalence of hypertension and diabetes across 720 districts in India using cross-sectional data from 2016 to 2021

Anoop Jain, Mayanka Ambade, Shalem Balla, Avnish Pal, Sunil Rajpal, Rockli Kim, S V Subramanian

10 October 2025 • Open access

Occupational heat-related illness risk screening protocols for aviation: a systematic review

Wiaam Elkhatib, Mohammad Alkordi, Darshankumar Raval, Shilpi Ganguly, Edward Finnegan, Jan Stepanek, Michael Harrison, M Hassan Murad

10 October 2025 • Open access

Evidence-based public health messaging on the non-visual effects of ocular light exposure: a modified Delphi expert consensus

Manuel Spitschan, Laura Kervezee, Oliver Stefani, Marijke Gordijn, Jennifer A Veitch, Renske Lok

7 October 2025 • Open access

Cost-effectiveness of community-based type 2 diabetes prevention and control in Indonesia: a health economics modelling study

Rachmadianti Sukma Hanifa, M Rifqi Rokhman, Manuela Fritz, Vitri Widyaningsih, Ratih Puspita Febrinasari, Jaap A R Koot, Maarten J Postma, Jurjen van der Schans

7 October 2025 • Open access

Association between gender norms and attitudes towards abortion among very young adolescents in Kenya and Nigeria: a quantitative study

Matthew Ayodele Alabi, Bamidele Motunrola Bello, Beatrice Maina

7 October 2025 • Open access

Do perceptions of the harm of heated tobacco products differ by smoking status? A cross-sectional analysis of the Japan Society and New Tobacco Internet Survey (JASTIS) 2020 in Japan

Kuniko Yuri, Aya Higashiyama, Shigeki Takemura, Harumitsu Suzuki, Maggy Audrey Murielle Bassole Epse Brou, Yan Zhang, Naoki Aono, Takahiro Tabuchi, Akira Fujiyoshi

5 October 2025 • Open access

Public perceptions of health and economic impacts during COVID-19: Findings from a repeated cross-national survey in the US, UK and Germany (2020–2022)

Julia E Koller, Karoline Villinger, Emma Erhard, Harald T Schupp, Britta Renner

5 October 2025 • Open access

Multimorbidity in India: an analysis of prevalence and patterns of chronicity of diseases among older adults using Study on global AGEing and adult health (SAGE) Wave 2

Ananya Anurakta Pattanaik, Rikat ul ain Hashmi, Rutuparna Sibani Dandsena, Smiteerekha Sahoo, Priyanka Verma, Shishirendu Ghosal, Sushmita Kerketta, Srikanta Kanungo, Sanghamitra Pati

5 October 2025 • Open access

Social prescribing services for patients with musculoskeletal conditions compared with other long-term health conditions in the UK: a cross-sectional study

Qian Gao, Daisy Fancourt, Andrew Steptoe, Feifei Bu

5 October 2025 • Open access

Occupational hazards associated with respiratory symptoms among tannery and civil workers in Bangladesh: a cross-sectional study

Shahriar Hossain, Ryadul Alam, Juned Hussain Chowdhury, Md Mushfiqur Rahman Porosh, Rezaul Karim Ripon, Fahad Shahariar Nayon, Mahmudur Rahman

5 October 2025 • Open access

Sickle cell allele distribution in southern India: a population-based study in a rural–tribal context

Yogish Channa Basappa, Pooja Aggarwal, Prashanth N Srinivas, Lavanya B Ramegowda, Giriraj R Chandak, Deepa Bhat

2 October 2025 • Open access

Strategies to promote uptake and sustainability of Water, Sanitation and Hygiene (WASH) interventions in basic education institutions in conflict settings: a scoping review of the Horn of Africa

Leila H Abdullahi, Lisa Malesi Were, Mohamed Abdi Hassan, Gilbert Koome Rithaa

29 September 2025 • Open access

Stakeholders' perspectives on funding malaria, HIV/AIDS and tuberculosis services in Tanzania through domestic resources mobilisation: a qualitative study

Francis Donard Ngadaya, Kahabi Isangula, Happiness Kimambo, Grace Soka, Caritas Kitinya, Doreen Philbert, Lucy Mwenda, Gibson B Kagaruki, Godfather Kimaro, Esther Ngadaya, Amos Kahwa, Sayoki Mfinanga

29 September 2025 • Open access

Changes in inpatient and outpatient stroke admissions during COVID-19: a difference-in-differences analysis based on claims data from 242 acute care hospitals in Japan

Kazuhiro Abe, Shota Shibata, Atsushi Miyawaki, Ichiro Kawachi

29 September 2025 • Open access

Health outcomes of women with gestational diabetes mellitus in North West London: a 10-year longitudinal study

Gabrielle Goldet, Rakesh Dattani, Benjamin Pierce, Zia Ul-Haq, Tahereh Kamalati, Moulesh Shah, Andrew Frankel, Frederick Wai Keung Tam

29 September 2025 • Open access

Trends in myopia prevalence and projected visual impairment in Western Europe: a pooled analysis of Dutch population-based cohorts (1900–2000)

Sander Kneepkens, Clair A Enthoven, Jan Roelof Polling, Victor A de Vries, J Willem Lodewijk Tideman, Caroline Klaver

29 September 2025 • Open access

Maternal immunisation towards prevention of neonatal tetanus: insights from a cross-sectional study in Pru East Municipality, Ghana

Dennis Bardoe, Daniel Hayford, Isaac Owusu-Mensah, Robert Bagngmen Bio

25 September 2025 • Open access

How many democratic countries have conducted COVID-19 public inquiries? An exploratory study of government-led postpandemic reviews (2020–2024)

Kevin Bardosh, Maximilien Lacour, Kira Pronin, Norma Correa Aste, Roger Koppl

23 September 2025 • Open access

What works to reduce socioeconomic inequalities in hospitalisations and readmissions? Systematic review of the equity impacts of population-level, health service and integrative interventions

Sarah Sowden, Behrouz Nezafat Maldonado, Fiona Beyer, William Bell, Mark Lambert, Richard Thomson, Richard Cookson, Clare Bambra

23 September 2025 • Open access

Social and policy interventions to reduce hospital admissions among socioeconomically disadvantaged groups in OECD countries with universal health care: a systematic review

Behrouz Nezafat Maldonado, William Bell, Jasmine Olivera, Fiona Beyer, Mark Lambert, Richard Thomson, Richard Cookson, Clare Bambra, Sarah Sowden

7 October 2025 • Open access

Changes in energy content of menu items at out-of-home food outlets in England after calorie labelling policy implementation: a pre–post analysis (2021–2022)

Michael Essman, Thomas Burgoine, Yuru Huang, Andrew Jones, Megan Polden, Eric Robinson, Stephen J Sharp, Richard Smith, Martin White, Jean Adams

22 September 2025 • Open access

Building HIV/AIDS prevention communication strategies through community-informed formative research for a biobehavioural couple-based HIV prevention intervention for Latino men who have sex with men

Greg Langan, Omar Martinez, Sarah B Bass, Omar Valentin, Max Supino, Kristine Kim, Juan Franco, Brian Mattera, Ashley French, Nelson Ortega, Ryan Tingler, Janel Leyden-Noels, Isa Fernandez, Mallory O Johnson

21 September 2025 • Open access

Health programme spillover effects on childhood vaccination in India: a difference-in-differences analysis of the Zinc and Oral Rehydration Salts Programme using retrospective demographic health surveys data

Raf Van Gestel, Mujaheed Shaikh, Flore Vermijs, Carlos Riumallo-Herl

21 September 2025 • Open access

Antibiotic use in the commercial poultry sector of Uganda and its public health implications: a cross-sectional survey

Israel Mugezi, Vivian Twemanye, Emmanuel Isingoma, Ceaser Adibaku Nyolimati, Jonathan Mayito, Richard Namwano Walwema, Francis Kakooza, Ross Fitzgerald, Anna Rose Okurut Ademun, Wilfred Opira, Adrian Muwonge

21 September 2025 • Open access

Exploring the lived experiences of patients with type 2 diabetes mellitus-related complications in a healthcare setting in Singapore: a phenomenological study

P V AshaRani, Kumarasan Roystonn, Madhumitha Ramu, Yeow Wee Brian Tan, Fiona Devi, Muhammad Iskandar Shah, Peizhi Wang, Sum Chee Fang, Subramaniam Tavintharan, Tan Hwee Huan, Lee Eng Sing, Chong Siow Ann, Mythily Subramaniam

18 September 2025 • Open access

Estimates of energy intake, requirements and imbalances based on anthropometric measurements at global, regional and national levels and for sociodemographic groups: a modelling study

Marco Springmann

17 September 2025 • Open access

Variant connective tissue as a risk factor for long COVID: a case-control study of data from a retrospective online survey of adults in the USA and UK

Regina A Torok, Jeffrey Lubell, Rena M Rudy, Jessica Eccles, Lisa Quadt

17 September 2025 • Open access

Cross-sectional study of healthcare professionals' estimates of the health numeracy of inpatients and outpatients in a UK secondary care setting

Calisha Allen, Chad Byworth, Rajashree Murki, Sarah Beale, Akifah Mojadady, Lubnaa Ghoora, Jameela Nagri, Chetan D Parmar

17 September 2025 • Open access

Generic competition and price developments in the USA, Germany and Switzerland (2007–2023): a longitudinal observational study

Simon Hediger, Luca Locher, Kerstin Noëlle Vokinger

18 September 2025 • Open access

You Need to Know: evaluation of a uterine cancer awareness campaign for Black and Asian ethnic minority women in North East London

Anisha Chitrakar, Natalie Darko, Nessa Millet, Sherrice Weekes, Harjeet Dhanota, Alexandra Lawrence, Caroline Cook, Esther L Moss

16 September 2025 • Open access

Snakebite incidence, knowledge and practices among rural subsistence farmers in Pwani Region, Tanzania: a cross-sectional study

Abdallah Zacharia, Clemence Kinabo, Huda Omary, Ummul-khair Mustafa, Yassin Athuman, Mary Joseph, Twilumba Makene, Anord Rwekaza Paschal, Salum S Ekenga, Monica Shabani, Billy Ngasala

16 September 2025 • Open access

COVID-19 and sexual assault: trends in US emergency department visits—a cross-sectional analysis

Rose McKeon Olson, Bharti Khurana, Randall T Loder

14 September 2025 • Open access

Correlates of unawareness of HIV status and recency of HIV infections among women living with HIV: findings from population-based surveys in 13 African countries

Irene Mbabazi, Derrick Bary Abila, Richard Muhindo, Christine Sekaggya, Stella Zawedde-Muyanja

14 September 2025 • Open access

Role of universal and targeted recommendations for vaccines for sexually transmitted infections in the USA, China and Indonesia: a cross-sectional study

Maria Alexandra Santana-Garces, Abram L Wagner, Harapan Harapan, Yihan Lu

12 September 2025 • Open access

Responder perspectives on preparedness for healthcare needs of vulnerable populations during floods and heatwaves: a qualitative study in Emilia-Romagna, Italy

Giorgia Soldà, Helle Molsted-Alvesson, Marco Montalti, Chiara Reali, Davide Gori, Johan Von Schreeb, Petter Ljungman

9 September 2025 • Open access

Canada smoking and vaping model (SAVM): the public health impact of NVP availability in Canada

David T Levy, Zhe Yuan, Yameng Li, Nargiz Travis, K Michael Cummings, Shannon Gravely, Christopher Cadham, Rafael Meza

9 September 2025 • Open access

Testing the diagnostic expansion hypothesis with a population-based survey of attitudes to depression in Australia

Nicola Reavley, Anthony Jorm, Stephen Carbone, Ellie Tsiamis, Amy Joanna Morgan

8 September 2025 • Open access

Combination of housing type (detached houses vs flats) and tenure (owned vs rented) in relation to cardiovascular mortality: findings from a 6-year cohort study in Japan

Wataru Umishio, Sakura Kiuchi, Toshiyuki Ojima, Masashige Saito, Masamichi Hanazato, Jun Aida

8 September 2025 • Open access

Epidemiological trends and economic burden of genital warts in Dutch primary care

Clazinus Veijer, Julia Maria Bes, Christiaan Dolk, Maarten Jacobus Postma, Lisa Aniek de Jong

8 September 2025 • Open access

Well-being among people with long and short COVID: a serial cross-sectional study in Victoria, Australia

Aimée Altermatt, Anna L Wilkinson, Katherine Heath, Defeng Jin, Thi Nguyen, Alexander J Thomas, Tianhui Ke, Yanqin Zhang, Rebecca E Ryan, Lisa Gibbs, Alisa Pedrana, Dean Lusher, Stephanie Fletcher-Lartey, Mark Stoové, Katherine B Gibney, Margaret Hellard

8 September 2025 • Open access

Changes in mental health care utilisation before and during the COVID-19 pandemic among people living with HIV in the USA: a retrospective cohort study using the All of Us dataset

Atena Pasha, Shan Qiao, Jiajia Zhang, Ruilie Cai, Buwei He, Xueying Yang, Chen Liang, Sharon Weissman, Xiaoming Li

8 September 2025 • Open access

'Overhaul Medicare and perhaps train us better': a qualitative study of primary care general practitioners' perspectives on how to implement the low back pain clinical care standards

Nathalia Costa, Chung-Wei Christine Lin, Fiona Blyth, Carmen Huckel-Schneider, Rachelle Buchbinder, Danijela Gnjidic, Aili Langford, Denise O'Connor, Carl Schneider, Simon French

8 September 2025 • Open access

Health facility and contextual correlates of HIV test positivity: a multilevel model of routine programmatic data from Malawi

Miyu Niwa, Dylan Green, Tyler Smith, Brandon Klyn, Yohane Kamgwira, Sara Allinder, Deborah Hoege, Suzike Likumbo, Charles B Holmes, Gift Kawalazira, Linley Chewere

8 September 2025 • Open access

Relations of problematic online dating app use with mental and sexual health: a cross-sectional study in Swiss university students

Babette L. Winter, Clarissa Janousch, Fabienne S. V. Wehrli, Jan S. Fehr, Benjamin Hampel, Boris B. Quednow

8 September 2025 • Open access

Missed opportunities for vaccination among healthcare-seeking children: a cross-sectional study in Bishkek, Kyrgyzstan, 2023

Gulzada Dadanova, Roberta Horth, Aisuluu Kubatova, Gulbara Ishenapysova, Dinagul Otorbaeva, Dilyara Nabirova

8 September 2025 • Open access

Is why we drink alcohol important when considering the potential public health benefit of alcohol-free and low-alcohol drinks? A cross-sectional study investigating associations between alcohol drinking motives and alcohol-free and low-alcohol drink consumption among adults in Great Britain

Lucy C Burke, Colin Angus, Jamie Brown, Inge Kersbergen

5 September 2025 • Open access

Retrospective population-based study of 132 000 Canadians on the relationship between community belonging and diabetes incidence

Sarah M Mah, Mackenzie Hurst, Mindy Lu, Laura C Rosella

4 September 2025 • Open access

Vaping health perceptions and never vaping among Australian adolescents: a strength-based analysis of cross-sectional survey data

Amelia Yazidjoglou, Christina Watts, Grace Joshy, Sam Egger, Emily Banks, Becky Freeman

4 September 2025 • Open access

Treatment outcomes and associated factors of severe acute malnutrition among under-5 children in Jigjiga public hospitals, Somali region, Ethiopia: a retrospective cohort study

Mustafe Mahamud Abdi, Iid Muktar Jama, Abdilahi Ibrahim Muse, Girma Tadesse Wedajo, Mohamed Omar Osman, Kalkidan Hassen Abate

4 September 2025 • Open access

Machine-learning-based model for analysing and accurately predicting factors related to burnout in healthcare workers

Chao Liu, Yen-Ching Chuang, Lifen Qin, Lijie Ren, Ching-Wen Chien, Tao-Hsin Tung

4 September 2025 • Open access

Practical integrated healthcare prevention and management of children's health quality of respiratory functions: a systematic review

Wen-Yi Liu, Tao-Hsin Tung, Leiyu Shi

3 September 2025 • Open access

Effects of mothers' water, sanitation and hygiene habits on diarrhoea and malnutrition among children under 5 years in Nepal

Shalik Ram Dhital, Catherine Chojenta, Deborah Loxton

16 September 2025 • Open access

Acute cystitis and subsequent risk of urogenital cancer: a national cohort study from Sweden

Filip Jansåker, Xinjun Li, Kristina Sundquist

3 September 2025 • Open access

Disruption and recovery in physical and mental health, body mass index and smoking during the COVID-19 pandemic: a trend analysis of US BRFSS data from 2016 to 2022

Khushbu Balsara, Varun Kotharkar, Panagis Galiatsatos, Norma Kanarek

1 September 2025 • Open access

Understanding influenza-like illness dynamics in Jiangsu, China: impacts of COVID-19 control measures and meteorological factors on the population health during 2018–2023

