International Agency for Research on Cancer

World Health Organization

Biennial Report

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Introduction – from the IARC Director

This Biennial Report celebrates the remarkable progress achieved by the International Agency for Research on Cancer (IARC) during 2024–2025. Behind every figure and discovery is the unwavering dedication of IARC's personnel and our global network of partners, united by a single mission: "Bridging research and action for global cancer prevention".

Over the past 2 years, we have delivered on the priorities set out in the IARC Medium-Term Strategy 2021–2025 and taken bold steps to fulfil our vision of "a world free from preventable cancers and with better outcomes for all". Today, IARC plays an unparalleled role in international public health: offering trusted evidence that informs policy and contributes to reducing the global burden of cancer.

This Biennial Report is complemented by a webpage (https://www.iarc.who.int/biennial-report-2024-2025web/) that showcases IARC highlights for the 2024–2025 biennium.

Scientific progress and global impact

The 2024–2025 biennium has been transformative. It was marked by remarkable scientific advances and strengthened international collaborations, as demonstrated by the most extensive evaluation of an IARC strategy to date, formally endorsed by the IARC Governing Council in May 2025. Through its core scientific Pillars – Data for Action, Understanding the Causes, From Understanding to Prevention, and Knowledge Mobilization – IARC has expanded its research reach and advanced cancer prevention strategies worldwide. The Agency has also consolidated its 10 IARC flagship programmes, which represent the Agency's scientific fingerprint. These flagship programmes are designed to address some of the most urgent and complex challenges in cancer prevention and control, reflecting IARC's unique strengths and its enduring commitment to global public health. They have been instrumental in strengthening research capacity in low- and middle-income countries, enhancing the quality and comparability of cancer data globally, and informing the design of evidence-based policies and interventions.

Key scientific accomplishments during the 2024–2025 biennium include the following.

- **Data for action: global cancer data:** The 12th volume of *Cancer Incidence in Five Continents* (CI5-XII) presents high-quality standardized data from 460 cancer registries in 65 countries for the period 2013–2017. Analyses highlight the scale of future challenges: by 2050, the burden of breast cancer alone is projected to reach 3.2 million new cases and 1.1 million deaths annually, with the greatest burden falling on countries with low levels of the Human Development Index (HDI). Trends also reveal a global increase in lung adenocarcinoma, particularly among younger women, driven largely by fine particulate air pollution in East Asia. Bold prevention measures, for example banning tobacco sales for cohorts born between 2006 and 2010, could prevent up to 1.2 million lung cancer deaths by 2095.
- **Understanding the causes of cancer:** Major strides were also made in uncovering the drivers of cancer. Large-scale genomic studies on colorectal cancer identified distinct mutational patterns, including a strong link between exposure to *Escherichia coli* colibactin and early-onset disease. Research on renal cancer provided critical insights into the role of environmental exposures, such as aristolochic acid in eastern Europe and South-East Asia. Also, new evidence showed that consumption of ultra-processed food is associated with higher mortality from multiple diseases, independent of alcohol intake. Encouraging a shift towards less-processed diets in public health guidelines could offer substantial health benefits.
- **From understanding to prevention:** IARC confirmed that a single dose of human papillomavirus (HPV) vaccine offers long-lasting protection, bolstering the global push for cost-effective immunization. In Europe, several lung cancer risk prediction models demonstrated

good performance, paving the way for personalized prevention approaches. Technological innovations also showed promise, including an artificial intelligence (AI)-driven cervical cancer screening tool with high accuracy and feasibility for low-resource settings. Furthermore, IARC contributed to shaping European guidelines for gastric cancer prevention, emphasizing the importance of *Helicobacter pylori* screening and treatment strategies.

- **Knowledge mobilization and capacity-building:** Knowledge dissemination remained central to IARC's mission, and through the *IARC Monographs* programme, the Agency sustained its role in delivering authoritative, evidence-based evaluations of carcinogenic agents. Notably, in 2024, the *IARC Monographs* programme published volumes assessing aspartame, methyleugenol, and isoeugenol (Volume 134) and anthracene, 2-bromopropane, butyl methacrylate, and dimethyl hydrogen phosphite (Volume 133). In 2025, the programme published Volume 135, evaluating perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), followed by Volume 136, evaluating talc and acrylonitrile. Capacity-building efforts were further strengthened through collaboration with the World Health Organization (WHO) Academy to develop an innovative Learning Experience Platform, expanding access to high-quality training worldwide.

Strategic engagement

Through a focused strategy – building a compelling investment case, aligning with national priorities, and engaging influential advocates – IARC achieved a major milestone with the addition of three new Participating States. The Kingdom of Saudi Arabia and Egypt joined IARC in May 2024, followed by Portugal in May 2025. This expansion broadens the Agency's global reach and reinforces collective efforts to reduce the global cancer burden.

Looking ahead

The recent comprehensive evaluation of the Medium-Term Strategy 2021–2025 reaffirmed IARC's scientific excellence and operational strength, laying the foundation for the Medium-Term Strategy 2026–2030. The new plan will consolidate IARC's global impact and focus on delivering measurable outcomes to reduce the cancer burden by 2030.

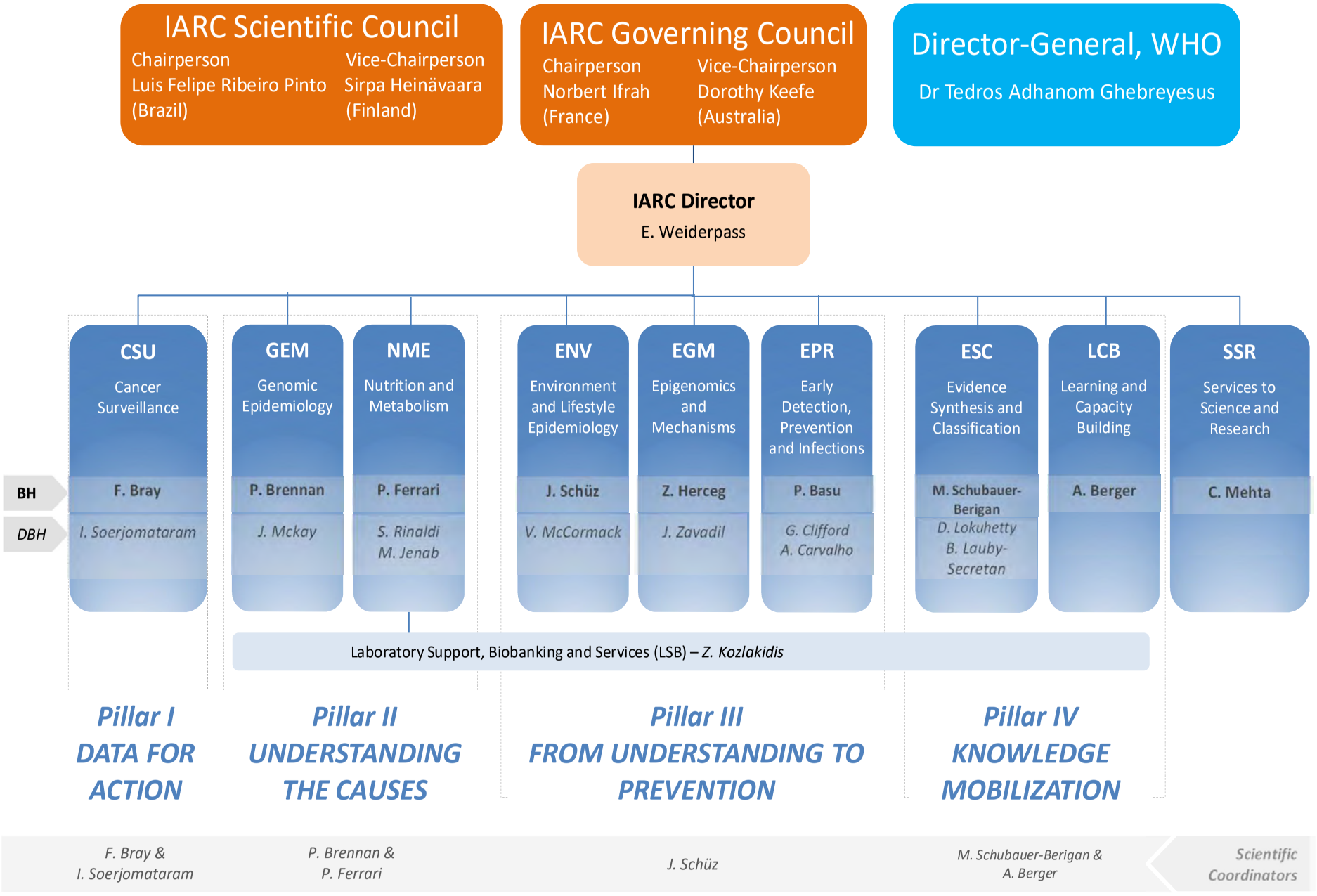
IARC remains a key contributor to WHO global initiatives. IARC research studies inform the WHO Global Breast Cancer Initiative – for example, the African Breast Cancer–Disparities in Outcomes (ABC-DO) study in sub-Saharan Africa – and advance the elimination of cervical cancer through evidence-based prevention strategies.

Challenges and opportunities

Despite major achievements, IARC faces critical challenges, including the intended withdrawal from WHO of the USA, a long-standing partner since IARC was established in 1965. Contributions from the USA, particularly through its National Cancer Institute, have been central to flagship efforts such as the *IARC Monographs* programme. Preserving and enhancing this collaboration remains vital to advance the global cancer research agenda.

A shared commitment

Cancer knows no borders. Meeting the challenge of the increasing global cancer burden requires sustained international cooperation and collective resolve. As IARC celebrates its 60th anniversary, I remain confident that through constructive dialogue and strong partnerships, we will continue to transform research into solutions – delivering knowledge, fostering prevention, and saving lives worldwide.



BH = Branch Head
DBH = Deputy Branch Head

IARC Lectures

In 2024 and 2025, IARC had the honour of convening a series of seminars and lectures delivered by internationally renowned experts in the domains of cancer research, prevention and control, cancer inequalities, mechanistic studies, implementation research, health economics, and global cancer initiatives currently in progress.

Scientific Seminars and Lectures

These distinguished speakers were invited to present topics of interest within the framework of regular Town Hall meetings, which were generally broadcast online.

January 2024 — Jean-Claude Moubarac (University of Montreal, Canada) – Ultra-processed products and human health: a socio-cultural perspective

February 2024 — Joachim Marti (University of Lausanne, Switzerland) – The value of prevention: a health economics perspective

April 2024 — Sheila Coelho Soares Lima (National Cancer Institute, Brazil) – Dissecting oesophageal cancer through epigenetics

April 2024 — Michael Wilde (University of Kent, United Kingdom) – The evidential role of the key characteristics of carcinogenicity

April 2024 — Eléonor Riesco (University of Sherbrooke, Canada) – Aerobic exercise as an adjuvant intervention for the treatment of cancer

July 2024 — Hélène Blanché (Head, Biological Resources Centre CEPH, France) – ISO 20387: feedback from the CEPH Biobank

September 2024 — Jill McKay (Northumbria University, United Kingdom) – Exploring the environmental contribution to the molecular profiles of childhood leukaemia

September 2024 — Rieko Kanehara (National Cancer Center, Japan) – Sugar intake and colorectal cancer risk: the Multiethnic Cohort Study

September 2024 — Ming Yang (Senior Editor, *Nature Medicine*; University of Cambridge, United Kingdom) – Priorities and publishing cancer control research in *Nature Medicine*

October 2024 — Richard Osborne (Centre for Global Health and Equity, Swinburne University of Technology, Australia) – Building and implementing large-scale public health intervention programmes that are fit-for-purpose and stick

October 2024	Tatsuhiro Shibata (University of Tokyo, Japan) – Colorectal cancer data: the colibactin signature prevalence in Japan
October 2024	Yukari Totsuka (Hoshi University and National Cancer Center, Japan) – Elucidation of bladder cancer mechanisms induced by aromatic amines using the adductome approach
October 2024	Alessia Fabbri and Laura Bracci (Istituto Superiore di Sanità, Italy) – Cytotoxic necrotizing factor 1 from *E. coli*: evidence of colorectal carcinogenesis
October 2024	François-Michel Boisvert (University of Sherbrooke, Canada) – Development of the B3J urine test to detect bladder cancer
October 2024	Giovana Tardin Torrezan (A.C. Camargo Cancer Center, Brazil) – Emerging trends in research and diagnostic of cancer predisposition syndromes advancing clinical relevance and patient care
November 2024	Parunya Chaiyawat (Chiang Mai University, Thailand) – Liquid biopsy for early cancer detection, disease monitoring, and therapeutic management
December 2024	Sophie Langouët-Prigent (Research Institute of Environmental and Occupational Health, France) – Biotransformation and DNA damage derived from heterocyclic aromatic amines in human liver
January 2025	Lise Mangiante (Stanford University School of Medicine, USA) – Tumour intrinsic and extrinsic determinants of ER+ breast cancer dissemination
February 2025	Patricia Klarmann Ziegelmann (Universidade Federal do Rio Grande do Sul, Brazil) – Cancer survival surveillance programme in Brazil: a project
February 2025	Dan Theodorescu (Cedars-Sinai Cancer Center, USA) – Y chromosome loss in cancer
April 2025	Renée Turzanski Fortner (Cancer Registry, Norway) – Ovarian cancer prevention across the spectrum: can we improve prevention of the “disease that whispers”?
May 2025	Kaitlin Wade (Bristol University, United Kingdom) – Utility and application of Mendelian randomization to study influence of gut microbiome
May 2025	Caspar W. Safarlou (Julius Center at the University Medical Center Utrecht, The Netherlands) – Health equity versus individualism: on mission creep in public health
May 2025	Daniel Groos (Lygature, The Netherlands) – Ethical and legal topics in exposome research in the EU
May 2025	Ville Pimenoff (Oulu University, Finland and Karolinska Institutet, Sweden) – International collaboration in comprehensive exposome research
May 2025	Frederik Trier Møller (Statens Serum Institut, Denmark) – The consumer exposome: consumer purchase data and chronic disease
May 2025	Martin Widschwendter (University of Innsbruck, Austria) – DNA methylation in cancer prevention: opportunities and challenges
May 2025	Allison Zhang (Stanford University, California, USA) – Personal exposometers for monitoring the environment
May 2025	Jana Klánová (Masaryk University, Czechia) – European exposome research infrastructures
May 2025	Alessandra Ferrario (WHO Regional Office for the Eastern Mediterranean, Egypt) – How do we go beyond data to reach people’s hearts?
June 2025	Brice Batomen (University of Toronto, Canada) – Causal decomposition to study health disparities
June 2025	Lucy Goudswaard (Bristol University, United Kingdom) – Characterizing the role of circulating proteins in the progression from monoclonal gammopathy of unknown significance to multiple myeloma
August 2025	Stephen D. Hursting (University of North Carolina at Chapel Hill, USA) – Breaking the obesity–cancer link: preclinical evidence for the anticancer effects and mechanisms of GLP1 receptor agonist
October 2025	Justo Bermejo (Heidelberg University, Germany) – Metallomics in the European–Latin American Consortium towards Eradication of Gallbladder Cancer – EULAT Eradicate GB

IARC Distinguished Speaker Series

These distinguished speakers were invited to present on topics aligned with IARC's research priorities, within the framework of the Agency's regular Town Hall meetings.