Yi Yin, Xin Jiang, Shuhan Tang, Qigang Dai, Yuhang Ma, Jianli Hu, Changjun Bao, Yanping Zhang, Zhihang Peng

31 August 2025 • Open access

Tobacco cessation interventions in high-income countries with Chinese, Vietnamese and Arab people who smoke: a scoping review of outcomes and cultural considerations

Joshua Trigg, Alice McEntee, Victoria Kostadinov, Sonia Hines, A Kate Fairweather, Ashleigh Guillaumier, Jane Fischer, Billie Bonevski, James A Smith, Carlene Wilson, Lavender Otieno, Jacqueline Bowden

31 August 2025 • Open access

Breakthrough SARS-CoV-2 outcomes in immune-disordered people during the Omicron era: a prospective cohort study

Mackenzie Zendt, Fausto Andres Bustos Carrillo, Viviane Callier, Maureen DeGrange, Anita Ginigeme, Lurline Wu, Bevin Manuelpillai, Ana Ortega-Villa, Emily E Ricotta

31 August 2025 • Open access

Healthcare needs and treatment-seeking patterns of women living with obstetric fistula: a qualitative study in the Tamale Metropolis, Ghana

Shaline Agamba, Abdul Razak Abubakari, Adadow Yidana, Vida Nyagre Yakong, Gifty Apiung Aninanya, Gilbert Abotisem Abiiro

28 August 2025 • Open access

Long way to impact health: outputs and outcomes of a four-year multilevel participatory family health promotion programme in a low-income neighbourhood

Gerda Wink, Gerdine Fransen, Koos van der Velden, Maria van den Muijsenbergh, Annemarie Wagemakers

28 August 2025 • Open access

Machine learning model for predicting hepatitis C seroconversion in methadone maintenance patients in China

Xinyu Lu, Qing Yue, He Jing, Gangliang Zhong, Zhen Ning, Jiang Du, Min Zhao

28 August 2025 • Open access

Trends in the illicit tobacco market in New Zealand: a consumption gap analysis

Pyi Pyi Phyo, Christopher Bullen

28 August 2025 • Open access

Measurement and interpretation of the Harare HIV combination prevention cascade in priority populations: a population survey of adolescent girls and young women and young men in Zimbabwe

Louisa Moorhouse, Jeffrey W Imai-Eaton, Tawanda Dadirai, Rufurwokuda Maswera, Tafadzwa Museka, Phyllis Mandizvidza, Freedom Dzamatira, Blessing Tsenesa, Timothy B Hallett, Constance Nyamukapa, Simon Gregson

23 September 2025 • Open access

Trends in use of alcohol-free or low alcohol drinks in attempts to reduce alcohol consumption in Great Britain, 2020-2024: a population-based study

Vera Buss, Dimitra Kale, Melissa Oldham, Lion Shahab, Abigail Stevely, Inge Kersbergen, Jamie Brown

25 August 2025 • Open access

Attitude towards menstruation, prevalence of premenstrual syndrome and coping mechanisms among adolescent girls in Kerala, India: a cross-sectional study

Ambily Vijayan Gopika, Sobha George, Brilly Michael Rose, Jeby Jose Olickal, Kavumpurathu Raman Thankappan

24 August 2025 • Open access

Pregnancy risk behaviour among sexually active adolescent girls aged 10–17 years in high HIV prevalence districts in Uganda: a cross-sectional secondary analysis of the 2018 AGYW survey data

Alex Mulyowa, Juliana Namutundu, Rhoda K Wanyenze, Joseph K B Matovu

24 August 2025 • Open access

Nowhere to go: a qualitative study examining the health of people who experience emergency shelter service restrictions in Hamilton, Ontario, Canada

Suraj Bansal, Stephanie Di Pelino, Jammy Pierre, Kathryn Chan, Amanda Lee, Rachel Liu, Olivia Mancini, Avital Pitkis, Fiona Kouyoumdjian, Larkin Lamarche, Robin Lennox, Marcie McIlveen, Timothy O'Shea, Claire Bodkin

22 August 2025 • Open access

Postcode health inequalities in aortic valve surgery in North East England: retrospective study of disparities in presentation and hospital outcomes

Benjamin Irene Omoregbee, Emeka B. Kesieme, Dumbor L. Ngaage

19 August 2025 • Open access

Non-medical costs incurred by critically ill patients with dengue, sepsis and tetanus within a major referral hospital in Southern Vietnam: a cost of illness study

Trinh Manh Hung, Thanh Nguyen Nguyen, Mau Toan Le, Phuc Hau Nguyen, Thanh Phong Nguyen, Thi Hue Tai Luong, Buu Chau Le, Ba Thanh Pham, Thi Trang Khiet Tieu, Thi Diem Thuy Tran, Minh Yen Lam, Sophie Yacoub, Sayem Ahmed, Louise Thwaites, , Hugo C Turner

19 August 2025 • Open access

Impact of the Flo Cycle Tracking App on menstrual knowledge and health in low-income and middle-income countries: a longitudinal study

Frederick G B Goddard, Carley Prentice, Adam C Cunningham, April M Ballard, Liudmila Zhaunova

18 August 2025 • Open access

Exploring the associations of weather and climate with HIV in sub-Saharan Africa: a systematic review

Matylda Buczkowska, Adam Trickey, Gina E C Charnley, Anthea Gabot, George Hutchings, Collins C Iwuji, Ilan Kelman

18 August 2025 • Open access

Family planning in Jordan: a cross-sectional study on service availability, knowledge and attitudes among women

Yousef Khader, Sara Abu Khudair, Mohanad Nsour, Mohammad S Alyahya, Eman Badran, Raeda AlQutob

18 August 2025 • Open access

Can we adapt fairly? Scoping review of health equity implications of flood risk in coastal communities

Grace Turner, Sari Kovats, Rachel Brisley, Sally Brown, Owen Landeg, Louise O'Connor

18 August 2025 • Open access

Association of patient, physician and visit characteristics with inappropriate antibiotic prescribing in Japanese primary care: a cross-sectional study

Atsushi Miyawaki, Joseph B Ladines-Lim, Daichi Sato, Kei Kitajima, Jeffrey A Linder, Michael A Fischer, Kao-Ping Chua, Yusuke Tsugawa

17 August 2025 • Open access

Advancing dementia care: a review of Italy's public health response within the WHO Global Action Plan and European strategies

Antonio Ancidoni, Simone Salemme, Domitilla Marconi, Guido Bellomo, Sara Maria Pani, Nicoletta Locuratolo, Eleonora Lacorte, Flavia Lucia Lombardo, Ilaria Bacigalupo, Elisa Fabrizi, Marco Canevelli, Francesco Sciancalepore, Patrizia Lorenzini, Ilaria Palazzesi, Alice Paggetti, Francesco Della Gatta, Paola Piscopo, Emanuela Salvi, Francesca Zambri, Annachiara Di Nolfi, Vittorio Palermo, Paolo Sciattella, Chiara Bini, Francesco Saverio Mennini, Caterina Bianca Neve Aurora Bianchi, Fiammetta Landoni, Maria Assunta Giannini, Teresa Di Fiandra, Nicola Vanacore, ,

17 August 2025 • Open access

Clustering of circumstances during the first 1000 days after conception and their association with school performance: a population-based cohort study from the Netherlands

Malon Van den Hof, Ilona Veer, Ruben van Gaalen, Tessa Roseboom

17 August 2025 • Open access

Knowledge of sexual and reproductive health and rights among University of Rwanda students: a cross-sectional study

Alice Muhayimana, Theoneste Ntalindwa, Aline Uwase, Kaberuka Gerard, Jean Damascene Niringiyumukiza, Allen Jean de la Croix Ingabire, Emmanuel Nzabonimana, Irene Josephine Kearns, Marie Laetitia Ishimwe Bazakare, Fulgence Maniriho, Jean de Dieu Habimana, Vedaste Bagweneza, Mathias Nduwingoma

17 August 2025 • Open access

Variation in coronary revascularisation and mortality after myocardial infarction across three public health insurance schemes in Thailand: an observational analysis from nationwide claims data

Woranan Witthayapipopsakul, Orawan Anupraiwan, Gumpanart Veerakul, Anne Mills, Ipek Gurol-Urganci, Jan van der Meulen

14 August 2025 • Open access

Household ownership of latrines does not ensure use: a scoping review

Nicolas Gaffan, Alphonse Kpozehouen, Cyriaque Degbey, Yolaine Glele Ahanhanzo, Moussiliou Noël Paraïso

14 August 2025 • Open access

Pregnant adolescents' dynamic engagement with participatory women's groups for maternal and newborn health in rural India: a qualitative study

Farnaz Sabet, Smita Dattatraya Todkar, Nirmala Nair, Susan M Sawyer, George C Patton, Suchitra Rath, Audrey Prost

12 August 2025 • Open access

Factors influencing non-communicable disease policy process in Sub-Saharan Africa: a scoping review

Enny Brouns, Chanelle Mulopo, Solange Mianda, Joy Mauti, Shannon McMahon, Connie Hoe, Bey-Marrie Schmidt

12 August 2025 • Open access

Using a neural network to derive early childhood neurodevelopmental profiles in the New Hampshire Birth Cohort Study

Julia A. Bauer, Susan A. Korrick, John L. Pearce, David C. Bellinger, Megan E. Romano, Margaret R. Karagas

12 August 2025 • Open access

Can headwind, an online clinician-led mental health advisory platform, improve the engagement of distressed young people in community services? A multicohort analysis

Yi Nam Suen, Kai Tai Chan, Yau Sum Wan, Melody Miriam So, Edwin Ho Ming Lee, Stephanie Ming Yin Wong, Sherry Kit Wa Chan, Christy Lai Ming Hui, Michael Tak Hing Wong, Eric Yu Hai Chen

10 August 2025 • Open access

Experiences and perceptions about vaccines and reporting of adverse events following immunisation: a qualitative study among mothers in Northern Ghana

Nana Akosua Ansah, Daniel Weibel, Samuel Tamti Chatio, Samuel Tomilola Oladokun, Enyonam Duah, Patrick Ansah, Abraham Oduro, Miriam Sturkenboom

10 August 2025 • Open access

State-level immigrant policies and diabetes prevalence in Latino and Asian American groups: a weighted multilevel analysis

Md Towfiqul Alam, Jennifer Toller Erausquin, Erica Payton, Elizabeth Vásquez, Sandra E Echeverria

10 August 2025 • Open access

Randomised controlled interventions on physical activity, diet or their dual approach to better public health and the links to body mass index in 10–19 years: a systematic review and meta-analysis

Derrick R Tanous, Gerhard Ruedl, Mohamad Motevalli, Clemens Drenowatz, Joel Craddock, Markus Schauer, Georg Göbel, Werner Kirschner, Thomas Rosemann, Katharina C Wirnitzer

10 August 2025 • Open access

Design and maintenance of community-based cohorts in sub-Saharan Africa: a longitudinal evaluation of participant attrition in SchistoTrack

Christin Puthur, Betty Nabatte, Benjamin Tinkitina, Narcis B Kabatereine, Goylette F Chami

10 August 2025 • Open access

Childhood diarrhoeal disease in South Asian countries: a population-based analysis

Abdur Razzaque Sarker, Anik Hasan, Nuzhat Nawar, Rasedul Islam

10 August 2025 • Open access

Associations between exercise patterns and health outcomes in sedentary and non-sedentary individuals: a longitudinal population-based study in Geneva, Switzerland

Mayssam Nehme, David De Ridder, Gabriel Kathari, Hélène Baysson, Stephanie Schrempft, Aminata Bouhet, Julien Lamour, María-Eugenia Zaballa, Stephane Joost, Silvia Stringhini, , Idris Guessous

10 August 2025 • Open access

Cross-cultural insights into non-communicable disease perceptions: a five-nation survey

Jorge A Rios-Duarte, Ricardo A Peña-Silva, Carlos O Mendivil

7 August 2025 • Open access

Assessing heat stress, ambulatory hypertension and thermal symptoms in fish smokers along coastal areas in Ghana: a cross-sectional study

Edward Wilson Ansah, Emmanuel Ankomah-Appiah, Thomas Hormenu

7 August 2025 • Open access

Are there inequalities in the attendance at and effectiveness of behavioural weight management interventions for adults in the UK? An individual participant data meta-analysis

Jack M Birch, Julia Mueller, Sarah Damery, Stephen J Sharp, Rebecca A Jones, Michael P Kelly, Annie S Anderson, Nerys Astbury, Paul Aveyard, Rebecca J Beeken, Angela Craigie, Colin Greaves, Susan Jebb, Alex McConnachie, Kiran Nanchahal, Beth Stuart, Martin White, Simon J Griffin, Amy L Ahern

7 August 2025 • Open access

Role and experiences of youth community health volunteers in a community health coaching programme for older adults in Singapore: a qualitative study

Jasmine Yee Ru Cheng, Audrey Shu Ting Kwan, Jed Jasman, Elliott Weizhi Sim, Alicia Shi Yao Chee, Ka Shing Yow, Jie Xin Lim, Si Qi Lim, Thaddeus Chi En Cheong, Nerice Heng Wen Ngiam, Muhammad Razzan Razaki, Xiaoting Huang, Lynn Pei Zhen Teo,

Sheryl Wen Ning Ho, Zi Hao Lee, Kharuna Jaichandra, Natasha Howard, Kennedy Yao Yi Ng, Lian Leng Low

7 August 2025 • Open access

Determinants of influenza vaccination uptake among older adults in Catalonia using a longitudinal population study: the role of public health campaigns

Toni Mora, Montserrat Martinez-Marcos, Carmen Cabezas

7 August 2025 • Open access

Development of a new indicator of surgical burden using person-time-adjusted surgical volume: a cross-sectional regional analysis in Japan

Shima Asano, Susumu Kunisawa, Yuichi Imanaka

7 August 2025 • Open access

Association between infant mortality and community social vulnerability in the USA: a cross-sectional study

Catherine G Coughlin, Gabrielle D'Ambrosi, Michael C Monuteaux, Katherine Economy, Rebekah Mannix, Lois Lee

6 August 2025 • Open access

Impact of tobacco control policies on socioeconomic inequalities in smoking prevalence and quit ratios: an ecological study in the European Union (2009–2020)

Ariadna Feliu, Esteve Fernandez, Irene Tamí-Maury, Cristina Martinez

5 August 2025 • Open access

Do education and use of family planning methods empower women? Evidence from the Nepal Demographic Health Survey (NDHS) 2016 and 2022

Bidhya Shrestha, Yogendra B Gurung, Tara Lal Shrestha, Kamala Lamichhane, Rita Karki, Sharadha Hamal

4 August 2025 • Open access

Development and evaluation of a quasi-experimental sexual and reproductive health literacy (SRHL) programme for marriage immigrants in South Korea: focus on Vietnamese women

Heeran Chun, Young Sook Lee, Hyeran Yoon

4 August 2025 • Open access

Cross-sectional analysis of cannabis use at work in the USA: differences by occupational risk level and state-level cannabis laws

Ava Kucera, David Hammond

4 August 2025 • Open access

Epidemiological and clinical profile of hepatitis B infection in ART-naïve people living with HIV in Maputo, Mozambique: a cross-sectional study

Lucia Mabalane Chambal, Charlotta Nilsson, Elias Manjate, Corssino Tchavana, Orvalho Augusto, Vanda dos Muchangos, Júlia Muando, Esperanca Sevene

3 August 2025 • Open access

Geo-mapping of government healthcare facilities providing diagnostic laboratory services in Delhi, India: a pilot study

Garima Jain, Kshitij Misra, Sandeep Agrawal, Ashish Dutt Upadhyay, Ankit Singh, Surya Durbha, Usha Agrawal

3 August 2025 • Open access

Effect of a multicomponent HPV intervention on self-reported HPV vaccine uptake and intention among French adolescents and parents: results from the national, cluster-randomised PrevHPV trial

Josée Dussault, Amandine Gagneux-Brunon, Anne-Sophie Le Duc-Banaszuk, Sébastien Bruel, Morgane Michel, Aurélie Gauchet, Damien Oudin Doglioni, Jonathan Sicsic, Jocelyn Raude, Anne-Sophie Barret, Nathalie Thilly, Judith E Mueller

3 August 2025 • Open access

Distribution and extended triage of high-risk human papillomavirus genotyping based on vaginal self-sampling

Jingran Li, Chen Yao, Chao Zhao, Mingzhu Li, Ling Li, Zhixin Lin, Zhijun Zhang, Jihong Deng, Rong Liu, Yingying Hu, Songling Zhang, Bei Lin, Ruifang An, Yun Zhao, Xinfeng Qu, Hui Du, Ruifang Wu, Lihui Wei

3 August 2025 • Open access

Art therapy to reduce burnout and mental distress in healthcare professionals in acute hospitals: a randomised controlled trial

Megan Tjasink, Catherine Elizabeth Carr, Paul Bassett, Gehan Soosaipillai, Dennis Ougrin, Stefan Priebe