January 2024 — Peter Butt (University of Saskatchewan, Canada) – Alcohol, cancer, and harm reduction

March 2024 — Neil Pearce (London School of Hygiene & Tropical Medicine, United Kingdom) – Current debates about causality in epidemiology

May 2024 — Marianna Yakubovskaya (Blokhin National Medical Research Center of Oncology, Russian Federation) – Sorted cell populations with epigenetically silenced chromosomally dispersed reporter fluorophore as a test system for the screening of epigenetically active compounds

July 2024 — Bernard Rachet (London School of Hygiene & Tropical Medicine, United Kingdom) – Persistent inequalities in cancer care and cancer outcomes: what are we doing wrong?

October 2024 — Shalini Kulasingam (University of Minnesota, USA) – Should we rethink elimination of cervical cancer as a goal for the United States?

November 2024 — May Abdel Wahab (International Atomic Energy Agency, Austria) – Innovation and collaboration to enhance radiation medicine: role of the IAEA

December 2024 — Marilys Anne Corbex (WHO Regional Office for Europe, Denmark) – A new field of research: the commercial determinants of cancer prevention and care

February 2025 — Martin Lajous (Instituto Nacional de Salud Pública, Mexico) – Advancing cancer research in Mexico: from cohort studies to implementation science

March 2025 — Roger Milne (Cancer Council Victoria, Australia) – Modifiable risk factors for bladder cancer: an international cohort study pooling project

April 2025 — Marc Poirot (Centre de Recherches en Cancérologie de Toulouse, France) – Cholesterol and cancer: discovery of the 5,6-epoxycholestanol metabolic pathway, a metabolic link to breast cancer

May 2025 — Rajesh Dikshit (Tata Memorial Centre, India) – Establishment of Centre for Cancer Epidemiology at Tata Memorial Centre, Mumbai, India

June 2025 — Christopher Booth (Sciences Centre Kingston, Canada) – Common sense oncology: equity, value, and outcomes that matter

September 2025 — Vasilis Vasiliou (Yale School of Public Health, USA) – From Hippocrates to the exposome: genome–exposome interactions in early-onset cancers

September 2025 — Caroline Helen Johnson (Yale University, USA) – Sex matters: insights into cancer metabolism and progression

November 2025 — Brinda Emu (Yale University, USA) – Role of immune dysfunction in biology of HIV-associated cancer

ChildGICR Workshop: building global capacity
in childhood cancer registration
2-4 October 2024
Lyon, France

International Agency
for Research on Cancer

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Organization

GICRNet Regional Trainers Workshop on CanReg5
7-11 October 2024
IARC, France

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for Research on Cancer

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Organization

Cancer Surveillance Branch (CSU)

Branch head
Dr Freddie Bray

Deputy branch head
Dr Isabelle Soerjomataram

Professional staff
Dr Jefferson Buendia Rodriguez (until March 2024)
Mr Morten Ervik
Dr Alessandra Ferrario
Mr Les Mery
Dr Adalberto Miranda-Filho
Dr Eileen Morgan
Dr Marion Piñeros-Petersen
Dr Harriet Rumgay
Dr Eva Steliarova-Foucher
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Ms Fatiha Louled
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Mr Jérôme Vignat

Visiting scientists
Dr Anton Barchuk
Dr Hadrien Charvat (until March 2025)
Dr Sébastien Lamy
Dr Heloise Lima Fernandes Agreli
Dr Valentina Lorenzoni
Dr Miroslava Makohusova
Dr Donald Maxwell Parkin
Dr Margherita Pizzato
Dr Mark Rutherford
Dr Olga Trusova

Postdoctoral fellows and doctoral students
Dr Juliette Artignan
Dr Serra Asangbeh-Kerman
Dr Wendpanga Sosthene Blanchard Conombo
Dr Neimar de Paula Silva
Dr Marzieh Eslahi (until May 2024)
Ms Hanna Fink
Dr Maxime Large (until March 2025)
Mr Oliver Langselius
Dr Ganfeng Luo
Dr Preston Ngo
Dr Amanda Ramos da Cunha
Dr Harriet Rumgay (until January 2024)
Dr Richa Shah (until December 2024)
Dr Ceren Süngüç (until November 2024)
Dr Amy Tickle
Ms Yutong Wang
Dr Mohamed El Amine Youcef Ali
Dr Mariam Zahwe

Students
Ms Sadeem AlShiban (until December 2024)
Ms Fie Andersen (until June 2025)
Mr Yann Becker (until July 2025)
Ms Noémie Belleil (until June 2025)
Ms Yek Ching Kong
Ms Tasnim Fareh (until November 2025)
Mr Alireza Ghorbani (until September 2025)
Ms Nicole Giroux (until October 2025)
Mr Mathieu Grondin (until December 2025)
Ms Lucy Horner
Mr Ganfeng Luo (until November 2025)
Mr Aksoy Nimetullah (until July 2024)
Ms Asimina Papadimitriou (until February 2024)
Ms Ayaka Teshima (until April 2025)
Mr Tristan Thabuis (until July 2025)
Ms Amy Tickle (until July 2024)
Mr Fergus Waterhouse (until October 2025)
Mr Mohamed El Amine Youcef Ali (until May 2024)

Drawing on decades of expertise in cancer registration and descriptive epidemiology, the Cancer Surveillance Branch (CSU) plays a central role in generating and disseminating high-quality cancer data to inform national and global policy. CSU ensures that its work remains aligned with the global cancer agenda and responsive to emerging challenges through its mandate from WHO.

Global cancer statistics and data dissemination

Ahead of World Cancer Day 2024, CSU released the 2022 GLOBOCAN estimates of the global cancer burden. Based on the best available national sources (Filho et al., 2025a), the data underscored the disproportionate impact of cancer on underserved populations and the urgent need to address global cancer inequities. An accompanying report, co-published with the American Cancer Society in *CA: A Cancer Journal for Clinicians*, described the diversity of cancer profiles across world regions (Bray et al., 2024). Notably, articles about earlier iterations of GLOBOCAN (2018 and 2020) were recognized among the 10 most-cited scientific papers of the 21st century in a *Nature* article, reflecting the enduring relevance and impact of CSU's work.

In collaboration with the American Cancer Society, CSU launched *The Cancer Atlas, Fourth Edition* (Figure 1), a landmark publication designed to inform cancer control strategies across the cancer continuum. *The Cancer Atlas* synthesizes insights from IARC data and research on cancer burden and risk factors, emphasizing evidence-based measures for prevention and control.

Figure 1. *The Cancer Atlas, Fourth Edition*, available from https://canceratlas.cancer.org/. Copyright 2025 American Cancer Society, Inc. Used with permission from https://www.cancer.org/.

The Stat Bite series in the *Journal of the National Cancer Institute* was revived in 2024, and CSU contributed international perspectives on cancer burden and progress in cancer control. Of the 12 issues per year, 6 featured CSU-authored contributions, offering concise, data-driven insights tailored for a broad audience of researchers, clinicians, and policy-makers (e.g. Bray et al., 2025; Bray and Vignat, 2025; Soerjomataram et al., 2025).

Cancer registry support and collaboration

The Global Initiative for Cancer Registry Development (GICR; https://gicr.iarc.who.int) serves as a collaborative platform to strengthen cancer surveillance globally. To support capacity-building, the GICR e-learning series was launched in 2025, offering freely accessible modules in English, French, and Spanish. Developed in partnership with Vital Strategies and the African Cancer Registry Network (AFCRN) and supported by Bloomberg Philanthropies, the series provides formal accreditation for the staff of population-based cancer registries (PBCRs) as Global Certified Cancer Registrars. Support mechanisms have also been further strengthened through the GICR*Net* (Figure 2) (see the text box).

Innovation remains central to the mission of GICR. Through the E-NNOVATE partnership, a global DHIS2 cancer registry toolkit was developed to facilitate linkage between electronic medical records and PBCRs using the District Health Information Software version 2 (DHIS2), the world's largest health information management system. Initially implemented in Rwanda and piloted in Jamaica, the toolkit is designed for flexible adaptation and deployment at national or subnational levels.

In close collaboration with GICR, CSU serves as the Secretariat for the International Association of Cancer Registries (IACR), the professional body dedicated to advancing the goals of PBCRs

Figure 2. Group photos of the ChildGICR workshop and the GICR*Net* CanReg5 workshop, both held in Lyon in 2024. © IARC.

worldwide. The IACR annual scientific conference was hosted in Beijing, China, in 2024 in partnership with the National Cancer Center China (Figure 3) and in Izmir, Türkiye, in 2025 in partnership with the Izmir Cancer Registry. In 2025, the International Classification of Diseases for Oncology (ICD-O) was updated to its fourth edition (ICD-O-4), reflecting the fifth edition of the *WHO Classification of Tumours* series. Also, two IARC Technical Publications were published with IACR: a user's guide to Essential TNM as a simplified staging system for PBCRs and a toolkit written in collaboration with the McCabe Centre for Law and Cancer, Australia, that supports countries to establish a legal basis for the mandatory reporting of data to a PBCR. The IACR website was completely revamped, with a focus on a global directory of PBCRs and data visualization tools to interrogate incidence data from the *Cancer Incidence in Five Continents* series (https://www.the-iacr.net/).

Descriptive studies

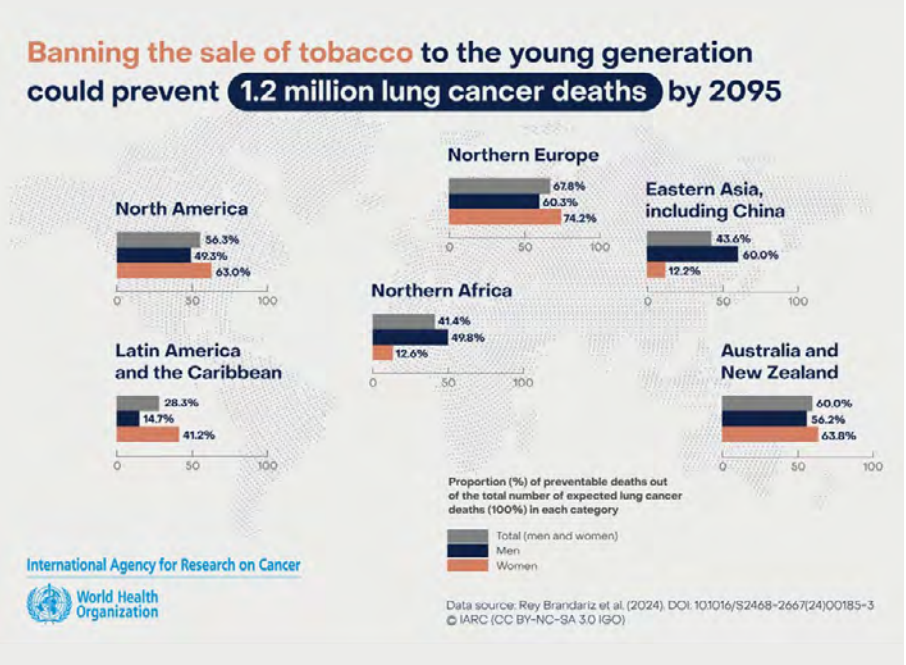
As the COVID-19 pandemic subsided, CSU quantified its impact on cancer control. Globally, 28–39% of cancer services were disrupted (Shah et al., 2025a), and these findings were complemented by a policy analysis documenting best practices for future health crises (Shah et al., 2024). A large meta-analysis revealed that people with cancer had a 48% higher risk of mortality from COVID-19 compared with people without cancer (Steinberg et al., 2024).

CSU transitioned the IARC COVID-19 and Cancer Initiative (IARC-C19) into a broader, forward-looking programme – the IARC Initiative for Resilience in Cancer Control (IRCC; https://ircc.iarc.who.int/), as endorsed by the Governing Council in May 2024 – to assess the effects of pandemics, natural disasters, and other crises that affect cancer control. A recent publication explored the relationship between climate change and cancer. In parallel, CSU launched the Cervical Cancer Elimination Planning Tool on the Global Cancer Observatory (EPT; https://gco.iarc.who.int/ept/) to support countries in developing strategies to eliminate cervical cancer.

CSU continued to generate estimates of cancer burden attributable to major risk factors, as well as the potential for future prevention if risk exposure was reduced. Estimates of melanoma attributable to ultraviolet radiation were updated (https://gco.iarc.who.int/causes/uv/); 83% of cases of cutaneous melanoma were attributable to exposure to ultraviolet radiation (Langselius et al., 2025). Additional studies quantified the contribution of smokeless tobacco (Rumgay et al., 2024) and HIV infection (Huang et al., 2025) to the global cancer burden. Notably, CSU estimated that about 40% of lung cancer deaths among people born in 2006–2010 could be prevented under a "tobacco-free generation" strategy (Figure 4) (Rey Brandariz et al., 2024). Similar prevention potential was demonstrated for stomach cancer (Park et al., 2025a) and human papillomavirus (HPV)-related cancers (Malagón et al., 2024), underscoring the importance of interventions targeting infectious agents.

Figure 3. Opening of the International Association of Cancer Registries (IACR) annual scientific conference in Beijing, China, in November 2024. © Dr Yanting Zhang.

Figure 4. Infographic showing the generational impact of a tobacco ban on lung cancer deaths by world region. Compiled from Rey Brandariz et al. (2024). © 2024 Rey Brandariz J et al. Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.