3 August 2025 • Open access

Exercise professionals in extended scope of practice roles: a qualitative exploration of a new model of rehabilitation

Sheree McCormick, Iva Cukic, Jenny Alexanders, Gillian Yeowell, Francis Fatoye, Benjamin M Kelly, Victoria Fitzgerald, Tim Cable, Patrick Doherty, Davina Deniszczyc, Panayiotis Michael

3 August 2025 • Open access

Multimorbidity progression and the heterogeneous impact of healthy ageing risk factors: a multicohort study

Shasha Han, Wangyue Chen, Muzi Shen, Ruitai Shao, Weizhong Yang, Chen Wang

31 July 2025 • Open access

Postpartum contraceptive use after vaginal and caesarean birth in Nigeria: a nationwide population-based analysis

Otobo I Ujah, Omoregie Irowa, Ferdinand C Obi, Christopher O Egbodo, Innocent A O Ujah

31 July 2025 • Open access

Depression and anxiety among people living with HIV and key populations at risk for HIV in the Eastern European and Central Asian region: a scoping review

Mariam Pashalishvili, Tamar Zurashvili, Esma Imerlishvili, Anna Salnikova, Danielle C Ompad, Mamuka Djibuti

31 July 2025 • Open access

Rift Valley fever seroprevalence and risk factors among human populations in Uganda's cattle corridor: a cross-sectional study

Zacchaeus Anywaine, Daniel Wright, George M Warimwe, Pontiano Kaleebu, Alison Elliott, Christian Hansen

31 July 2025 • Open access

Combining mpox vaccination and behavioural changes to control possible future mpox resurgence among men who have sex with men: a mathematical modelling study

Maria Xiridou, Daphne Amanda van Wees, Philippe Adam, Fuminari Miura, Eline Op de Coul, Maarten Reitsema, John de Wit, Birgit van Benthem, Jacco Wallinga

31 July 2025 • Open access

Perinatal health inequalities between Canadian-born and foreign-born women in Canada: a decomposition analysis

Melia Alcantara, Sam B Harper, Gabriel D Shapiro, Tracey Bushnik, Jay S Kaufman, Zoua Vang, Angela Mashford-Pringle, Seungmi Yang

31 July 2025 • Open access

Estimating the economically justifiable price of nirsevimab versus standard of practice for the prevention of respiratory syncytial virus infections in neonates and infants in Spain: a cost–utility modelling study

Ruth Gil-Prieto, Jaime Pérez-Martín, Ariadna Díaz Aguiló, Samira Soudani, Leticia Platero-Alonso, Juan Luis López-Belmonte, Alberto de la Cuadra-Grande, Miguel Ángel Casado, Javier Álvarez Aldean

31 July 2025 • Open access

Exposure to secondhand smoke from cigarettes and secondhand aerosol from tobacco and nicotine products in indoor and outdoor public spaces in the European Union: a cross-sectional study

Charlotte Xin Li, Pin-Chun Wang, Ariadna Feliu, Anthony A Laverty, Cristina Martinez, Armando Peruga, Charis Girvalaki, Cornel Radu Loghin, Constantine I Vardavas, Filippos T Filippidis

30 July 2025 • Open access

To whom should we prescribe doxy-PEP? A retrospective review of public health surveillance data for bacterial STI diagnoses among gay, bisexual, and other men who have sex with men in Ottawa, Canada

Patrick O'Byrne, Dara Spatz Friedman, Lauren Orser

30 July 2025 • Open access

Social determinants of heat-related mortality in England: a time-stratified case-crossover study using primary care records

Ross Thompson, Sari Kovats, Helen Macintyre, Shakoor Hajat, Emer O'Connell

27 July 2025 • Open access

Dietary patterns, nutrient adequacy and influencing factors among inmates in Osun State, Nigeria

Tobiloba Emmanuel Adekanmbi, Olaitan Rashidat Adekanmbi, Oladejo Adepoju, Mary Ajatta

27 July 2025 • Open access

Landscape of paediatric pain in Sub-Saharan Africa: a scoping review

Anisa Bhettay, Kotie Bester, Romy Parker, Kim MacQuilkan, Salome Maswime, Raymond Ndikontar, Rebecca Gray

27 July 2025 • Open access

Associations of age at menopause, bilateral oophorectomy, hysterectomy and hormone replacement therapy with glycaemia and risk of dementia: a study based on the population-based UK Biobank cohort

Anouk Geraets, Katherine Ford, Patrick May, Emma Kidd, Anja Leist

27 July 2025 • Open access

Effects of the introduction of a routine rotavirus vaccination programme on vaccination coverage and factors in a Japanese municipality: the VENUS Study

Megumi Maeda, Fumiko Murata, Haruhisa Fukuda

27 July 2025 • Open access

Barriers to breast cancer-related care among women in Pakistan: a systematic review

Muhammad Abdul Rehman, Syed Mohammad Taqi, Areeba Ikram, Erfa Tahir, Ayesha Khalid

27 July 2025 • Open access

Circumstances surrounding opioid toxicity deaths within shelters in Ontario, Canada, before and during the COVID-19 pandemic: a population-based descriptive cross-sectional study

Bisola Hamzat, Pamela Leece, Daniel McCormack, Alice Holton, Zoë Dodd, Michelle Firestone, Ashley Smoke, Brett Wolfson-Stofko, Hayley Smuts, Jason Sereda, Jase Watford, Tyler Watts, Tara Gomes

27 July 2025 • Open access

Association between device-based measured physical activity timing and depression risk: a prospective cohort study of UK Biobank participants

Gali Albalak, David van Bodegom, Piraveena Thangarajah, Erik J Giltay, Diana van Heemst, Raymond Noordam

27 July 2025 • Open access

Medical knowledge, political tension, and social relevance: a content and framing analysis of vaccine-related TV broadcasts in the Philippines

Jonas Wachinger, Mark Donald C Reñosa, Georgina Janowski, Ma Leslie Ulmido, Jerric Rhazel Guevarra, Jeniffer Landicho, Shannon A McMahon

27 July 2025 • Open access

Frequency of myopia and associated risk factors in the adolescent population (10–16 years) of Karachi, Pakistan: a cross-sectional study

Khadija Awais Sumra, Illiyun Banani, Shiza Atif, Tushar Subash, Nitin Kumar Khajurani, Konain Imran, Ujala Sultan, Ali Mustansir, Umm E Abiha, Ali Mubashar Maqbool, Sehrish Ali, Kaleem Ahmad Zafar, Romaina Iqbal, Uzma Shamsi

27 July 2025 • Open access

Health-related quality of life among adult hypertensive patients globally: a systematic review and meta-analysis

Baye Tsegaye Amlak, Addisu Getie, Mengistu Abebe Messelu, Temesgen Ayenew, Fisha Alebel GebreEyesus, Mamo Solomon Emire, Mihretie Gedfew, Setarg Ayenew Birhanie, Daniel Gashaneh Belay

23 July 2025 • Open access

Group B streptococcus in pregnant women and neonates in Africa: a scoping review

Lisa Malesi Were, Jenifer Akoth Otieno, Barbara Miheso, Lilian Mosero Mayieka, Moses Alobo, Sagam Kimutai Caleb, Eleanor Ochodo

22 July 2025 • Open access

What are community perspectives and experiences around GLP-1 receptor agonist medications for weight loss? A cross-sectional survey study in the UK

Nadja Auerbach, Vivian N Liu, David Roy Huang, Ashley Kieran Clift, Mahmoud Al-Ammouri, Austen El-Osta

22 July 2025 • Open access

Prevalence and factors associated with violence against women who exchange sex for money in Gulu City, Northern Uganda: a cross-sectional study

Winnie Kibone, Pebalo Francis Pebolo, Ronald Olum, Jerom Okot, Jimmyy Opee, Silvia Awor, Simple Ouma, Michael Kakinda, Grace Madraa, Felix Bongomin

22 July 2025 • Open access

Association between follow-up visit frequency, medication types prescribed, and glycaemic outcomes among diabetic patients in China's Basic Public Health Services programme: a retrospective cohort study

Gang Liu, Yao Yi, Jiatong Sun, Haisu Feng, Bingxin Hu, Wenjie Hu, Huiqiao Gu, Ruming Bu, Yawen Jiang

21 July 2025 • Open access

Nationwide trends of online consultations in China: a 10-year sequential cross-sectional study of 65 305 clinicians

Joshua Tran, Ziyu Hao, Zongting Xie, Karen Yiu, Adele Li, Kelvin Tsoi

20 July 2025 • Open access

'I really feel pity for them': health workers' readiness to offer maternal health services to urban refugee adolescents in Kampala, Uganda—a qualitative study

Olivia Nakisita, Christopher Garimoi-Orach, Justine Nnakate Bukenya, Arthur Bagonza, Elizabeth Nabiwemba, Christine Kayemba Nalwadda

17 July 2025 • Open access

Incidence and predictors of non-communicable diseases among people with HIV at a specialised hospital in Hawassa, Ethiopia: a retrospective cohort study

Endrias Markos Woldesemayat, Wonago Petros, Yilkal Simachew, Kebede Tefera, Tsion Tesfaye, Jaime H Vera

17 July 2025 • Open access

Prevalence of malnutrition among hospital admissions to English NHS hospitals over two economically constrained decades: evidence from routine health data

Katharine Reeves, Samuel I Watson, Hannah Crothers, Paul Bird, Alexander Lawson, Magdalena Skrybant, Richard Lilford

17 July 2025 • Open access

Housing tenure and early-life acute lower respiratory tract infection admissions in two national Scottish birth cohorts

Caroline Hart, Samantha Hajna, Bianca De Stavola, Ai Milojevic, Steve Cunningham, Jonathon Taylor, Pia Hardelid

16 July 2025 • Open access

Testing and treating anaemia in pregnant women in Bangladesh: a cross-sectional survey

Ebony Verbunt, Mohammed Imrul Hasan, Eliza M Davidson, Shamim Ahmed, Alistair R D McLean, A M Quaiyum Rahman, Mohammad Saiful Alam Bhuiyan, S M Mulk Uddin Tipu, Bidhan Krishna Sarker, Jena D Hamadani, Sant-Rayn Pasricha, Cathy Vaughan, Meghan A Bohren, Khic-Houy Prang

16 July 2025 • Open access

Trends of neural tube defects in urban China and effects of socio-demographic factors, 2013–2022: a descriptive analysis

Xiao Cheng, Chao Meng, Gabriel L Galea, Lirong Nie, Duoduo Wang, Shuangbo Xia, Yuan Wei, Jufen Liu, Zhiwen Li

17 July 2025 • Open access

Are sex and gender dimensions accounted for in NICE guidelines? A systematic review of 223 clinical guidelines

Rachel Hulme, Owen Wilkinson, Ella Haythornthwaite, Veronia Benjamin, Hemali Matharu, Marina Politis, Kate Womersley, Robyn Norton, Alice Witt

15 July 2025 • Open access

Evaluation of community-based heat adaptation interventions: a systematic review

Jai K Das, Bhavita Kumari, Abdu R Rahman, Maha Azhar, Sara Khan, Ujala Masood, Deepna Karan, Rahima Yasin, Christopher Burman, Joseph Luke Augustin, Ana Bonell, Zulfiqar A Bhutta

15 July 2025 • Open access

Schooling and intimate partner violence: retrospective analysis of India's Sarva Shiksha Abhiyan using quasi-experimental techniques

Arindam Nandi, Nicole Haberland, Meredith Kozak, Fatima Zahra, Thoai D Ngo

15 July 2025 • Open access

Systematic review of interventions to reduce ethnic health inequalities in maternal and perinatal health in the UK

Oluwaseun B Esan, Nicholas K Adjei, Samira Saberian, Lara Christianson, Alya Mazlan, Rukun K S Khalaf, Olukemi Yetunde Towolawi, Philip McHale, Andy Pennington, Rebecca Sally Geary, Abimbola Ayorinde

13 July 2025 • Open access

Drug involvement variations in overdose death spikes: county-level analysis in Massachusetts

Daniel Otero-Leon, Hannah Lee, Huiru Dong, Erin Stringfellow, Mohammad S Jalali

13 July 2025 • Open access

Demographic data of patients travelling from public hospitals for medical treatment abroad: outbound medical tourism in the Sultanate of Oman

Amira K Al-Aamri, Said A Al-Busafi, Hasina A Al-Harthi, Sultan S Al-Harthy, Kamila Al-Alawi, Abeer Al-Maamari, Abdullah A Al-Maniri, Hilal Al-Sabti, Khalid Al-Rasadi, Sabu S Padmadas

13 July 2025 • Open access

Intention to have blood-based multi-cancer early detection (MCED) screening among men and women aged 50–77 years from Black and Asian backgrounds: a cross-sectional survey in Great Britain

Laura A V Marlow, Ninian Schmeising-Barnes, Jo Waller

13 July 2025 • Open access

Enhancing opportunities to reduce escalation to substance use disorders through early engagement: a retrospective observational data linkage study of primary and secondary care in Wales

Columbus Ohaeri, Ian Farr, Grace Bailey, Hywel Turner Evans, Ryan Phillips, Olabambo Oluwasuji, Josh Dixon, Josie Smith

13 July 2025 • Open access

Severe infection incidence among young infants in Dhaka, Bangladesh: an observational cohort study

Alastair Fung, Cole Heasley, Lisa G Pell, Diego G Bassani, Prakesh S Shah, Shaun K Morris, Davidson Hamer, Mohammad Shahidul Islam, Abdullah Al Mahmud, Eleanor Pullenayegum, Samir K Saha, Rashidul Haque, Md Iqbal Hossain, Chun-Yuan Chen, Abby Emdin, Karen M O'Callaghan, Miranda G Loutet, Shamima Sultana, S M Masum Billah, S M Abdul Gaffar, Enamul Karim, Sharika Sayed, Sultana Yeasmin, Md Mahbubul Hoque, Tahmeed Ahmed, Shafiqul A Sarker, Daniel E Roth

8 July 2025 • Open access

Global mortality burden of lung cancer and mesothelioma attributable to occupational asbestos exposure and the impact of national asbestos ban policies: a population-based study, 1990–2021

Wang-Zhong Li, Hengrui Liang, Wei Wang, Jun Liu, Xiwen Liu, Shen Lao, Wenhua Liang, Jianxing He

8 July 2025 • Open access

Racial and ethnic disparities in preventive care among adults with type 1 diabetes: findings from the 2022 Behavioural Risk Factor Surveillance System

Julie A Wagner, Angela Bermúdez-Millán, Richard Feinn

5 July 2025 • Open access

Antispike IgG antibody decay after immunisation with fractional versus full booster doses of COVID-19 vaccines: a 6-month longitudinal analysis of the FRACT-COV trial in Brazil

Juliana Barros Verruck, Marco Antonio Moreira Puga, Roberto Dias de Oliveira, Patricia Vieira da Silva, Vivek Charu, Haley Hedlin, Di Lu, Amy Zhang, Victor Ritter, Blake Shaw, Joelle I Rosser, Jessica Couvillion Seidman, Alice Scott Carter, Farah Qamar, Stephen Luby, Denise Garrett, Julio Croda

5 July 2025 • Open access

Can health information and decision aids decrease inequity in health care? A systematic review

Christin Ellermann, Jana Sophie Hinneburg, Christoph Wilhelm, Felix Georg Rebitschek

5 July 2025 • Open access

Sexual health of Syrian women in protracted forced displacement: the syndemic interplay of violence, war trauma, poor mental health and food insecurity

Sasha Fahme, Ghina R Mumtaz, Maia Sieverding, Sara Chehab, Mostafa El Nakib, Laith Abu-Raddad, Jennifer Downs, Myung Hee Lee, Jocelyn DeJong, Daniel Fitzgerald

3 July 2025 • Open access

Resource utilisation and cost of hospitalisation with community-acquired pneumonia among older adults in India, 2018–2020

Aslesh Ottapura Prabhakaran, Ritvik Amarchand, Suman Kanungo, Prabu Rajkumar, Sumit Dutt Bhardwaj, Rakesh Kumar, Giridara Gopal Parameswaran, Girish Kumar CP, Varsha Potdar, Alok Kumar Chakrabarti, Nisha Makkar, Byomkesh Manna, Radhika Gharpure, Aashish Choudhary, Shivram Dhakad, Avinash Choudekar, Kathryn E Lafond, Eduardo Azziz-Baumgartner, Ismael R Ortega-Sanchez, Siddhartha Saha, Anand Krishnan

PROTOCOL

30 December 2025 • Open access

Behavioural economics intervention to implement a nutrition ranking system in food pantries: Be Well cluster randomised controlled trial protocol

Pamela D Perez, Katherine C Faulkner, Yingfei Wu, Marlene B Schwartz, Caitlin Caspi, Rachel Burgun, Laura Ortiz, Jenny Jia, Jessica Cheng, Yuchiao Chang, Douglas E Levy, Anne N Thorndike