Through Cancer Survival in Countries in Transition (SURVCAN) and the new phase of the International Cancer Benchmarking Partnership (ICBP SURVMARK-3), CSU continued to support PBCRs in generating high-quality survival data. Recent analyses revealed that in sub-Saharan Africa, less than half of patients with cancer survive for 3 years after diagnosis (Joko-Fru et al., 2024). Recognizing the importance of stage at diagnosis, CSU conducted a global review of breast cancer staging (Benitez Fuentes et al., 2024a) and studies on the collection of staging data in registries (Znaor et al., 2024) and survival by stage in adults (Hagenimana et al., 2024) and children (Businge et al., 2024). Additional investigations examined the role of recurrence in survival outcomes (Morgan et al., 2024a), diagnostic and treatment pathways for ovarian cancer (Reid et al., 2024), and the quality of breast cancer care in Colombia (Valbuena-Garcia et al., 2025).

CSU led descriptive analyses of global and regional cancer patterns and trends, including a *Lancet* Commission on Prostate Cancer, which projected a doubling of prostate cancer cases by 2040 (James et al., 2024), and confirmation of the global rise in early-onset colorectal cancer. Further analyses provided insights into patterns of breast cancer (Kim et al., 2025), bladder cancer (Wang et al., 2024a; Wéber et al., 2024), lung cancer (Luo et al., 2025), prostate cancer (Schafer et al., 2025), gallbladder cancer (Piñeros et al., 2025a), brain and central nervous system cancer (Filho et al., 2025b), multiple myeloma (Mafra et al., 2025), and leukaemia (Daltveit et al., 2025). CSU also conducted in-depth analyses of cancer in South-East Asia (Dee et al., 2025), gastrointestinal cancer in the Gulf Region (Alessy et al., 2024), and breast cancer in the Eastern Mediterranean (Zahwe et al., 2025), highlighting drivers of cancer in each region and supporting tailored cancer control strategies.

Societal and economic consequences of cancer

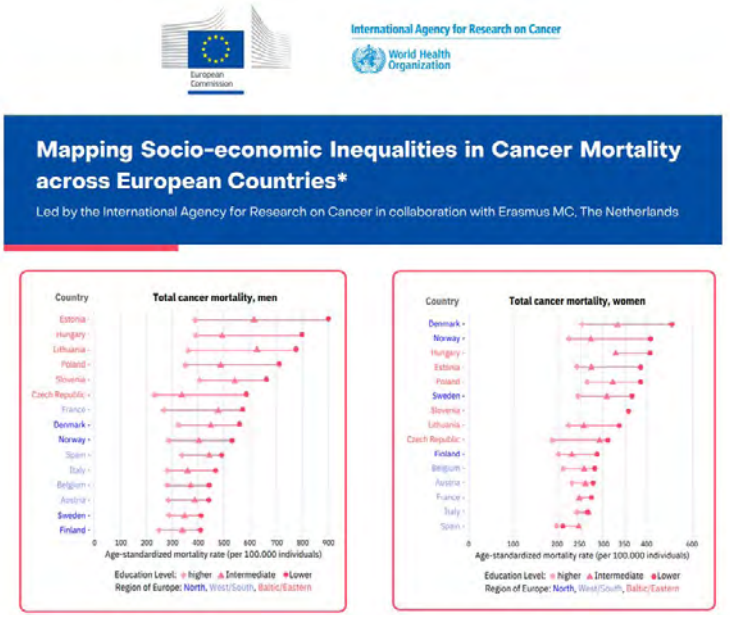
The first global estimates of productivity losses due to premature mortality from 36 cancer types were published on the Global Cancer Observatory (https://gco.iarc.who.int/economics/productivity_loss). In 2022, the estimated global productivity loss due to premature cancer deaths was US$ 566 billion, equivalent to 0.6% of the global gross domestic product (GDP). At the patient level, a recent study revealed that 46% of women with ovarian cancer reported severe financial hardship, particularly those from lower-income households, and a clear association between universal health coverage and lower cancer burden was demonstrated.

CSU contributed to the development of a comprehensive framework to assess financial hardship, covering direct medical and non-medical costs, family and caregiver impacts, and broader socioeconomic consequences (Ritter et al., 2024). This framework lays the groundwork for systematic monitoring of financial toxicity and provides evidence to guide policy interventions aimed at reducing the economic burden of cancer.

CSU demonstrated that socioeconomic disparities in cancer outcomes persist both between and within countries, affecting populations in high-income countries (Eslahi et al., 2025) as well as in low- and middle-income countries (Fantin et al., 2024; Guimarães Ribeiro et al., 2024). The key causal mechanisms underlying these disparities were also elucidated (Matta et al., 2025; Pizzato et al., 2025). To mark World Cancer Day 2025, IARC launched a website as part of a European Union initiative dedicated to reducing cancer inequalities across Europe (https://eu-canineq.iarc.who.int/). More recently, IARC factsheets documenting socioeconomic inequalities in cancer mortality in the European Union were launched with the European Commission (Figure 5).

Considerable financial and human resources are directed towards medical interventions that offer limited clinical benefit or may even result in harm, including overdiagnosis and overtreatment. An example of this issue is the management of thyroid cancer, which poses both public health and economic challenges across diverse settings (Li et al., 2024a; Dal Maso et al., 2025). Research is being conducted to quantify low-value care, generating evidence to inform more equitable and effective cancer control strategies, such as for prostate cancer (Vaccarella et al., 2024).

Figure 5. Educational inequalities in total cancer mortality by sex, one of the European Commission Cancer Inequalities Factsheets, led by IARC in collaboration with Erasmus MC, The Netherlands. Adapted from European Commission Cancer Inequalities Factsheets, https://cancer-inequalities.jrc.ec.europa.eu/thematic-factsheets.



Childhood cancer

The production of comparable data on childhood cancer incidence was summarized in *International Incidence of Childhood Cancer, Volume III*. This publication (IARC Scientific Publication No. 170) was made available online to promote comparative research and support improvements in the global management of childhood cancer.

As part of the Cancer Risk in Childhood Cancer Survivors (CRICCS) study, a literature review revealed fragmented knowledge regarding the prevalence of childhood cancer survivors (de Paula Silva et al., 2024a). By building on previously developed methodologies, standardized prevalence estimates are currently being generated for Europe. In addition, a survey of 175 PBCRs across diverse settings assessed the availability of routine data relevant to evaluating cancer risk among childhood cancer survivors.

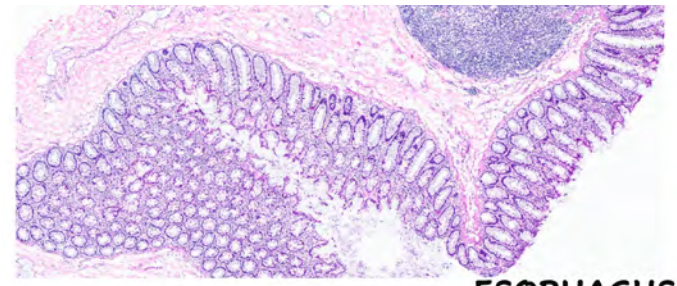
The expansion of the ChildGICR educational programme was planned during a workshop held in October 2024 (see Figure 2), with participation of colleagues from St. Jude Children's Research Hospital, USA, and collaborators trained in childhood cancer registration. A new edition of the ChildGICR course, supported by the IARC Caribbean Cancer Registry Hub at the Caribbean Public Health Agency in Trinidad and Tobago, was completed by 37 participants from 9 Caribbean countries. The programme also supported the establishment of the first childhood PBCR in Chennai, India (Radhakrishnan et al., 2025), and an evaluation of registry implementation was conducted in the target countries of ChildGICR: Georgia, Mexico, South Africa, and Viet Nam. Furthermore, a novel framework was developed to assess the financial hardship experienced by families affected by childhood cancer (Ritter et al., 2024). Finally, CSU contributed to the G7 data initiative on childhood cancer data sharing (Forjaz et al., 2025), in collaboration with the United States National Cancer Institute and the French National Cancer Institute.

The GICR*Net*: the Global Initiative for Cancer Registry Development Network

The demands for training in cancer registration are high. Many countries require assistance, and in most cases it takes time to properly train registry personnel. To meet the needs, GICR increases regional capacity via the creation of formal networks of IARC GICR Regional Trainers, called the GICR*Net*. Each network is aligned with a specific topic and is asked to participate in the co-development of educational material and to help with dissemination in its respective region to strengthen the support available to local registries.

Global support mechanisms have been further extended through the GICR*Net*, with the establishment of new thematic networks focused on childhood cancer and cancer registry assessments. To promote sustainability, IARC selects regional experts in specific subject areas to co-develop educational materials.

More than 120 designated IARC GICR Regional Trainers now serve as a resource to further assist registry staff, working with the IARC Regional Hubs and Centres of Expertise globally across different subject areas, which also include data quality, data analyses, coding, and staging. Three dedicated GICR*Net* workshops were held during the 2024–2025 biennium: on childhood cancer, on the IARC-developed software CanReg5 (see Figure 2), and on PBCR assessments.



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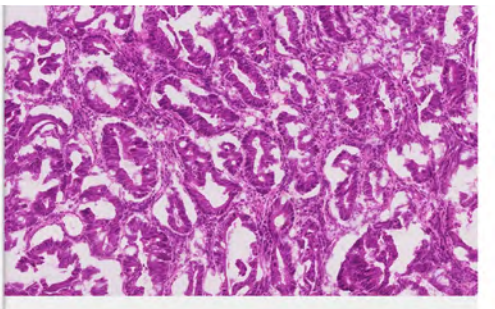

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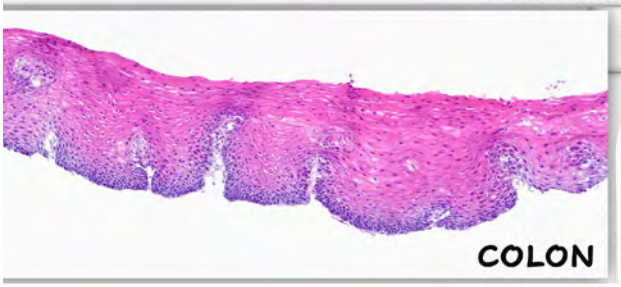

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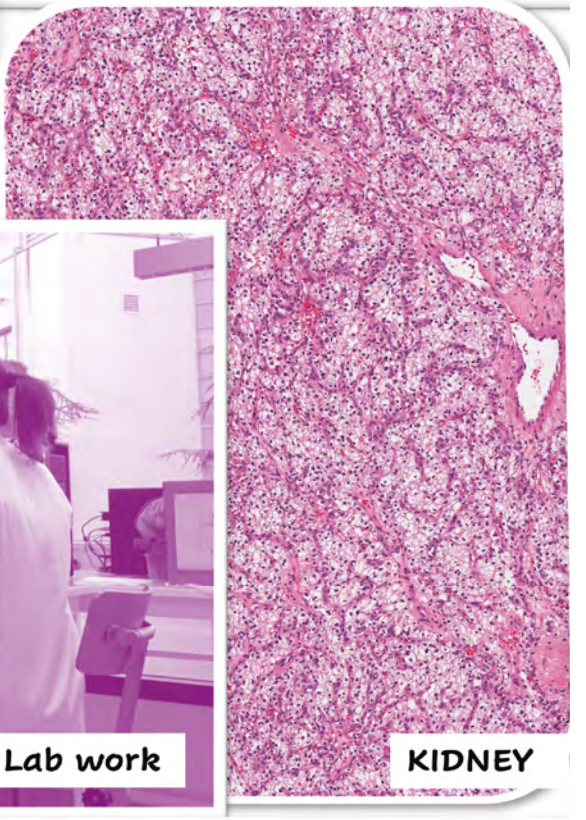
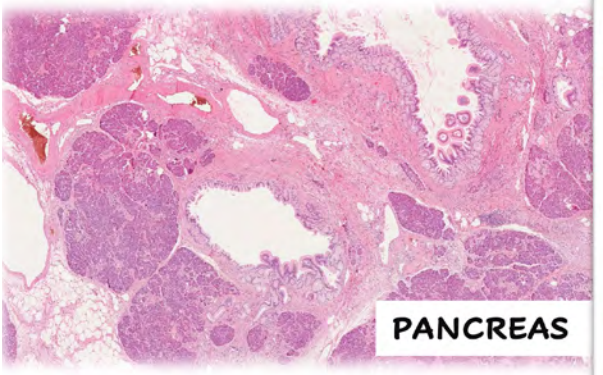


KIDNEY

Lab work



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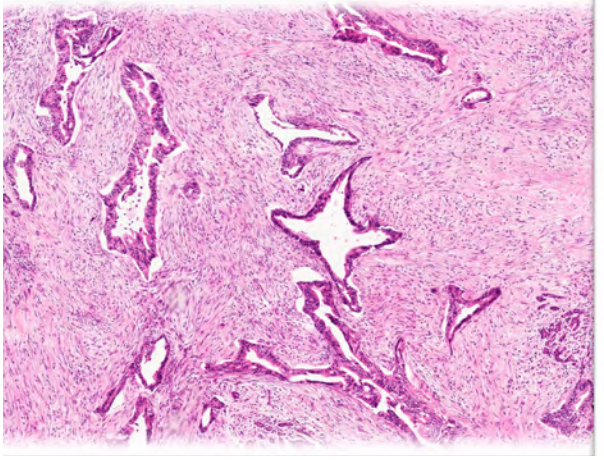

Lab work

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The overarching goals of the Genomic Epidemiology Branch (GEM) are to further the understanding of cancer prevention and early detection using a combination of genomic and traditional epidemiology methods. This is done by bringing together six broad areas of work, as described here.

Area 1: Understanding genetic susceptibility to cancer

GEM has continued to explore genetic variation and how it influences cancer susceptibility, as a core activity. During the 2024–2025 biennium, the genetic studies continued to expand. GEM has had a long-standing leadership role in international consortia and continues to expand its genetic data sets in lung cancers, head and neck cancers, kidney cancers, and lymphomas. The genetic studies currently encompass about 70 000 lung cancers, 15 000 head and neck cancers, 29 000 kidney cancers, and 60 000 lymphomas. GEM is now working with core laboratories to undertake genotyping of additional samples and is applying rigorous quality control procedures, ensuring that these resources provide the foundation for robust discovery and translational research.

Within this broader framework, GEM has consolidated its long-term leadership in renal cell carcinomas (RCC) and head and neck squamous cell carcinoma (HNSCC); both are cancer groups in which environmental exposures, such as tobacco use and alcohol consumption, dominate risk profiles. These cancers show striking geographical variation, which makes them an ideal model for integrating constitutional genetics with lifestyle and environmental determinants.