25 December 2025 • Open access

Protocol for a quasi-experimental analysis: using retail sales data to evaluate impacts of the high fat, sugar and salt (HFSS) product placement restrictions legislation in England

Victoria L Jenneson, Francesca Pontin, Emily Ennis, Alison Fildes, Alexandra M Johnstone, Michelle A Morris

11 August 2025 • Open access

Research protocol design and implementation of a hybrid no-touch and low-touch prospective observational study during the COVID-19 public health emergency: the VISION study

Becky Straub, Katie R Mollan, Jessica R Keys, Chanhwa Lee, Ronald Swanstrom, Lakshmanane Premkumar, Timothy P Sheahan, Shuntai Zhou, William A Fischer, David A Wohl

25 December 2025 • Open access

Establishing a community event-based surveillance system in Kadoma City, Zimbabwe: a mixed-methods study protocol

Clayton Munemo, Daniel Chirundu, Tsitsi Juru, Gerald Shambira, Addmore Chadambuka, Notion Gombe, Gibson Mandozana, Mufuta Tshimanga

15 October 2025 • Open access

Community-based intervention to address antibiotic resistance: protocol for an embedded mixed-methods intervention trial

Sweety Suman Jha, Arista Lahiri, Madhumita Dobe, Budhaditya Mukherjee, Atul Raj, Amit Banik, Chandrashekhar Taklikar

18 August 2025 • Open access

AI4HealthyCities: a protocol for a mixed-method ethnographic study on the social determinants of cardiovascular health in New York City

Anna-Maria Volkmann, Elizabeth Adamson, Emma Boxley, David Napier, Peter Speyer, Reekarl Pierre, Wenqin Zhang, Yongkang Zhang

18 August 2025 • Open access

Impact of firefighters' work schedule on cardiovascular disease risk, wellbeing and safety in firefighters: protocol for the SWIFT study, a multidisciplinary prospective and cross-sectional study

Walaa F Abdelmoaty, Shelby L Watkins, Aanuoluwakiitan Ayeni, David A Hurtado, Andrew W McHill, Jeremy J Biggs, Kurt T Hegmann, Steven A Shea, Todd Bodner, Nicole P Bowles

31 July 2025 • Open access

Prospective cohort study to evaluate Lassa fever incidence, symptoms and coinfection with malaria in West Africa: the Enable Lassa Research Programme ('ENABLE 1.5') – study protocol

Henshaw Mandi, Danny Asogun, Olufemi Ayodeji, Benedict N Azuogu, Anton Camacho, William Fischer, Roice Fulton, Donald Samuel Grant, Stephan Günther, Ndapewa Ithete, Elsie Illori, Kamji Jan, Carol Kagia, Nele Martens, Sonia Menon, Aminata Ndiaye, Mark Ndifon, Robert Nsaibirni, Michael Ntiri, Paul Oloo, Sylvanus Okogbenin, Suzanne Penfold, Minnie Sankawulo-Ricks, Marion Sillah, Patrick Suykerbuyk, Nadia Tornieporth, Nathalie J Vielle, Margaret Williams, David Wohl, Fang Xie, Solomon Yimer, J Gabrielle Breugelmans

31 July 2025 • Open access

Determinates of STI prevention service utilisation among young and hard-to-reach populations: a protocol for a mixed-methods study in Foggia district, Italy, 2025

Sabino Mutino, Giulia Ciccarese, Angelo Salvatore Campanozzi, Francesca Fortunato, Domenico Martinelli

21 July 2025 • Open access

ParkProReakt—evaluation of a proactive approach to healthcare in Parkinson's disease: a study protocol for a randomised controlled trial

Marlena van Munster, Johanne Stümpel, Anna J Pedrosa, Kati Niemand, Ingmar Wellach, Dirk Becker, Isabel Doblinger, Kristina Schmidt, René Reiners, Daniel Wolferts, Anika Martin, Marius Nisslmüller, Keywan Sohrabi, Volker Groß, Birgit Samans, Patrick Fischer, Mohammed Osman Ashraf, Rebecca Wichartz, Marcin Grzegorzek, Xinyu Huang, Artur Piet, Mona Irsfeld, Christian Trense, Paulina M Olgemöller, Ümran Seven, Ann-Kristin Folkerts, Elke Kalbe, Hannes Böbinger, Jens Dapper, Lars Wohlfahrt, Max Geraedts, Natalie Altschuck, Linda Kerkemeyer, Carsten Eggers, David J Pedrosa

20 July 2025 • Open access

Burnout and its subsequent impact on quality of care provided by nursing occupations in the long-term care sector: a scoping review protocol

Alexia M Haritos, Bao-Zhu Stephanie Long, Ali Bani-Fatemi, Aaron Howe, Yiyan Li, Behdin Nowrouzi-Kia

REVIEW

28 October 2025 • Open access

Gender, self-care and toxic exposures: a narrative review of personal care product use and health equity implications

Eleni Prifti, Austen El-Osta

13 October 2025 • Open access

Human resource development in public health emergency management: a scoping review

Sileshi Demelash Sasie, Melkamu Asrat Alava, Neima Zeynu, Desalegn Dawit Assele, Sisay Temesgen Dema, Zenebech Mamo Argaw, Fantu Mamo Aragaw, Melkamu Abte Afele

5 July 2025 • Open access

Prevalence of eating disorders and disordered eating in First Nations Peoples in high-income, colonial settler countries: a scoping review

Ashley Masters, Kyar Wilkey, Emma Bryant, John Skinner, Leilani Darwin, Carmen Parter, Kylie Gwynne, Peta Marks, Tom Calma, Sarah Maguire, Boe Rambaldini

SHORT REPORT

25 November 2025 • Open access

COVID-19 immunisation among individuals with opioid use disorder in Ontario: a population-based cohort study

Melina Hanna, Anna Maria Subic, Alison L Park, Fangyun Wu, Douglas M Campbell, Pamela Leece, Laurie Morrison, Janet Parsons, Kate Sellen, Carol Strike, Tara Gomes, Aaron M Orkin

31 October 2025 • Open access

Integrating the smoke-free app into a multicomponent intervention for people with mental health conditions who smoke: a short report of a service-improvement project

Emily Shoesmith, Lisa Huddlestone, Jodi Pervin, Petal Petersen Williams, Jennifer Sweetman, Kerry Johns, David Crane, Louise Ross, Elena Ratschen

CORRECTION

25 December 2025 • Open access

Correction: Research protocol design and implementation of a hybrid no-touch and low-touch prospective observational study during the COVID-19 public health emergency: the VISION study

7 December 2025 • Open access

Correction: Examining associations between social vulnerability and maternal morbidity among a multicentre cohort of pregnancies complicated by placenta accreta spectrum disorder in New York City

2 December 2025 • Open access

Correction: A retrospective study to understand the differences in maternal mortality among women admitted in critical and stable conditions in Malawi

24 November 2025 • Open access

Correction: Ethnocentric perceptions, impacts and influences of problematic alcohol use in a global community sample: a mixed-methods study

13 November 2025 • Open access

Correction: Impact of multicultural doula support on pregnant migrant women's healthcare service utilisation in Norway: a multi-centre case–control study

26 August 2025 • Open access

Correction: Spatial distribution of effective coverage of child immunisation in Ethiopia

31 July 2025 • Open access

Correction: Development and validation of a biological frailty score based on CRP, haemoglobin, albumin and vitamin D within an electronic health record database in France : a cross-sectional study

31 July 2025 • Open access

Correction: Development of prediction models of COVID-19 vaccine uptake among Lebanese and Syrians in a district of Beirut, Lebanon: a population- based study

CONTENT

Latest content

Archive

JOURNAL

About

Editorial board

Online ISSN: 2753-4294

Machrumnizar FK

Main Document_Machrumnizar_Manuscript_BMJ_Public_Health_R...

Artikel BMJ

Document Details

Submission ID
trn:oid:::3618:125484122

Submission Date
Jan 2, 2026, 9:34 AM GMT+7

Download Date
Jan 2, 2026, 9:43 AM GMT+7

File Name
Main Document_Machrumnizar_Manuscript_BMJ_Public_Health_Rev 151125.docx

File Size
178.5 KB

18 Pages

6,888 Words

42,509 Characters

4% Overall Similarity

The combined total of all matches, including overlapping sources, for each database.

Filtered from the Report

- Bibliography

Exclusions

- 53 Excluded Matches

Match Groups

18 Not Cited or Quoted 4%
Matches with neither in-text citation nor quotation marks

2 Missing Quotations 1%
Matches that are still very similar to source material

1 Missing Citation 0%
Matches that have quotation marks, but no in-text citation

0 Cited and Quoted 0%
Matches with in-text citation present, but no quotation marks

Top Sources

4% Internet sources
4% Publications
0% Submitted works (Student Papers)

Match Groups

- **18** Not Cited or Quoted 4%
  Matches with neither in-text citation nor quotation marks
- **2** Missing Quotations 1%
  Matches that are still very similar to source material
- **1** Missing Citation 0%
  Matches that have quotation marks, but no in-text citation
- **0** Cited and Quoted 0%
  Matches with in-text citation present, but no quotation marks

Top Sources

4% Internet sources
4% Publications
0% Submitted works (Student Papers)

Top Sources

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1	Internet	pmc.ncbi.nlm.nih.gov 1%
2	Internet	narraj.org 1%
3	Publication	Machrumnizar Machrumnizar, Tris Eryando, Adang Bachtiar, Rina Kurniasri Kusu... <1%
4	Internet	bmcinfectdis.biomedcentral.com <1%
5	Internet	ghrp.biomedcentral.com <1%
6	Internet	academic.oup.com <1%
7	Internet	en.wikipedia.org <1%
8	Publication	González-López, JulioJ., ManuelL.Fernández Guerrero, Rodolfo Luján, SagrarioFer... <1%
9	Internet	listingal.com <1%
10	Internet	www.mdpi.com <1%

11 Internet

sciencepportal.msf.org <1%

12 Internet

www.preprints.org <1%

Understanding the epidemiology of TB-HIV co-Infection in Indonesia: Evidence from the 2023 national TB registry

Abstract

Introduction Tuberculosis (TB) and human immunodeficiency virus (HIV) co-infection remains a significant public health challenge in Indonesia. Therefore, this study aims to identify the determinants and epidemiological characteristics of TB-HIV co-infection using data from the 2023 National TB Registry.

Methods The study procedures were carried out using a cross-sectional design, analyzing univariate, bivariate, and multivariate associations between TB-HIV coinfection status and demographic, clinical, and health service factors among TB patients.

Results Among 22,698 TB patients, 94.8% were HIV negative, with a predominance of males (58.8%) and adults aged 30–59 years (49.8%). The majority of the patients were treated in healthcare facilities located in Western Indonesia, had pulmonary TB (93.8%), bacteriological diagnosis (55.5%), and achieved a cure (85.9%), while the remaining 14.1% included patients who died, were lost to follow-up, or had incomplete treatment outcomes. The most common nutritional status among patients was normal nutritional status (44.4%). In the multivariate analysis, clinical diagnosis remained the strongest predictor of TB-HIV co-infection (OR 2.446; 95% CI 2.154–2.778; $p < 0.001$). Other significant predictors included male sex (OR 2.096; 95% CI 1.835–2.395), extrapulmonary TB (OR 1.337; 95% CI 1.075–1.662), and undernourished status, which showed lower odds of TB-HIV co-infection compared to overweight or obese patients (OR 0.809; 95% CI 0.676–0.967).

Conclusions This study highlights TB-HIV co-infection as the primary outcome, emphasizing the role of demographic, clinical, nutritional, and regional disparities in influencing co-infection risks. . The findings underscore need for integrated TB-HIV diagnostic and management strategies, including nutritional support and targeted interventions focusing on high-risk populations and health service accessibility to strengthen early detection and treatment outcomes.

What is already known on this topic

Co-infection of tuberculosis (TB) and HIV remains a major public health challenge in high-burden countries, including Indonesia. Previous studies have suggested that demographic and clinical factors such as sex, age, and diagnostic method may influence HIV positivity among TB patients, but national-level evidence has been limited.

What this study adds

This study, using data from the 2023 national TB registry (SITB), found that 5.2% of TB patients were HIV positive. Male sex, older age, clinical diagnosis (versus bacteriological), and treatment outcome were significantly associated with HIV positivity. Among these, clinical diagnosis was the strongest predictor, with clinically diagnosed TB patients being approximately 2.4 times more likely to be HIV positive.

How this study might affect research, practice or policy

The findings underscore the importance of strengthening integrated TB-HIV diagnostic and treatment services across Indonesia, particularly in regions with limited laboratory capacity. Policies should prioritize universal HIV screening among all TB patients—especially those diagnosed clinically—and enhance diagnostic infrastructure to improve early detection and outcomes for co-infected individuals.

Introduction

Tuberculosis (TB) and human immunodeficiency virus (HIV) remain two of the most significant overlapping epidemics in developing countries, including Indonesia. The dual burden of TB–HIV co-infection poses a major public health challenge because each disease accelerates the progression and worsens the prognosis of the other. In 2024, Indonesia reported 17,136 cases of TB–HIV co-infection, reflecting the increasing convergence of these two epidemics and the persistent gaps in prevention, diagnosis, and treatment [1]. Countries with a high TB burden, including Indonesia, continue to be the focus of global strategies addressing TB/HIV co-infection and multidrug- or rifampicin-resistant TB (MDR/RR-TB) under the WHO 2021–2025 strategic framework. TB is ranked as the second highest contributor to global disease burden, accounting for approximately 10% of cases worldwide, and remains a leading cause of morbidity and mortality in Indonesia [1,2]. In 2023, Southeast Asia accounted for 45% of the global 10.8 million reported TB cases [1], underscoring the regional importance of TB control [1,3]. Globally, TB remains the leading cause of death among individuals living with HIV due to the profound immunosuppression associated with HIV infection.

Case notifications play a central role in evaluating TB program performance. The 2022 national TB report indicated that approximately 75% of estimated TB cases were detected, leaving 25% undiagnosed or unreported. Among reported cases, adults accounted for 84.7% and children under 15 years for 15.3% [3]. Underreporting is frequently driven by diagnostic and reporting challenges [4], particularly among children, where TB is clinically difficult to detect and often under-prioritized [5,6]. TB-HIV co-infection further complicates diagnosis and treatment, often requiring coordinated service delivery and integrated care pathways [7].

Addressing TB-HIV co-infection in Indonesia is increasingly urgent due to rising HIV incidence and the complex clinical management required for co-infected individuals. Co-infected patients face a higher risk of extrapulmonary and drug-resistant TB forms [1]. Therefore, identifying factors associated with HIV status among affected patients is crucial for developing targeted interventions, improving health outcomes, and progressing towards elimination goals [8] making early identification of associated determinants essential for targeted interventions and improved health outcomes [8]. All TB patients accessing Directly Observed Treatment Short-course (DOTS) services are required to undergo HIV testing unless previously documented. HIV-positive patients must initiate antiretroviral therapy (ART) within 2–8 weeks after starting TB treatment, and all testing outcomes must be recorded within the National Tuberculosis Information System (SITB) [3,9].

TB-HIV surveillance in Indonesia is currently conducted using routine data collected from healthcare facilities implementing collaborative activities. Datas were obtained from both TB and HIV services, using the Tuberculosis Information System (SITB) and the HIV/AIDS Information System (SIHA). Integrated surveillance relies on

two systems: SITB for TB and SIHA for HIV/AIDS. Differences in data completeness, system fragmentation, and limited interoperability often lead to discrepancies in reported outcomes [10]. Technical barriers, internet instability, and limited digital literacy among health workers continue to hinder optimal data reporting at the primary care level [11]. Strengthening data integration and improving SITB–SIHA interoperability remain essential priorities for accurate monitoring and surveillance [12]. This study aims to describe the demographic, clinical, and healthcare characteristics of TB patients stratified by HIV status and identify factors independently associated with HIV co-infection using national TB registry data from 2023, supporting Indonesia's goal of ending the TB and HIV epidemics by 2030.

Methods

Study design and participants

The current study used a cross-sectional design using secondary data extracted from the 2023 Tuberculosis Information System (SITB), a national surveillance database managed by the Indonesian Ministry of Health. The SITB dataset included routinely collected and standardized patient level data from public and private healthcare facilities across all provinces in Indonesia. The study population comprised all registered TB patients in the 2023 SITB dataset. The inclusion criteria were individuals with a confirmed TB diagnosis and available data on HIV status. The primary outcome variable was definied as HIV status among tuberculosis patients, dichotomously categorized as HIV-positive or HIV-negative, representing TB–HIV coinfection. Records with incomplete or missing values for the primary outcome variable or essential independent variables were excluded from the analysis. A total of 22,698 TB patients who met the eligibility criteria were included in this study, and this design enabled the identification of sociodemographic and clinical characteristics associated with HIV status among TB patients within a defined time frame, without follow-up.

Patient and Criteria

The study population comprised all tuberculosis (TB) patients recorded in the 2023 Tuberculosis Information System (SITB), a national surveillance database managed by the Indonesian Ministry of Health. The inclusion criteria encompassed individuals of all age groups who had been diagnosed with either pulmonary or extrapulmonary TB and had documented HIV status data. Only patient records with complete information on key sociodemographic and clinical variables including sex, age, geographic location of the healthcare facility (based on time zone), diagnostic method, treatment outcome, and nutritional status were included in the analysis. Records with missing, incomplete, or inconsistent data on HIV status or other critical demographic and clinical variables were excluded from the final dataset. A complete case analysis approach was applied to handle missing data.

Study Variables

This study utilized secondary data from the 2023 Tuberculosis Information System (SITB), by Indonesia's Ministry of Health. The primary objective of this study was to identify factors associated with HIV status among patients diagnosed with tuberculosis (TB) across Indonesia. The dependent variable was HIV status, dichotomously categorized as either HIV positive or HIV negative. Independent variables included a

range of sociodemographic and clinical characteristics, selected based on their epidemiological relevance to TB-HIV coinfection.

Sociodemographic variables comprised sex and age group. Sex was recorded as a binary variable (male or female). Age was classified according to the World Health Organization (WHO) guidelines into seven categories: infants (0–1 year), toddlers (1–5 years), children (6–12 years), adolescents (13–19 years), young adults (20–29 years), adults (30–59 years), and older adults (≥60 years). This stratification facilitated a nuanced analysis of age-related susceptibility and exposure to TB-HIV coinfection.

Geographic location of healthcare facilities was categorized based on Indonesia's official time zones Western Indonesia Time (WIB), Central Indonesia Time (WITA), and Eastern Indonesia Time (WIT) to reflect regional diversity and potential disparities in healthcare access and service distribution, particularly regarding HIV testing and treatment availability [13].

Clinical variables included the anatomical site of TB infection, diagnostic method, treatment outcomes, and nutritional status. The anatomical location of TB was categorized as either pulmonary or extrapulmonary. Type of diagnostic confirmation were classified into two categories: (1) clinical diagnosis, based on signs, symptoms, and radiological findings without laboratory confirmation; and (2) bacteriological diagnosis, confirmed through acid-fast bacilli (AFB) smear microscopy, Interferon Gamma Release Assay (IGRA), Tuberculin Skin Test (TST), or rapid molecular testing such as GeneXpert MTB/RIF [14].

Treatment outcomes were classified based on SITB records into three primary categories: cured, treatment failure, and deceased. Nutritional status among tuberculosis patients was assessed using age-appropriate methods. For children aged 0–60 months, nutritional status was evaluated using weight-for-length/height Z-scores. For individuals older than 60 months, nutritional status was determined based on Body Mass Index (BMI). Classification of nutritional status followed the 2020 Nutritional Guidelines issued by the Indonesian Ministry of Health and was grouped into three categories: undernourished, normal, and overweight/obese [15].

Data Analysis

Data from the 2023 SITB database were cleaned, processed, and analyzed using IBM SPSS Statistics software. Descriptive statistics were used to summarize the characteristics of the study population (univariate analysis). Bivariate logistic regression was conducted to examine the association between each independent variable and HIV status among tuberculosis patients. Variables with a p-value < 0.25 in the bivariate analysis were included in the multivariate logistic regression model to identify factors independently associated with HIV status. Multivariate logistic regression was performed in two stages. Model I served as the initial full model, including all selected independent variables. Variables with a p-value > 0.05 were assessed for potential confounding effects. Non-significant variables that were not identified as confounders were excluded from the model. Model II represented the final model, retaining only variables that were statistically significant or identified as confounders. Adjusted odds ratios (ORs) and 95% confidence intervals (CIs) were reported. Statistical significance was set at a p-value < 0.05.

Potential sources of bias inherent in the use of secondary data from a national registry, such as selection bias, information bias, and reporting bias, were carefully considered. To reduce selection bias, the analysis included only cases with complete and

verified data on HIV status and key variables. Misclassification of variables such as HIV status, TB type, and diagnostic method was minimized by excluding implausible or inconsistent entries and cross-validating relevant fields. Additionally, regional variation in reporting completeness was addressed by including geographic location in the model. Although the cross-sectional design limits causal inference, multivariate modeling was used to control for potential confounders and strengthen the internal validity of the associations observed.

Results

Patient Characteristics

Based on secondary data from the Tuberculosis Information System (SITB) in 2023, 5.2% of TB patients were HIV positive, underscoring the need for integrated TB-HIV management. An overview of the demographic and clinical characteristics of the study population revealed that most participants were male (58.8%),withthe adult age group (30–59 years), comprising 49.8% of the total sample. The majority of patients received care from healthcare facilities located in the Western Indonesia Region (WIB), with most tuberculosis (TB) cases being pulmonary (93.8%) and diagnosed bacteriologically (55.5%). The predominant treatment outcome was 'cured' (85.9%), and the most common nutritional status among participants was 'normal' (44.4%) (Table 1).

Table 1. Sociodemogrpahic and Clinical Characteristics of TB Patients in Indonesia, 2023 (n=22,698)

Characteristic	Frequency	Percentage
HIV Status		
HIV Positive	1183	5.2%
HIV Negative	21515	94.8%
Sex		
Male	13352	58.8%
Female	9346	41.2%
Age (year)		
Infant (0-1)	158	0.7%
Toddler (1-5)	1075	4.7%
Child (6-12)	679	3.0%
Adolescent (13-19)	1562	6.9%
Young Adult (20-29)	4162	18.3%
Adult (30-59)	11294	49.8%
Elderly (60+)	3768	16.6%
Healthcare Facility Location		
WIT (Central Indonesia Time)	976	4.3%
WITA (Eastern Indonesia Time)	2958	13.0%
WIB (Western Indonesia Time)	18764	82.7%
Anatomical Location		
Extrapulmonary TB	1399	6.2%
Pulmonary TB	21299	93.8%
Type of Diagnosis Confirmation		
Clinical	10102	44.5%
Bacteriological	12596	55.5%

Characteristic	Frequency	Percentage
Treatment Outcome		
Deceased	1411	6.2%
Failed	1779	7.8%
Cured	19508	85.9%
Nutritional Status		
Underweight	9113	40.1%
Normal	10081	44.4%
Overweight	3504	15.4%

Data derived from the 2023 Tuberculosis Information System [SITB], Ministry of Health, Republic of Indonesia

Table 2. Factors Associated with TB-HIV Patients in Indonesia, 2023 (n=22,698)

Variable	HIV Status				p-value	OR (95% CI)
	HIV Positive		HIV Negative			
	n	%	n	%		
Sex						
Male	879	6.6%	12473	93.4%	<0,001	2.906 (1.835-2.395)
Female	304	3.3%	9042	96.7%		
Age (year)						
Infant (0-1)	2	1.3%	156	98.7%	0.807	0.837 (0.200-3.494)
Toddler (1-5)	15	1.4%	1060	98.6%	0.364	0.758 (0.417-1.378)
Child (6-12)	24	3.5%	655	96.5%	<0.0010.	0.293 (0.175-0.489)
Adolescent (13-19)	32	2.0%	1530	98.0%9	005	0.513 (0.321-0.820)
Young Adult (20-29)	352	8.5%	3810	1.5%	<0.001<0	0.116 (0.083-0.162)
Adult (30-59)	718	6.4%	105763	93.6%	.001	0.158 (0.115-0.218)
Elderly (60+)	40	1.1%	728	98.9%	reff	reff
Healthcare Facility Location	164					
WIT (Central Indonesia Time)	19482 5	16.8%	812	83.2%	<0.001	0.228 (0.190-0.273)
WITA (Eastern Indonesia Time)		6.6%	2764	93.4%	<0.001	0.655 (0.558-0.770)
WIB (Western Indonesia Time)		4.4%	17939	95.6%	reff	reff
Anatomical Location						
Extrapulmonary TB	94	6.7%	1305	93.3%	0.011	1.337 (1.075-1.662)
Pulmonary TB	1089	5.1%	20210	94.9%		
Type of Diagnosis Confirmation						
Clinical	709	7.0%	9393	93.0%	<0.001	1.930 (1.713-2.175)
Bacteriological	474	3.8%	12122	96.2%		
Treatment Outcome						
Deceased	277	19.6%	1134	80.4%	<0.001	0.169 (0.145-0.196)
Failed	133	7.5%	1646	92.5%	<0.001	0.511 (0.422-0.618)
Cured	773	4.0%	18735	96.0%	reff	reff
Nutritional Status						

Variable	HIV Status				p-value	OR (95% CI)
	HIV Positive		HIV Negative			
	n	%	n	%		
Underweight	528	5.8%	8585	94.2%	0.020	0.809 (0.676-0.967)
Normal	489	4.9%	9592	95.1%	0.787	0.975 (0.814-1.168)
Overweight	166	4.7%	3338	95.3%	reff	reff

Analysis based on the 2023 SITB dataset; outcome variable: HIV status among TB patients

Based on Table 2, it was found that the difference in the proportion of HIV-positive cases between males and females was 3.3%. The association between sex and HIV status yielded a p-value <0.001, indicating a statistically significant relationship between sex and HIV status. The odds ratio (OR) was (OR 2.096; 95% CI 1.835–2.395), meaning that males had a 2.096 times higher risk of being HIV positive compared to females.

The difference in the proportion of HIV positivity between young adults and the elderly was 7.4%. The association between age group and HIV status resulted in a p-value <0.001 for the categories of children, young adults, and adults compared to the elderly, indicating a significant relationship between age and HIV status. For the young adult group, the OR was (OR 0.116; 95% CI 0.083–0.162), meaning young adults had a 0.116 times lower risk of being HIV positive compared to the elderly.

The difference in the proportion of HIV positivity between healthcare facilities located in Eastern Indonesia (WIT) and Western Indonesia (WIB) was 7.4%. The association between healthcare facility location and HIV status showed a p-value <0.001 for WIT and WITA categories compared to WIB, indicating a significant relationship. For the WIT group, the OR was (OR 0.228; 95% CI 0.190–0.273), meaning that patients in healthcare facilities in Eastern Indonesia had a 0.228 times lower risk of being HIV positive compared to those in WIB.

The difference in the proportion of HIV positivity between patients with extrapulmonary TB and pulmonary TB was 1.6%. The association between disease site and HIV status had a p-value of 0.011, indicating a significant relationship. The OR was (OR 1.337; 95% CI 1.075–1.662), meaning that patients with extrapulmonary TB had a 1.337 times higher risk of being HIV positive compared to those with pulmonary TB.

The difference in the proportion of HIV positivity between clinical and bacteriological diagnosis was 3.2%. The association between diagnosis type and HIV status resulted in a p-value of 0.011, indicating a significant relationship. The OR was (OR 1.930; 95% CI 1.713–2.175), meaning that patients diagnosed clinically had a 1.930 times higher risk of being HIV positive compared to those diagnosed bacteriologically.

The difference in the proportion of HIV positivity between undernourished/malnourished patients and overweight/obese patients was 1.1%. The association between nutritional status and HIV status yielded a p-value of 0.020, indicating a significant relationship. For the undernourished/malnourished group, the OR was (OR 0.809; 95% CI 0.676–0.967), meaning they had a 0.809 times lower risk of being HIV positive compared to overweight/obese patients.

Table 3. Multivariable Logistic Regression of Factors Associated with HIV Status among Tuberculosis Patients, Indonesia, 2023

Variable	Model I		Model II	
	p-value	OR (95%CI)	P-value	OR (95%CI)
Sex				
Male	<0.001	2.227 (1.937 – 2.561)	<0.001	2.238 (1.947 – 2.572)
Female (reff)	-	-	-	-
Age				
Infant	0.997	0.997 (0.231 – 4.301)	0.998	1.002 (0.232 – 4.329)
Toddler	0.127	0.623 (0.339 – 1.145)	0.124	0.620 (0.337 – 1.140)
Child	<0.001	0.241 (0.142 – 0.408)	<0.001	0.242 (0.143 – 0.411)
Adolescent	<0.001	0.338 (0.209 – 0.546)	<0.001	0.341 (0.211 – 0.551)
Young Adult	<0.001	0.077 (0.055 – 0.108)	<0.001	0.077 (0.055 – 0.108)
Adult	<0.001	0.108 (0.078 – 0.150)	<0.001	0.109 (0.078 – 0.151)
Elderly (reff)	-	-	-	-
Healthcare Facility Location				
WIT	<0.001	0.246 (0.202 – 0.299)	<0.001	0.246 (0.202 – 0.299)
WITA	<0.001	0.678 (0.572 – 0.805)	<0.001	0.678 (0.572 – 0.804)
WIB (reff)	-	-	-	-
Anatomical Location				
Extrapulmonary TB	0.428	0.908 (0.715 – 1.153)	-	-
Pulmonary TB (reff)	-	-		
Type of Diagnosis Confirmation				
Clinical	<0.001	2.477 (2.173 – 2.822)	<0.001*-	2.446 (2.154 – 2.778)*
Bacteriological (reff)	-	-		-
Treatment Outcome				
Deceased	<0.001	0.162 (0.137 – 0.190)	<0.001	0.162 (0.137 – 0.191)
Failde	<0.001	0.579 (0.475 – 0.706)	<0.001	0.579 (0.475 – 0.706)
Cured (reff)	-	-	-	-
Nutritional Status				
Underweight	0.019	0.797 (0.660 – 0.963)	0.016	0.793 (0.656 – 0.957)
Normal	0.360	0.915 (0.758 – 1.106)	0.342	0.912 (0.755 – 1.102)
Overweight (reff)	-	-	-	-

Source: Tuberculosis Information System (SITB) Data 2023

Based on the information presented in Table 3, Model I serves as the initial multivariate logistic regression model, incorporating all variables under consideration in the analysis. This comprehensive approach allowed for the simultaneous evaluation of each variable's independent association with HIV positive status. The results obtained from this initial model indicated that nearly all included variables demonstrated statistically significant associations with HIV positivity, as evidenced by p-values less than 0.05. This level of significance suggests a reliable and non-random relationship between these variables and the outcome of interest. However, one notable exception to this pattern was the variable labeled 'anatomical location,' which yielded a p-value exceeding the threshold for statistical significance ($p > 0.05$). This finding implied that,

within the context of the full model, anatomical location did not exhibit a meaningful association with HIV positive status.

Following these initial findings, the next analytical step was to assess the potential for confounding effects that might influence the relationship between the variables and HIV status. To this end, the 'anatomical location' variable was removed from the model due to its non-significant p-value. The rationale for this exclusion was to refine the model by eliminating variables that do not contribute significantly to explaining variation in the outcome, thus enhancing the interpretability and parsimony of the final model. After removing this variable, the researchers calculated the percentage change in the odds ratios (ORs) for the remaining variables to determine whether 'anatomical location' acted as a confounding factor. This calculation involved comparing the ORs of the reduced model (Model II) to those of the initial full model (Model I). The change in OR was expressed as a percentage, representing the extent to which the odds ratios of the other variables shifted when 'anatomical location' was excluded. The results showed that for all remaining variables, the percentage change in ORs was less than 10%. This finding is generally interpreted as an indication that 'anatomical location' did not have a confounding effect on the associations between the other variables and HIV status. Consequently, based on these statistical considerations, 'anatomical location' was excluded from the final model.

Model II therefore represents the final and more refined multivariate logistic regression model. This model retained only those variables that exhibited statistically significant associations with HIV positive status, excluding the 'anatomical location' variable. The results of Model II further confirmed that several key variables remained significantly associated with HIV positivity, with p-values all below 0.05. These variables included sex, age, healthcare facility location, type of diagnosis confirmation, treatment outcome, and nutritional status. Their retention in the final model underscores their independent and meaningful contributions to explaining the likelihood of an individual being HIV positive.

Among these variables, the type of diagnosis confirmation emerged as the most strongly associated factor with HIV status, indicated by an exceptionally significant p-value of less than 0.001. This strong association suggests that the method by which a diagnosis was confirmed plays a critical role in predicting HIV positivity. More specifically, the odds ratio for individuals diagnosed clinically was estimated at 2.446. This means that, after adjusting for sex, age, healthcare facility location, treatment outcome, and nutritional status, individuals with a clinical diagnosis were approximately 2.4 times more likely to be HIV positive compared to those who received a bacteriological diagnosis. Furthermore, the 95% confidence interval for this odds ratio ranged from 2.154 to 2.778, which reflects a precise and statistically robust estimate of the association. Taken together, these findings highlight the importance of diagnostic methods and related clinical factors in understanding and predicting HIV infection within the studied population.