Together with the United States National Cancer Institute and international partners, GEM co-led the largest and most diverse genome-wide association study (GWAS) of RCC to date (29 020 cases and 835 670 controls). The study expanded the number of known susceptibility regions from 13 to 63, identifying both shared and subtype-specific risk loci (Purdue et al., 2024).

Key discoveries include a germline variant in the VHL region (3p25.3) that is strongly associated with clear cell RCC, especially in populations of African ancestry, and additional loci linked to hypoxia signalling, cell-cycle control, and telomere biology. For the first time, seven susceptibility loci were reported for papillary RCC, near candidates such as GAB1 and USP38, suggesting distinct inherited risk profiles. A polygenic risk score derived from these loci showed moderately high predictive ability (area under the curve of 0.74 including risk factors), highlighting the potential of genetics to inform risk-stratified prevention and underscoring GEM's contribution in kidney cancer genomics.

Through the international consortia that GEM convenes and leads – notably Human Papillomavirus, Oral and Oropharyngeal Cancer Genomic Research (VOYAGER) and Head and Neck Cancer in South America and Europe (HEADSpAcE) – GEM now coordinates the largest and most diverse genetic studies of HNSCC worldwide, involving nearly 20 000 cases and 38 000 controls.

These resources enabled the discovery of 18 previously unreported susceptibility loci and 11 novel signals in the human leukocyte antigen (HLA) region, sharpening the resolution of the genetic architecture of HNSCC. A regulatory variant in *TP53* (rs78378222) was found to reduce overall HNSCC risk by 40%, providing insight into tumour suppressor mechanisms. Furthermore, GEM has documented gene–environment interactions, including *BRCA2* and *ADH1B* variants whose effects are modified by smoking and alcohol consumption. Subsite-specific analyses highlighted distinct immune-related HLA associations across human papillomavirus (HPV)-positive and HPV-negative tumours, underscoring the complex interplay between inherited variation, environmental exposure, and infection in driving cancer risk.

A key strength of these efforts lies in their diversity. About one quarter of the cases analysed derive from non-European populations, including from Latin America, South Asia, and the Middle East. This represents one of the first genuinely global resources for genetic studies of HNSCC and ensures that results are relevant across populations, addressing gaps in representation and equity in cancer genomics (Ebrahimi et al., 2025). To facilitate Open Science, the genetic and harmonized observational data have been made available to the research community for relevant research questions. By harnessing the convening power of IARC and the multidisciplinary expertise in GEM, the Branch continues to refine the causal framework for HNSCC, link germline susceptibility with environmental exposures, and inform evidence-based strategies for cancer prevention worldwide.

Area 2: Studying causes of cancer using genomic techniques

During the 2024–2025 biennium, the Mutographs project had a wide-reaching impact. By incorporating large-scale, international collection of cancers with whole-genome sequencing and mutational signature analysis, the Mutographs project consolidated a large and well-harmonized sample and data repository spanning 30 countries and involving more than 8000 patients from five main cancer types (Perdomo et al., 2024). Three major scientific publications with international scientific dissemination and general public media attention marked the work completed in 2024 and 2025.

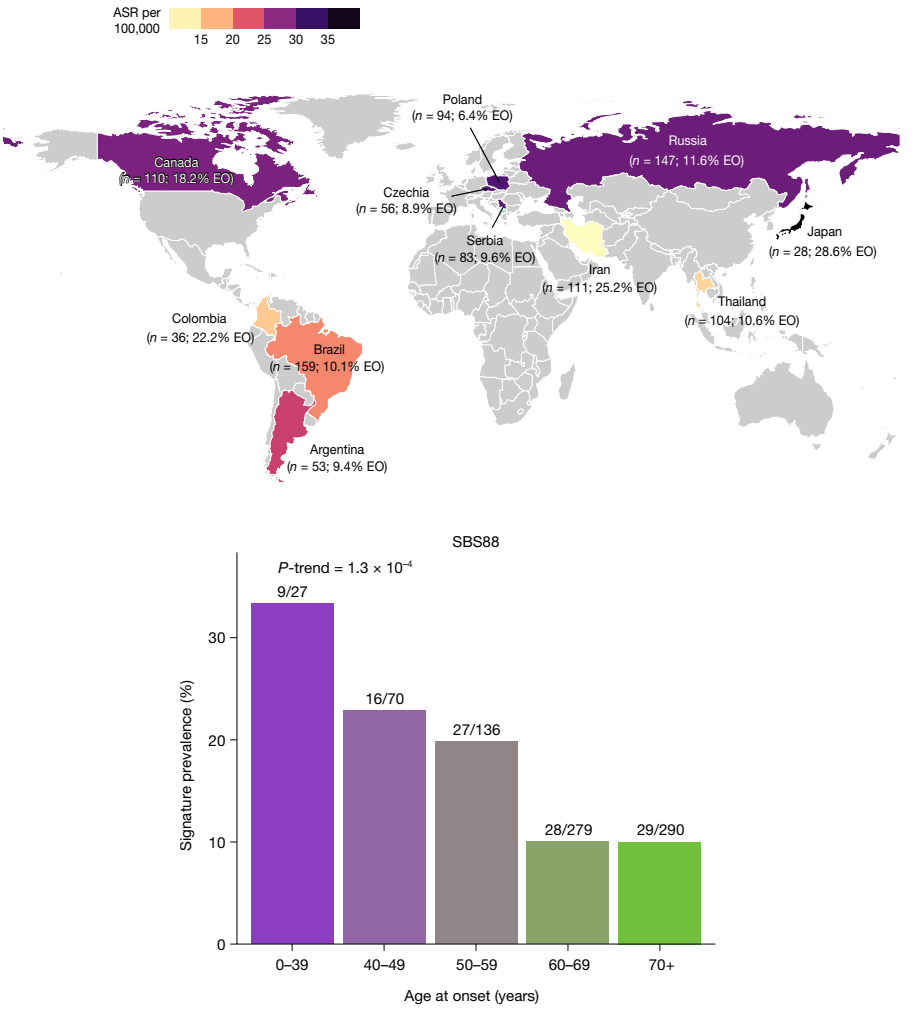
The analysis of whole-genome sequencing of 962 clear cell RCC from 11 countries (Senkin et al., 2024) showed a previously undiscovered, high-prevalence mutagenic exposure by an unknown agent, causing the mutational signature SBS12, which is restricted to Japan. High prevalence of aristolochic acid mutagenic exposure, causing the mutational signature SBS22, was observed in Romania and Serbia. However, the environmental origin and mode of ingestion of aristolochic acid in Romania and Serbia are unknown. The study also identified a previously undiscovered, internationally ubiquitous mutagenic exposure, causing the mutational signature SBS40b, for which the average national SBS40b mutation burden correlates strongly with national cancer incidence rates.

The Mutographs also characterized the effects of tobacco in 265 head and neck cancers from Europe and South America (Torrens et al., 2025). Six

tobacco-associated mutational signatures were detected, including some not previously reported. The study found how differences in the incidence of head and neck cancers between countries corresponded with differences in mutation burdens of tobacco-associated signatures, and described differences in the burden of tobacco-associated signatures between anatomical subsites, suggesting that tissue-specific factors modulate mutagenesis. The study also identified an association between tobacco smoking and alcohol-related signatures, indicating a combined effect of these exposures. In addition, mutational signatures of exposure to ultraviolet light were found to be present in the internal lining of the mouth in patients who smoked and consumed alcohol.