Discussions

This study analyzed 22,698 tuberculosis (TB) patients recorded in Indonesia's 2023 SITB (National Tuberculosis Information System). The dataset provided demographic and clinical variables essential for understanding the epidemiology of TB–HIV co-infection. Of all recorded TB cases, 1,183 (5.2%) were HIV-positive, while 21,515 (94.8%) were HIV-negative. As indicated in the results, the majority of patients were HIV-negative

(94.8%), male (58.8%), and most belonged to the adult age group of 30–59 years (49.8%). Multivariate analysis showed that Model II, representing the final logistic regression model, demonstrated significant associations ($p < 0.05$) between HIV status and several key variables including gender, age, healthcare facility zone, diagnostic type, treatment outcomes, and nutritional status [16–18]. This co-infection rate aligns with global patterns in high-burden settings and underscores the continuing convergence of TB and HIV epidemics in Indonesia.

Most patients presented with pulmonary TB (93.8%), the predominant form due to its transmissibility and diagnostic accessibility through sputum-based tests. Extrapulmonary TB, though less common (6.2%), is more frequently associated with HIV and may be underdiagnosed due to limited access to specialized diagnostic tools [19]. More than half of patients (55.5%) were bacteriologically confirmed through diagnostic methods such as smear microscopy or culture, which remain the diagnostic gold standard for TB because of their reliability in confirming active disease [20,21]. Treatment outcomes showed that 85.9% of patients were recorded as cured, reflecting effective implementation of DOTS strategies and adherence to standardized protocols [22,23]. This high cure rate also suggests functional collaboration between TB and HIV treatment programs, which typically integrate antiretroviral therapy (ART) for co-infected patients [24,25].

Gender distribution showed that 58.8% of TB patients were male, consistent with global epidemiological patterns. The proportion of HIV-positive cases differed by 3.3% between males and females, and gender was significantly associated with HIV status. Males were 2,096 times more likely to be HIV-positive than females, potentially reflecting higher exposure to behavioral risks such as unprotected sex, substance use, and lower rates of timely healthcare-seeking [26,27]. Men often present later for diagnosis, which may lead to co-infection being detected at the time of TB diagnosis [28–30]. However, other studies found no gender-related differences in TB–HIV co-infection prevalence. For instance, Alemu et al. (2021) reported that gender was not associated with TB–HIV coinfection among newly diagnosed HIV patients in Ethiopia [16]. Such inconsistencies may arise from regional differences, sample characteristics, or the progression of localized HIV epidemics.

Regarding age, adults aged 30–59 accounted for the largest group of TB cases (49.8%), followed by young adults aged 20–29 (18.3%) and the elderly aged 60+ years (16.6%). These findings highlight that productive age groups carry the highest burden of TB, which has implications for national productivity and household stability. Although TB cases among children and adolescents are much lower, they still indicate ongoing transmission. Elderly individuals are at increased risk for TB–HIV co-infection due to immunosenescence, comorbidities, and cumulative exposure [31]. Their higher interaction with healthcare services may also increase detection rates of HIV [32]. Late-life HIV diagnoses in elderly individuals are often discovered during TB evaluations [33,34]. Conversely, studies from other regions have identified higher HIV prevalence among younger adults, driven by behavioral risk exposure and lower HIV testing rates among youth [31].

Healthcare facility location was also a significant determinant. Most patients (82.7%) received care in Western Indonesia (WIB), followed by Central Indonesia (WITA) at 13.0% and Eastern Indonesia (WIT) at 4.3%. This distribution mirrors population density and reflects the concentration of healthcare infrastructure in the western region. Urban areas in WIB provide greater access to diagnostic services,

explaining the higher number of bacteriologically confirmed cases and TB diagnoses [35]. The difference in HIV-positive proportions between WIB and WIT was 7.4%, and facility location was significantly associated with HIV status. Facilities in WIT were 0.228 times less likely to report HIV-positive TB patients than those in WIB, reflecting disparities in access, testing capacity, and potential underreporting [35]. This was also likely that these diagnostic methods were more widely available and accessible at the healthcare facilities, specifically those in the WIB region, contributing to the higher number of bacteriologically confirmed cases [3]. Geographic differences may indicate systemic inequalities in service availability and HIV program implementation [36].

Pulmonary TB accounted for 93.8% of cases, while extrapulmonary TB represented 6.2%. This is expected, as pulmonary TB is more infectious and easier to detect via sputum-based diagnostic tools [37]. Extrapulmonary TB is more common among immunocompromised patients, particularly those with HIV, which aligns with the elevated HIV rates found in this subgroup in further analyses. The difference in the proportion of HIV-positive cases between extrapulmonary TB and pulmonary TB patients was 1.6%. The relationship between disease location and HIV status resulted in a p-value of 0.011, showing a significant association between the two. Studies have shown that HIV alters immune responses, increasing susceptibility to TB dissemination beyond the lungs [38].

The OR was 1.337, meaning that extrapulmonary TB patients were 1.337 times more likely to be HIV-positive compared to pulmonary TB patients, with a 95% CI of 1.075 – 1.662. The difference in the proportion of HIV-positive cases between clinical and bacteriological diagnoses was 3.2%. The relationship between diagnostic type and HIV status produced a p-value of 0.011, showing a significant association between these two. The OR was 1.930, meaning that clinical diagnoses were 1.930 times more likely to result in an HIV-positive status compared to bacteriological diagnosis, with a 95% confidence interval (CI) of 1.713 – 2.175. The higher odds (OR: 1.930) of HIV-positive status in clinically diagnosed TB cases could reflect the difficulty of bacteriological confirmation in immunocompromised patients [21,24].

The majority of TB cases were diagnosed bacteriologically (55.5%), while 44.5% were clinically diagnosed. Bacteriological confirmation is considered the gold standard for TB diagnosis. However, clinically diagnosed cases still represent a significant proportion, possibly due to challenges in sputum collection or smear-negative TB, which are more common among HIV-positive patients. These findings stress the importance of strengthening diagnostic capabilities, particularly for populations with a higher likelihood of clinical TB presentation. However, the substantial proportion of clinically diagnosed cases highlights persistent diagnostic challenges, especially in populations with HIV, who often present with smear-negative or extrapulmonary TB, making sputum-based detection more difficult.

In Model II, it could be concluded that the factor strongly associated with HIV status was the diagnostic type. The p-value for this association was <0.001, suggesting a significant relationship between diagnostic type and HIV status, even after controlling gender, age, healthcare facility location, treatment outcome, and nutritional status. Reinforcing existing evidence that HIV-positive patients are more likely to receive clinical rather than bacteriological diagnoses

In the final Model II, diagnostic type maintained the strongest association, with an OR of 2.446 (95% CI: 2.154–2.778; $p < 0.001$). HIV-positive individuals frequently present with extrapulmonary involvement or low bacillary load, making bacteriological

confirmation difficult [39]. The importance of considering HIV screening and linkage to care, specifically among clinically diagnosed TB patients, as this subgroup appeared to carry a disproportionately higher HIV burden. The data showed that 85.9% of patients were recorded as cured, with 7.8% experiencing treatment failure and 6.2% recorded as deceased. The high cure rate reflects effective implementation of DOTS (Directly Observed Treatment, Short-Course) and suggests generally good programmatic performance. Research in Nepal also reported a comparable success rate, showing that consistent drug supply and patient supervision improve outcomes from DOTS twelft class [40]. The studies in Brazil reported ven with DOTS in place still having main challenges such as the commitment from the patients to do the treatment [41]. However, the non-negligible rates of death and treatment failure indicate a need to investigate co-morbidities, particularly HIV and barriers to treatment adherence.

Among patients in this research 40.1% were underweight, 44.4% had normal nutritional status, and 15.4% were overweight. Malnutrition is a well-established risk factor for TB, weakening host immunity and increasing susceptibility. In HIV-positive individuals, specifically those with low CD4 counts, sputum production was often inadequate, and smear-negative TB was more common. The difference in the proportion of HIV-positive cases between poor/nutritionally inadequate status and overweight/obesity status was 1.1%. The relationship between nutritional status and HIV status resulted in a p-value of 0.020, showing a significant association between nutritional status and HIV status [42,43].

The high proportion of undernourished patients underscores the directional relationship between TB and malnutrition. Interestingly, HIV-positive status was slightly more associated with overweight/obesity, a finding that may reflect medical associated weight gain or improved nutritional support in managed programs. Based on nutritional status assessments, most respondents were classified as having normal nutritional status (44.4%). This could show relatively stable health conditions among the patients, which could contribute to better treatment responses [44]. Adequate nutrition was essential for maintaining immune function, and those with normal nutritional status could have a higher likelihood of responding well to TB and HIV treatment [42,43]. This data did not show the socioeconomic conditions of the patients in the study, or how the patients had access to adequate food and healthcare services.

While SITB provides comprehensive national data, several limitations must be acknowledged. As a secondary dataset, SITB is limited to variables collected for national reporting and excludes key factors such as socioeconomic status, comorbidities beyond HIV, ART adherence, behavioral risks, and underlying conditions. Data completeness may vary by region due to inconsistent reporting, resource limitations, or geographical barriers, especially in remote settings. Being cross-sectional, the dataset cannot infer causality. Diagnostic bias may occur because HIV testing availability and bacteriological diagnostic capacity differ across regions. These limitations highlight the need for enhanced data quality assurance, improved diagnostic standardization, and complementary research approaches.

Future studies should integrate SITB with other health information systems to obtain more comprehensive risk factor data. Longitudinal designs are needed to assess treatment outcomes over time, understand the impact of co-infections, and capture dynamic interactions between TB and HIV. Additionally, regional comparative analyses can help identify disparities in TB–HIV services and guide targeted intervention strategies.

Conclusions

Using national surveillance data from 2023, this study provides updated insights into TB–HIV co-infection in Indonesia. HIV prevalence among TB patients highlights the continuing burden of dual infections. Gender, age, facility type, anatomical TB site, diagnostic method, treatment outcome, and nutritional status were significantly associated with HIV status. Clinical diagnosis—defined as TB identified without bacteriological confirmation through imaging, symptom assessment, or clinician judgment—emerged as the strongest predictor of HIV positivity. This reflects diagnostic challenges among extrapulmonary TB cases, children, and immunocompromised individuals with limited access to definitive testing. Because TB and HIV diagnoses are interlinked, strengthening integrated diagnostic pathways, expanding imaging and laboratory capacity, and ensuring universal HIV testing for all TB patients are essential to reduce disparities and improve TB-HIV care.

Abbreviations

AFB	Acid-Fast Bacilli
ART	Antiretroviral Therapy
BMI	Body Mass Index
CNR	Case Notification Rate
DOTS	Directly Observed Treatment Short course
HIV	Human Immunodeficiency Virus
IGRA	Interferon Gamma Release Assay
MDR-TB	Multidrug-Resistant Tuberculosis
RIF	Rifampisin
RR-TB	Rifampicin-Resistant TB (MDR/RR-TB)
SIHA	Sistem Informasi HIV AIDS
SITB	Tuberculosis Information System or *Sistem Informasi Tuberkulosis*
TB	Tuberkulosis
TST	Tuberculin Skin Test
WHO	World Health Organization
WIB	Western Indonesia Time or *Waktu Indonesia Barat*
WIT	Eastern Indonesia Time or *Waktu Indonesia Timur*
WITA	Central Indonesia Time or *Waktu Indonesia Tengah*

Ethics approval

This study received approval from the Ethics Committee of the Faculty of Public Health, Universitas Indonesia (No. Ket-62/UN2.F10.D11/PPM.00.02/2025.) The study used secondary data obtained from the Sistem Informasi Tuberkulosis (SITB) database for the year 2023. All procedures adhered to ethical standards for studies involving human subjects, ensuring confidentiality and the protection of participant privacy.

Acknowledgments

We would like to thank the Ministry of Health, especially the Directorate General of Prevention and Control of Diseases who allowed the use of SITB data for this study.

Competing interests

All the authors declare that there are no conflicts of interest.

Funding

This study received no external funding.

Underlying data

Derived data supporting the findings of this study are available from the corresponding author on request.

Declaration of artificial intelligence use

This study used artificial intelligence (AI) tools ChatGPT in the following capacities for providing suggestions for structuring complex technical descriptions more effectively. We confirm that all AI-assisted processes were critically reviewed by the authors to ensure the integrity and reliability of the results. The final decisions and interpretations presented in this article were solely made by the authors.

References

1 WHO. The WHO Global tuberculosis report 2024. 2024.

2 Brubacher LJ, Yellappa V, Lestari BW, *et al.* Health and TB systems resilience and pandemic preparedness: Insights from a cross-country analysis of data from policymakers in India, Indonesia, and Nigeria. *medRxiv*. Published Online First: 9 May 2024. doi: 10.1101/2024.05.09.24307131

3 Ministry of Health Indonesia. Laporan Program Penanggulangan Tuberkulosis Tahun 2022. 2023.

4 Zuhair MN, Nas AR, Lautan R, *et al.* Implementation of Early Detection of Lung Tuberculosis Using Who Systematic Screening Guidelines at the Public Health Center in Indonesia. *Acta Medica Bulgarica*. 2024;51:6–11. doi: 10.2478/amb-2024-0035

5 Graham SM, Dwihardiani B, Felisia F, *et al.* Challenges and opportunities to improve tuberculosis care for Indonesian children. *Paediatr Indones*. 2025;65:1–9. doi: 10.14238/pi65.1.2025.1-9

6 Handayani S, Isworo S. Evaluation of Tuberculosis program implementation in Primary Health Care, Semarang, Indonesia. *International Journal of Public Health Asia Pacific*. 2024;1–11. doi: 10.62992/qb8eay62

7 Ketaren TNB, Wahyunitisari MR, Rusli M, *et al.* Clinical Profile of TB-HIV Coinfected Patients at RSUD Dr. Soetomo Surabaya in 2022. *International Journal Of Scientific Advances*. 2025;6. doi: 10.51542/ijscia.v6i1.7

8 CDC. Clinical and Laboratory Diagnosis for Tuberculosis. 2025. https://www.cdc.gov/tb/hcp/testing-diagnosis/clinical-and-laboratory-diagnosis.html

9 World Health Organization. *WHO consolidated guidelines on tuberculosis: tuberculosis preventive treatment*. World Health Organization 2020.

10 Ministry of Health Indonesia. *Petunjuk Teknis Kolaborasi TBC-HIV*. 2023.

11 Hariyanti E, Solida A, Wardiah R. Evaluasi Program Pengendalian Tuberkulosis Paru dengan Strategi DOTS. *Jurnal Ilmiah Permas: Jurnal Ilmiah STIKES Kendal*. 2023;13:1587–600. doi: 10.32583/pskm.v13i4.1297

12 Ministry of Health Indonesia. *Rencana Aksi Nasional Kolaborasi TB-HIV 2020-2024*. 2021.

13 Keputusan Presiden Republik Indonesia Nomor 41 Tahun 1987 tentang Pembagian Wilayah Republik Indonesia Menjadi 3 (Tiga) Wilayah Waktu. Indonesia 1987.

14 Kementerian Kesehatan. *Buku Panduan Tenaga Medis dan Tenaga Kesehatan Tuberkulosis*. Jakarta: Kementerian Kesehatan 2025.

15 Kementerian Kesehatan Republik Indonesia. Peraturan Menteri Kesehatan Republik Indonesia Nomor 2 Tahun 2020 tentang Standar Antropometri Anak. Indonesia 2020.

16 Alemu A, Wubie Aycheh M, Dilnessa T. Tuberculosis and human immunodeficiency virus co-infection and associated factors at Debre Markos comprehensive specialized hospital, Northwest Ethiopia: a four-year retrospective study. *HIV/AIDS-Research and Palliative Care*. 2021;293–9.

17 Yang Q, Han J, Shen J, *et al.* Diagnosis and treatment of tuberculosis in adults with HIV. *Medicine*. 2022;101:e30405. doi: 10.1097/MD.0000000000030405

18 Herbert C, Luies L, Loots DT, *et al.* The metabolic consequences of HIV/TB co-infection. *BMC Infect Dis*. 2023;23:536.

19 Zeb S, Mehmood Z, Basit A, *et al.* Identification of Mycobacterium tuberculosis in Pulmonary and Extrapulmonary Specimens: A Comparative Analysis from Suspected TB Patients. *Pakistan Journal of Chest Medicine*. 2023;29:477–85.

20 Gressens SB, Billard-Pomares T, Leboité H, *et al.* Pulmonary tuberculosis: Evaluation of current diagnostic strategy. *Infect Dis Now*. 2021;51:273–8. doi: 10.1016/j.medmal.2020.10.007

21 Yang J, Shen Y, Wang L, *et al.* Efficacy of the Xpert Mycobacterium tuberculosis/rifampicin assay for diagnosing sputum-smear negative or sputum-

scarce pulmonary tuberculosis in bronchoalveolar lavage fluid. *International Journal of Infectious Diseases*. 2021;107:121–6. doi: 10.1016/j.ijid.2021.04.040

22 Slamet RS, Josef HK, Claramita M. Study of Tuberculosis (TB) Management Documentation with Directly Observed Treatment Short Strategy Course (DOTS) in Puskesmas, Hospital, and Lung Disease Treatment Unit (UP3). *Review of Primary Care Practice and Education (Kajian Praktik dan Pendidikan Layanan Primer)*. 2025;7:35. doi: 10.22146/rpcpe.98104

23 Zewudie S, Sirna A, Terefe A, *et al.* Trends and outcomes of tuberculosis among cases on directly observed short course treatment (DOTS) at Tepi public health center Southwest Ethiopia. *J Clin Tuberc Other Mycobact Dis*. 2021;25:100264. doi: 10.1016/j.jctube.2021.100264

24 Selimin DS, Ismail A, Ahmad N, *et al.* Tuberculosis Treatment Outcome in Patients with TB-HIV Coinfection in Kuala Lumpur, Malaysia. *J Trop Med*. 2021;2021:1–10. doi: 10.1155/2021/9923378

25 Temitayo-Oboh AO, Sherif Azees A, Ohunene Amin J, *et al.* The burden of TB/HIV co-infection among clients attending DOTs clinic in a tertiary centre in Southwestern, Nigeria: A 5-year retrospective study. *Journal of the Royal College of Physicians of Edinburgh*. 2022;52:307–12. doi: 10.1177/14782715221142326

26 Baluku JB, Mukasa D, Bongomin F, *et al.* Gender differences among patients with drug resistant tuberculosis and HIV co-infection in Uganda: a countrywide retrospective cohort study. *BMC Infect Dis*. 2021;21:1–11.

27 Humayun M, Chirenda J, Ye W, *et al.* Effect of Gender on Clinical Presentation of Tuberculosis (TB) and Age-Specific Risk of TB, and TB-Human Immunodeficiency Virus Coinfection. *Open Forum Infect Dis*. 2022;9. doi: 10.1093/ofid/ofac512

28 Bonadonna LV, Saunders MJ, Zegarra R, *et al.* Why wait? The social determinants underlying tuberculosis diagnostic delay. *PLoS One*. 2017;12:e0185018. doi: 10.1371/journal.pone.0185018

29 Daftary A, Mondal S, Zelnick J, *et al.* Dynamic needs and challenges of people with drug-resistant tuberculosis and HIV in South Africa: a qualitative study. *Lancet Glob Health*. 2021;9:e479–88.

30 Chee Cheong K, Mohd Ghazali S, Md Zamri ASS, *et al.* Gender Differences in Factors Associated with the Total Delay in Treatment of Pulmonary Tuberculosis Patients: A Cross-Sectional Study in Selangor, Malaysia. *Int J Environ Res Public Health*. 2022;19:6258. doi: 10.3390/ijerph19106258

31 Caraux-Paz P, Diamantis S, de Wazières B, *et al.* Tuberculosis in the Elderly. *J Clin Med*. 2021;10:5888. doi: 10.3390/jcm10245888

32 Yusuf Aliyu A, Adeleke OA. Latest Progress on Tuberculosis and HIV Co-Infection: A Closer Look at People of Different Ages. *Adv Ther (Weinh)*. 2025;8. doi: 10.1002/adtp.202400033

33 Li S, Li Y, Song W, *et al.* Population aging and trends of pulmonary tuberculosis incidence in the elderly. *BMC Infect Dis*. 2021;21:302. doi: 10.1186/s12879-021-05994-z

34 Rego de Figueiredo I, Branco Ferrão J, Dias S, *et al.* Tuberculosis infection in the elderly versus in the young adult. *Journal of Gerontology and Geriatrics*. 2022;70:1–5. doi: 10.36150/2499-6564-N469

35 Wulandari RD, Laksono AD, Rohmah N, *et al.* Regional differences in primary healthcare utilization in Java Region—Indonesia. *PLoS One*. 2023;18:e0283709. doi: 10.1371/journal.pone.0283709

36 Idaiani S, Hendarwan H, Herawati MH. Disparities of Health Program Information Systems in Indonesia: A Cross-Sectional Indonesian Health Facility Research 2019. *Int J Environ Res Public Health*. 2023;20:4384. doi: 10.3390/ijerph20054384

37 Kontsevaya I, Cabibbe AM, Cirillo DM, *et al.* Update on the diagnosis of tuberculosis. *Clinical Microbiology and Infection*. 2024;30:1115–22. doi: 10.1016/j.cmi.2023.07.014

38 Allué-Guardia A, García JI, Torrelles JB. Evolution of Drug-Resistant Mycobacterium tuberculosis Strains and Their Adaptation to the Human Lung Environment. *Front Microbiol*. 2021;12. doi: 10.3389/fmicb.2021.612675

39 Nakiyingi L, Bwanika JM, Ssengooba W, *et al.* Chest X-ray interpretation does not complement Xpert MTB/RIF in diagnosis of smear-negative pulmonary tuberculosis among TB-HIV co-infected adults in a resource-limited setting. *BMC Infect Dis*. 2021;21:63. doi: 10.1186/s12879-020-05752-7

40 Gautam N, Karki RR, Khanam R. Knowledge on tuberculosis and utilization of DOTS service by tuberculosis patients in Lalitpur District, Nepal. *PLoS One*. 2021;16:e0245686. doi: 10.1371/journal.pone.0245686

41 Dalazoana SSV, Gabardo BMA, Cardoso RF. Challenges faced by health workers in the use of the directly observed treatment (DOT) for tuberculosis. *Rev Inst Med Trop Sao Paulo*. 2021;63. doi: 10.1590/s1678-9946202163025

42 Mendes YC, Dourado ALL, de Oliveira PV, *et al.* Nutritional Factors and Food and Nutrition Insecurity in Patients with Tuberculosis. *Nutrients*. 2025;17:878. doi: 10.3390/nu17050878

43 Baum MK, Tamargo JA, Wanke C. Nutrition in HIV and tuberculosis. *Nutrition and infectious diseases: Shifting the clinical paradigm*. 2021;243–81.

44 Dauphinais MR, Koura KG, Narasimhan PB, *et al.* Nutritionally acquired immunodeficiency must be addressed with the same urgency as HIV to end tuberculosis. *BMC Global and Public Health*. 2024;2:4.

Original research

29 December 2025 • Open access

Understanding the epidemiology of TB-HIV co-infection in Indonesia: evidence from the 2023 national TB registry

Author affiliations •

Machrumnizar Machrumnizar [1 2], Tris Eryando [3], Adang Bachtiar [4], Rina Kurniasri Kusumaratna [5], Meiyanti Meiyanti [6], Endang Djuana [7], Nikmatul Hidayah [4], Arifah Alfiyyah [4]

Abstract

Introduction Tuberculosis (TB) and HIV co-infection remain a significant public health challenge in Indonesia. Therefore, this study aims to identify the determinants and epidemiological characteristics of TB-HIV co-infection using data from the 2023 national TB registry.

Methods The study procedures were carried out using a cross-sectional design, analysing univariate, bivariate and multivariate associations between TB-HIV coinfection status and demographic, clinical and health service factors among patients with TB.

Results Among 22 698 patients with TB, 94.8% were HIV negative, with a predominance of males (58.8%) and adults aged 30–59 years (49.8%). The majority of the patients were treated in healthcare facilities located in Western Indonesia, had pulmonary TB (93.8%), bacteriological diagnosis (55.5%) and achieved a cure (85.9%), while the remaining 14.1% included patients who died, were lost to

follow-up, or had incomplete treatment outcomes. The most common nutritional status among patients was normal nutritional status (44.4%). In the multivariate analysis, clinical diagnosis remained the strongest predictor of TB-HIV co-infection (OR 2.446; 95% CI 2.154 to 2.778; p<0.001). Other significant predictors included male sex (OR 2.096; 95% CI 1.835 to 2.395), extrapulmonary TB (OR 1.337; 95% CI 1.075 to 1.662) and undernourished status, which showed lower odds of TB-HIV co-infection compared with overweight or obese patients (OR 0.809; 95% CI 0.676 to 0.967).

Conclusions This study highlights TB-HIV co-infection as the primary outcome, emphasising the role of demographic, clinical, nutritional and regional disparities in influencing co-infection risks. The findings underscore the need for integrated TB-HIV diagnostic and management strategies, including nutritional support and targeted interventions focusing on high-risk populations and health service accessibility to strengthen early detection and treatment outcomes.

Back to top

What is already known on this topic

- Co-infection of tuberculosis (TB) and HIV remains a major public health challenge in high-burden countries, including Indonesia. Previous studies have suggested that demographic and clinical factors such as sex, age and diagnostic method may influence HIV positivity among patients with TB, but national-level evidence has been limited.

What this study adds

- This study, using data from the 2023 national TB registry (SITB), found that 5.2% of patients with TB were HIV positive. Male sex, older age, clinical diagnosis (vs bacteriological) and treatment outcome were significantly associated with HIV positivity. Among these, clinical diagnosis was the strongest predictor, with clinically diagnosed patients with TB being approximately 2.4 times more likely to be HIV positive.

How this study might affect research, practice or policy

- The findings underscore the importance of strengthening integrated TB-HIV diagnostic and treatment services across Indonesia, particularly in regions with limited laboratory capacity. Policies should prioritise universal HIV screening among all patients with TB—especially those diagnosed clinically—and enhance diagnostic infrastructure to improve early detection and outcomes for co-infected individuals.

Introduction

Tuberculosis (TB) and HIV remain two of the most significant overlapping epidemics in developing countries, including Indonesia. The dual burden of TB-HIV co-infection poses a major public health challenge because each disease accelerates the progression and worsens the prognosis of the other. In 2024, Indonesia reported 17 136 cases of TB–HIV co-infection, reflecting the increasing convergence of these two epidemics and the persistent gaps in prevention, diagnosis and treatment.[1] Countries with a high TB burden, including Indonesia, continue to be the focus of global strategies addressing TB/HIV co-infection and multidrug-resistant or rifampicin-resistant TB under the WHO 2021–2025 strategic framework. TB is ranked as the second highest contributor to global disease burden, accounting for approximately 10% of cases worldwide and remains a leading cause of morbidity and mortality in Indonesia.[1 2] In 2023, Southeast Asia accounted for 45% of the global 10.8 million reported TB cases,[1] underscoring the regional importance of TB control.[1 3] Globally, TB remains the leading cause of death among individuals living with HIV due to the profound immunosuppression associated with HIV infection.

Case notifications play a central role in evaluating TB programme performance. The 2022 national TB report indicated that approximately 75% of estimated TB cases were detected, leaving 25% undiagnosed or unreported. Among reported cases, adults accounted for 84.7% and children under 15 years for 15.3%.[3] Under-reporting is frequently driven by diagnostic and reporting challenges,[4] particularly among children, where TB is clinically difficult to detect and often under-prioritised.[5 6] TB-HIV co-infection further complicates diagnosis and treatment, often requiring coordinated service delivery and integrated care pathways.[7]

Addressing TB-HIV co-infection in Indonesia is increasingly urgent due to rising HIV incidence and the complex clinical management required for co-infected individuals. Co-infected patients face a higher risk of extrapulmonary and drug-resistant TB forms.[1] Therefore, identifying factors associated with HIV status among affected patients is crucial for developing targeted interventions, improving health outcomes and

progressing towards elimination goals,[8] making early identification of associated determinants essential for targeted interventions and improved health outcomes.[8] All patients with TB accessing directly observed treatment short-course (DOTS) services are required to undergo HIV testing unless previously documented. HIV-positive patients must initiate antiretroviral therapy (ART) within 2–8 weeks after starting TB treatment, and all testing outcomes must be recorded within the National Tuberculosis Information System (SITB).[3 9]

TB-HIV surveillance in Indonesia is currently conducted using routine data collected from healthcare facilities implementing collaborative activities. Data were obtained from both TB and HIV services, using the Tuberculosis Information System (SITB) and the HIV/AIDS Information System (SIHA). Integrated surveillance relies on two systems: SITB for TB and SIHA for HIV/AIDS. Differences in data completeness, system fragmentation and limited interoperability often lead to discrepancies in reported outcomes.[10] Technical barriers, internet instability and limited digital literacy among health workers continue to hinder optimal data reporting at the primary care level.[11] Strengthening data integration and improving SITB–SIHA interoperability remain essential priorities for accurate monitoring and surveillance.[12] This study aims to describe the demographic, clinical and healthcare characteristics of patients with TB stratified by HIV status and identify factors independently associated with HIV co-infection using national TB registry data from 2023, supporting Indonesia's goal of ending the TB and HIV epidemics by 2030.

Back to top

Methods

Study design and participants

The current study used a cross-sectional design using secondary data extracted from the 2023 Tuberculosis Information System (SITB), a national surveillance database managed by the Indonesian Ministry of Health. The SITB dataset included routinely collected and standardised patient level data from public and private healthcare facilities across all provinces in Indonesia. The study population comprised all registered patients with TB in the 2023 SITB dataset. The inclusion criteria were individuals with a confirmed TB diagnosis and available data on HIV status. The primary outcome variable was defined as HIV status among patients with TB, dichotomously categorised as HIV-positive or HIV-negative, representing TB-HIV coinfection. Records with incomplete or missing values for the primary outcome variable or essential independent variables were excluded from the analysis. A total of 22 698 patients with TB who met the eligibility criteria were included in this study, and this design enabled the identification of socio-demographic and clinical characteristics associated with HIV status among patients with TB within a defined time frame, without follow-up.

Patient and criteria

The study population comprised all patients with TB recorded in the 2023 Tuberculosis Information System (SITB), a national surveillance database managed by the Indonesian Ministry of Health. The inclusion criteria encompassed individuals of all age groups who had been diagnosed with either pulmonary or extrapulmonary TB and had documented HIV status data. Only patient records with complete information on key socio-demographic and clinical variables including sex, age, geographical location of the healthcare facility (based on time zone), diagnostic method, treatment outcome and nutritional status were included in the analysis. Records with missing, incomplete or inconsistent data on HIV status or other critical demographic and clinical variables were excluded from the final dataset. A complete case analysis approach was applied to handle missing data.

Study variables

This study used secondary data from the 2023 Tuberculosis Information System (SITB), by Indonesia's Ministry of Health. The primary objective of this study was to identify factors associated with HIV status among patients diagnosed with TB across Indonesia. The dependent variable was HIV status, dichotomously categorised as either HIV positive or HIV negative. Independent variables included a range of socio-demographic and clinical characteristics, selected based on their epidemiological relevance to TB-HIV coinfection.

Socio-demographic variables comprised sex and age group. Sex was recorded as a binary variable (male or female). Age was classified according to the WHO guidelines into seven categories: infants (0–1 year), toddlers (1–5 years), children (6–12 years), adolescents (13–19 years), young adults (20–29 years), adults (30–59 years) and older adults (≥60 years). This stratification facilitated a nuanced analysis of age-related susceptibility and exposure to TB-HIV coinfection.

Geographical location of healthcare facilities was categorised based on Indonesia's official time zones Western Indonesia Time (WIB), Central Indonesia Time (WITA) and Eastern Indonesia Time (WIT) to reflect regional diversity and potential disparities in healthcare access and service distribution, particularly regarding HIV testing and treatment availability.[13]

Clinical variables included the anatomical site of TB infection, diagnostic method, treatment outcomes and nutritional status. The anatomical location of TB was categorised as either pulmonary or extrapulmonary. Type of diagnostic confirmation was classified into two categories: (1) clinical diagnosis, based on signs, symptoms and radiological findings without laboratory confirmation; and (2) bacteriological diagnosis, confirmed through acid-fast bacilli smear microscopy, interferon gamma release assay, tuberculin skin test or rapid molecular testing such as GeneXpert MTB/RIF.[14]

Treatment outcomes were classified based on SITB records into three primary categories: cured, treatment failure and deceased. Nutritional status among patients with TB was assessed using age-appropriate methods. For children aged 0–60 months, nutritional status was evaluated using weight-for-length/height Z-scores. For individuals older than 60 months, nutritional status was determined based on body mass index. Classification of nutritional status followed the 2020 Nutritional Guidelines issued by the Indonesian Ministry of Health and was grouped into three categories: undernourished, normal and overweight/obese.[15]

Data analysis

Data from the 2023 SITB database were cleaned, processed and analysed using IBM SPSS Statistics software. Descriptive statistics were used to summarise the characteristics of the study population (univariate analysis). Bivariate logistic regression was conducted to examine the association between each independent variable and HIV status among patients with TB. Variables with a p value<0.25 in the bivariate analysis were included in the multivariate logistic regression model to identify factors independently associated with HIV status. Multivariate logistic regression was performed in two stages. Model I served as the initial full model, including all selected independent variables. Variables with a p value>0.05 were assessed for potential confounding effects. Non-significant variables that were not identified as confounders were excluded from the model. Model II represented the final model, retaining only variables that were statistically significant or identified as confounders. Adjusted ORs and 95% CIs were reported. Statistical significance was set at a p value<0.05.

Potential sources of bias inherent in the use of secondary data from a national registry, such as selection bias, information bias and reporting bias, were carefully considered. To reduce selection bias, the analysis included only cases with complete and verified data on HIV status and key variables. Misclassification of variables such as HIV status, TB type and diagnostic method was minimised by excluding implausible or inconsistent entries and cross-validating relevant fields. Additionally, regional variation in reporting completeness was addressed by including geographical location in the model. Although the cross-sectional design limits causal inference, multivariate modelling was used to control for potential confounders and strengthen the internal validity of the associations observed.

Back to top

Results

Patient characteristics

Based on secondary data from the Tuberculosis Information System (SITB) in 2023, 5.2% of patients with TB were HIV positive, underscoring the need for integrated TB-HIV management. An overview of the

demographic and clinical characteristics of the study population revealed that most participants were male (58.8%), with the adult age group (30–59 years) comprising 49.8% of the total sample. The majority of patients received care from healthcare facilities located in the WIB, with most TB cases being pulmonary (93.8%) and diagnosed bacteriologically (55.5%). The predominant treatment outcome was 'cured' (85.9%), and the most common nutritional status among participants was 'normal' (44.4%) (table 1).

Table 1

View inline • Open as popup

Socio-demographic and clinical characteristics of patients with TB in Indonesia, 2023 (n=22 698)

Based on table 2, it was found that the difference in the proportion of HIV-positive cases between males and females was 3.3%. The association between sex and HIV status yielded a p value<0.001, indicating a statistically significant relationship between sex and HIV status. The OR was (OR 2.096; 95% CI 1.835 to 2.395), meaning that males had a 2.096 times higher risk of being HIV positive compared with females.

Table 2

View inline • Open as popup

Factors associated with TB-HIV patients in Indonesia, 2023 (n=22 698)

The difference in the proportion of HIV positivity between young adults and the elderly was 7.4%. The association between age group and HIV status resulted in a p value<0.001 for the categories of children, young adults and adults compared with the elderly, indicating a significant relationship between age and HIV status. For the young adult group, the OR was (OR 0.116; 95% CI 0.083 to 0.162), meaning young adults had a 0.116 times lower risk of being HIV positive compared with the elderly.

The difference in the proportion of HIV positivity between healthcare facilities located in WIT and WIB was 7.4%. The association between healthcare facility location and HIV status showed a p value<0.001 for WIT and WITA categories compared with WIB, indicating a significant relationship. For the WIT group, the OR was

(OR 0.228; 95% CI 0.190 to 0.273), meaning that patients in healthcare facilities in EIT had a 0.228 times lower risk of being HIV positive compared with those in WIB.

The difference in the proportion of HIV positivity between patients with extrapulmonary TB and pulmonary TB was 1.6%. The association between disease site and HIV status had a p value of 0.011, indicating a significant relationship. The OR was (OR 1.337; 95% CI 1.075 to 1.662), meaning that patients with extrapulmonary TB had a 1.337 times higher risk of being HIV positive compared with those with pulmonary TB.

The difference in the proportion of HIV positivity between clinical and bacteriological diagnosis was 3.2%. The association between diagnosis type and HIV status resulted in a p value of 0.011, indicating a significant relationship. The OR was (OR 1.930; 95% CI 1.713 to 2.175), meaning that patients diagnosed clinically had a 1.930 times higher risk of being HIV positive compared with those diagnosed bacteriologically.

The difference in the proportion of HIV positivity between undernourished/malnourished patients and overweight/obese patients was 1.1%. The association between nutritional status and HIV status yielded a p value of 0.020, indicating a significant relationship. For the undernourished/malnourished group, the OR was (OR 0.809; 95% CI 0.676 to 0.967), meaning they had a 0.809 times lower risk of being HIV positive compared with overweight/obese patients.

Based on the information presented in table 3, Model I serves as the initial multivariate logistic regression model, incorporating all variables under consideration in the analysis. This comprehensive approach allowed for the simultaneous evaluation of each variable's independent association with HIV positive status. The results obtained from this initial model indicated that nearly all included variables demonstrated statistically significant associations with HIV positivity, as evidenced by p values <0.05. This level of significance suggests a reliable and non-random relationship between these variables and the outcome of interest. However, one notable exception to this pattern was the variable labelled 'anatomical location', which yielded a p value exceeding the threshold for statistical significance (p>0.05). This finding implied that, within the context of the full model, anatomical location did not exhibit a meaningful association with HIV positive status.

Table 3

View inline • Open as popup

Multivariable logistic regression of factors associated with HIV status among patients with tuberculosis, Indonesia, 2023

Following these initial findings, the next analytical step was to assess the potential for confounding effects that might influence the relationship between the variables and HIV status. To this end, the 'anatomical location' variable was removed from the model due to its non-significant p value. The rationale for this exclusion was to refine the model by eliminating variables that do not contribute significantly to explaining variation in the outcome, thus enhancing the interpretability and parsimony of the final model. After removing this variable, the researchers calculated the percentage change in the ORs for the remaining variables to determine whether 'anatomical location' acted as a confounding factor. This calculation involved comparing the ORs of the reduced model (Model II) to those of the initial full model (Model I). The change in OR was expressed as a percentage, representing the extent to which the ORs of the other variables shifted when 'anatomical location' was excluded. The results showed that for all remaining variables, the percentage change in ORs was less than 10%. This finding is generally interpreted as an indication that 'anatomical location' did not have a confounding effect on the associations between the other variables and HIV status. Consequently, based on these statistical considerations, 'anatomical location' was excluded from the final model.

Model II therefore represents the final and more refined multivariate logistic regression model. This model retained only those variables that exhibited statistically significant associations with HIV positive status, excluding the 'anatomical location' variable. The results of Model II further confirmed that several key variables remained significantly associated with HIV positivity, with p values all below 0.05. These variables included sex, age, healthcare facility location, type of diagnosis confirmation, treatment outcome and nutritional status. Their retention in the final model underscores their independent and meaningful contributions to explaining the likelihood of an individual being HIV positive.

Among these variables, the type of diagnosis confirmation emerged as the most strongly associated factor with HIV status, indicated by an exceptionally significant p value of <0.001. This strong association suggests that the method by which a diagnosis was confirmed plays a critical role in predicting HIV positivity. More specifically, the OR for individuals diagnosed clinically was estimated at 2.446. This means that, after adjusting for sex, age, healthcare facility location, treatment outcome and nutritional status, individuals with a clinical diagnosis were approximately 2.4 times more likely to be HIV positive compared with those who received a bacteriological diagnosis. Furthermore, the 95% CI for this OR ranged from 2.154 to 2.778, which reflects a precise and statistically robust estimate of the association. Taken together, these findings highlight the importance of diagnostic methods and related clinical factors in understanding and predicting HIV infection within the studied population.

Back to top

Discussions

This study analysed 22 698 patients with TB recorded in Indonesia's 2023 SITB (National Tuberculosis Information System). The dataset provided demographic and clinical variables essential for understanding the epidemiology of TB-HIV co-infection. Of all recorded TB cases, 1183 (5.2%) were HIV-positive, while 21 515 (94.8%) were HIV-negative. As indicated in the results, the majority of patients were HIV-negative (94.8%), male (58.8%) and most belonged to the adult age group of 30–59 years (49.8%). Multivariate analysis showed that Model II, representing the final logistic regression model, demonstrated significant associations ($p<0.05$) between HIV status and several key variables including gender, age, healthcare facility zone, diagnostic type, treatment outcomes and nutritional status.[16–18] This co-infection rate aligns with global patterns in high-burden settings and underscores the continuing convergence of TB and HIV epidemics in Indonesia.

Most patients presented with pulmonary TB (93.8%), the predominant form due to its transmissibility and diagnostic accessibility through sputum-based tests. Extrapulmonary TB, though less common (6.2%), is more frequently associated with HIV and may be underdiagnosed due to limited access to specialised diagnostic tools.[19] More than half of patients (55.5%) were bacteriologically confirmed through diagnostic methods such as smear microscopy or culture, which remain the diagnostic gold standard for TB because of their reliability in confirming active disease.[20 21] Treatment outcomes showed that 85.9% of patients were recorded as cured, reflecting effective implementation of DOTS strategies and adherence to standardised protocols.[22 23] This high cure rate also suggests functional collaboration between TB and HIV treatment programmes, which typically integrate ART for co-infected patients.[24 25]

Gender distribution showed that 58.8% of patients with TB were male, consistent with global epidemiological patterns. The proportion of HIV-positive cases differed by 3.3% between males and females, and gender was significantly associated with HIV status. Males were 2096 times more likely to be HIV-positive than females, potentially reflecting higher exposure to behavioural risks such as unprotected sex, substance use and lower rates of timely healthcare-seeking.[26 27] Men often present later for diagnosis, which may lead to co-infection being detected at the time of TB diagnosis.[28–30] However, other studies found no gender-related differences in TB-HIV co-infection prevalence. For instance, Alemu *et al* reported that gender was not associated with TB-HIV coinfection among newly diagnosed patients who are HIV positive in Ethiopia.[16] Such inconsistencies may arise from regional differences, sample characteristics or the progression of localised HIV epidemics.

Regarding age, adults aged 30–59 accounted for the largest group of TB cases (49.8%), followed by young adults aged 20–29 (18.3%) and the elderly aged 60+years (16.6%). These findings highlight that productive age groups carry the highest burden of TB, which has implications for national productivity and household stability. Although TB cases among children and adolescents are much lower, they still indicate ongoing transmission. Elderly individuals are at increased risk of TB-HIV co-infection due to immunosenescence, comorbidities and cumulative exposure.[31] Their higher interaction with healthcare services may also increase detection rates of HIV.[32] Late-life HIV diagnoses in elderly individuals are often discovered during TB

evaluations.[33 34] Conversely, studies from other regions have identified higher HIV prevalence among younger adults, driven by behavioural risk exposure and lower HIV testing rates among youth.[31]

Healthcare facility location was also a significant determinant. Most patients (82.7%) received care in WIB, followed by WITA at 13.0% and WIT at 4.3%. This distribution mirrors population density and reflects the concentration of healthcare infrastructure in the western region. Urban areas in WIB provide greater access to diagnostic services, explaining the higher number of bacteriologically confirmed cases and TB diagnoses.[35] The difference in HIV-positive proportions between WIB and WIT was 7.4%, and facility location was significantly associated with HIV status. Facilities in WIT were 0.228 times less likely to report HIV-positive patients with TB than those in WIB, reflecting disparities in access, testing capacity and potential under-reporting.[35] This was also likely that these diagnostic methods were more widely available and accessible at the healthcare facilities, specifically those in the WIB region, contributing to the higher number of bacteriologically confirmed cases.[3] Geographical differences may indicate systemic inequalities in service availability and HIV programme implementation.[36]

Pulmonary TB accounted for 93.8% of cases, while extrapulmonary TB represented 6.2%. This is expected, as pulmonary TB is more infectious and easier to detect via sputum-based diagnostic tools.[37] Extrapulmonary TB is more common among immunocompromised patients, particularly those with HIV, which aligns with the elevated HIV rates found in this subgroup in further analyses. The difference in the proportion of HIV-positive cases between patients with extrapulmonary TB and pulmonary TB was 1.6%. The relationship between disease location and HIV status resulted in a p value of 0.011, showing a significant association between the two. Studies have shown that HIV alters immune responses, increasing susceptibility to TB dissemination beyond the lungs.[38]

The OR was 1.337, meaning that patients with extrapulmonary TB were 1.337 times more likely to be HIV-positive compared with patients with pulmonary TB, with a 95% CI of 1.075 to 1.662. The difference in the proportion of HIV-positive cases between clinical and bacteriological diagnoses was 3.2%. The relationship between diagnostic type and HIV status produced a p value of 0.011, showing a significant association between these two. The OR was 1.930, meaning that clinical diagnoses were 1.930 times more likely to result in an HIV-positive status compared with bacteriological diagnosis, with a 95% CI of 1.713 to 2.175. The higher odds (OR: 1.930) of HIV-positive status in clinically diagnosed TB cases could reflect the difficulty of bacteriological confirmation in immunocompromised patients.[21 24]

The majority of TB cases were diagnosed bacteriologically (55.5%), while 44.5% were clinically diagnosed. Bacteriological confirmation is considered the gold standard for TB diagnosis. However, clinically diagnosed cases still represent a significant proportion, possibly due to challenges in sputum collection or smear-negative TB, which are more common among HIV-positive patients. These findings stress the importance of strengthening diagnostic capabilities, particularly for populations with a higher likelihood of clinical TB presentation. However, the substantial proportion of clinically diagnosed cases highlights persistent

diagnostic challenges, especially in populations with HIV, who often present with smear-negative or extrapulmonary TB, making sputum-based detection more difficult.

In Model II, it could be concluded that the factor strongly associated with HIV status was the diagnostic type. The p value for this association was <0.001, suggesting a significant relationship between diagnostic type and HIV status, even after controlling for gender, age, healthcare facility location, treatment outcome and nutritional status. Reinforcing existing evidence that HIV-positive patients are more likely to receive clinical rather than bacteriological diagnoses

In the final Model II, diagnostic type maintained the strongest association, with an OR of 2.446 (95% CI 2.154 to 2.778; p<0.001). HIV-positive individuals frequently present with extrapulmonary involvement or low bacillary load, making bacteriological confirmation difficult.[39] The importance of considering HIV screening and linkage to care, specifically among clinically diagnosed patients with TB, as this subgroup appeared to carry a disproportionately higher HIV burden. The data showed that 85.9% of patients were recorded as cured, with 7.8% experiencing treatment failure and 6.2% recorded as deceased. The high cure rate reflects effective implementation of DOTS (directly observed treatment, short-course) and suggests generally good programme performance. Research in Nepal also reported a comparable success rate, showing that consistent drug supply and patient supervision improve outcomes from DOTS twelfth class.[40] The studies in Brazil reported even with DOTS in place still having main challenges such as the commitment from the patients to do the treatment.[41] However, the non-negligible rates of death and treatment failure indicate a need to investigate comorbidities, particularly HIV and barriers to treatment adherence.

Among patients in this research, 40.1% were underweight, 44.4% had normal nutritional status and 15.4% were overweight. Malnutrition is a well-established risk factor for TB, weakening host immunity and increasing susceptibility. In HIV-positive individuals, specifically those with low CD4 counts, sputum production was often inadequate and smear-negative TB was more common. The difference in the proportion of HIV-positive cases between poor/nutritionally inadequate status and overweight/obesity status was 1.1%. The relationship between nutritional status and HIV status resulted in a p value of 0.020, showing a significant association between nutritional status and HIV status.[42 43]

The high proportion of undernourished patients underscores the directional relationship between TB and malnutrition. Interestingly, HIV-positive status was slightly more associated with overweight/obesity, a finding that may reflect medical-associated weight gain or improved nutritional support in managed programmes. Based on nutritional status assessments, most respondents were classified as having normal nutritional status (44.4%). This could show relatively stable health conditions among the patients, which could contribute to better treatment responses.[44] Adequate nutrition was essential for maintaining immune function, and those with normal nutritional status could have a higher likelihood of responding well to TB and HIV treatment.[42 43] This data did not show the socioeconomic conditions of the patients in the study, or how the patients had access to adequate food and healthcare services.

While SITB provides comprehensive national data, several limitations must be acknowledged. As a secondary dataset, SITB is limited to variables collected for national reporting and excludes key factors such as socioeconomic status, comorbidities beyond HIV, ART adherence, behavioural risks and underlying conditions. Data completeness may vary by region due to inconsistent reporting, resource limitations or geographical barriers, especially in remote settings. Being cross-sectional, the dataset cannot infer causality. Diagnostic bias may occur because HIV testing availability and bacteriological diagnostic capacity differ across regions. These limitations highlight the need for enhanced data quality assurance, improved diagnostic standardisation and complementary research approaches.

Future studies should integrate SITB with other health information systems to obtain more comprehensive risk factor data. Longitudinal designs are needed to assess treatment outcomes over time, understand the impact of co-infections and capture dynamic interactions between TB and HIV. Additionally, regional comparative analyses can help identify disparities in TB-HIV services and guide targeted intervention strategies.

Back to top

Conclusions

Using national surveillance data from 2023, this study provides updated insights into TB-HIV co-infection in Indonesia. HIV prevalence among patients with TB highlights the continuing burden of dual infections. Gender, age, facility type, anatomical TB site, diagnostic method, treatment outcome and nutritional status were significantly associated with HIV status. Clinical diagnosis—defined as TB identified without bacteriological confirmation through imaging, symptom assessment or clinician judgement—emerged as the strongest predictor of HIV positivity. This reflects diagnostic challenges among extrapulmonary TB cases, children and immunocompromised individuals with limited access to definitive testing. Because TB and HIV diagnoses are interlinked, strengthening integrated diagnostic pathways, expanding imaging and laboratory capacity and ensuring universal HIV testing for all patients with TB are essential to reduce disparities and improve TB-HIV care.

Back to top

References

Footnotes

Publication history

Metrics

Responses

CONTENT

Latest content

Archive

JOURNAL

About

Editorial board

Sign up for email alerts

Thank you to our reviewers

AUTHORS

Instructions for authors

Submit an article

Open access at BMJ

Online ISSN: 2753-4294