A recent publication in *Nature* showed the results for 981 whole-genome sequenced colorectal cancers from 11 countries (Díaz-Gay et al., 2025a). The study demonstrated that mutational profiles associated with colibactin, a mutagenic toxin produced by *Escherichia coli pks*+ bacteria, are present in about 50% of early-onset colorectal cancers diagnosed before the age of 40 years (Figure 1). GEM proposed that the prevalence of mutagen-producing bacteria within childhood microbiomes could be one of the causes leading to the increasing incidence of early-onset colorectal cancer. The study also identified unique, unexplained mutational patterns in patients from Argentina, Brazil, Colombia, the Russian Federation, and Thailand, highlighting the role of regional exposures and the need for country-specific prevention strategies.

Figure 1. Variation in the age of onset of colorectal cancer according to the presence of the colibactin mutational signature SBS88. Reproduced from Díaz-Gay et al. (2025a). © 2025 Díaz-Gay M et al. Published by Springer Nature. This is an Open Access article under the CC BY 4.0 license.



Area 3: Early detection of cancer to reduce mortality and morbidity

The activities of the Risk Assessment and Early Detection Team (RED), which is transitioning from GEM to the Early Detection, Prevention, and Infections Branch (EPR), are outlined in the section on IARC Research Teams in IARC Initiatives.

Bladder cancer is a growing global health concern because of its increasing incidence and high recurrence rates; this highlights the urgent need for improved, non-invasive diagnostic and monitoring tools. The general objective of the programme is to develop and validate non-invasive biomarkers, particularly urinary telomerase reverse transcriptase (*TERT*) promoter mutations (uTERTpm) and others, for the early detection, monitoring, and recurrence prediction of bladder cancer. The team previously developed sensitive urinary assays for uTERTpm and demonstrated the excellent diagnostic performance in multiple studies. uTERTpm were detectable in asymptomatic individuals up to 10 years before clinical diagnosis, highlighting their potential as early detection markers.

During the biennium, GEM refined and optimized its uTERTpm droplet digital polymerase chain reaction (ddPCR) assays and validated their diagnostic accuracy in a second prospective cohort study with a maximum lag time of 5 years between urine collection and clinical diagnosis of bladder cancer. The results showed improved sensitivity while maintaining excellent specificity. In addition, the uTERTpm assays outperformed a commercial test by 20% for the detection of bladder cancer in a case–control study in Germany (Rabien et al., 2024).

GEM also advanced international collaboration through the European Union-funded UbioBca multicentre case–control study, designed to evaluate the performance of multiple urine biomarkers (including uTERTpm) for detection and monitoring of bladder cancer across diverse populations, compared with

DISCERN: Discovering the Causes of Three Poorly Understood Cancers in Europe

Launched in 2023 and funded by the European Commission Cancer Mission, the DISCERN project is advancing towards its goal of uncovering the causes of renal cancer, pancreatic cancer, and colorectal cancer and explaining their striking geographical patterns in Europe. Leveraging large-scale cohorts and tumour series – the Exposome-Powered Tools for Healthy Living in Urban Settings (EXPANSE) project and the Mutographs project – DISCERN integrates exposomics, proteomics, and genomics with geospatial and environmental data to identify novel risk factors and their biological mechanisms.

By its third annual meeting, DISCERN had laid the groundwork for cross-cohort integration and generated extensive laboratory data from tumour series to drive the next phase of analyses. Deep sequencing, tumour spatial proteomics, and comprehensive blood-based markers are now being deployed to examine how exposures promote tumour initiation and progression, and organoid and stem cell models are validating early mechanistic and molecular targets.

These advances position DISCERN to deliver a robust evidence base for prevention-oriented strategies against these cancer types in Europe within the next 2 years.

DISCERN team members at the third annual meeting of the project in Brno, Czechia. © RECETOX.

conventional cytology and cystoscopy. Preliminary analysis of 371 post-surgery urine samples from 72 patients with bladder cancer in the French cohort showed that a 10% increase in uTERTpm abundance was associated with a 53% higher risk of recurrence or progression.

Finally, recognizing the potential clinical impact of these findings, GEM engaged with clinicians, policy-makers (e.g. the European Association of Urology policy office), and patient advocates (the World Bladder Cancer Patient Coalition) to raise awareness of the bladder cancer burden and ensure that scientific advances inform public health priorities (Figure 2). This work has led to expert recommendations and position papers in leading journals (Ecke et al., 2025), reinforcing the role of urinary biomarkers in shaping future screening and surveillance strategies.

Area 4: Building global capacity for cancer science

GEM integrated epidemiology, pathology, genomics, bioinformatics, and statistics to support large-scale cancer research and promote Open Science. Beyond advancing scientific knowledge, GEM placed strong emphasis on building resources and strengthening global capacity, particularly through training opportunities for researchers in low- and middle-income countries.

GEM coordinated the collection, sample processing, data harmonization, and curation of more than 8000 cancer cases of 8 different cancer types across multiple countries as part of the Mutographs and HEADSpAcE consortia, led by GEM. These large projects have generated new whole-genome and genotype sequencing data that have been made publicly available through platforms such as the European Genome-phenome Archive (EGA) and the International Cancer Genome Consortium Accelerating Research in Genomic Oncology (ICGC ARGO). GEM developed a rare cancers database within the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort, together with an interactive web portal, providing unique opportunities to study more than 11 000 rare cancer cases across Europe. In addition, GEM generated the first multi-omic data set of patient-derived organoids from neuroendocrine neoplasms, which is now openly available to the community.

Pathology expertise ensured that sample collection procedures were harmonized and that histopathological features were systematically evaluated and annotated. This led to enrichment of the GEM tissue biorepository with a dedicated pathology database for secure registration of pathology data, linked to other IARC resources, to improve data quality and facilitate cross-study analyses.

GEM developed and optimized cost-effective and semi-automated laboratory workflows for a wide range of cancer sample types, applying them to specific genomic research questions and applications. These supported collaborative projects across the Agency, fostered external partnerships, and were disseminated through the IARC Laboratory Steering Committee.

Figure 2. Infographic about bladder cancer. © IARC.

In bioinformatics, GEM maximized the reuse of computational tools by maintaining a common framework of open-source pipelines (https://github.com/IARCbioinfo/). New resources included pipelines for single-cell and spatial transcriptomics data, and computational pathology deep-learning models. GEM also contributed to the Scientific IT Platform, overseeing the renewal and unification of the Agency's storage system and piloting secure remote data access for external collaborators.

Training activities remained central to GEM's mission. The Branch expanded its portfolio with a new medical genomics course covering advanced single-cell and spatial –omics as well as computational pathology image analysis. Additional programmes included training in pathology, technical training for applying sophisticated technologies such as laser capture microdissection, standardized biobanking procedures, and Open Science practices, many of which were made accessible through e-learning.

Area 5: Somatic cancer genomics

Leveraging state-of-the-art technologies and innovative statistical and computational methods that GEM has previously applied to rare cancers, the Computational Cancer Genomics Team (CCG) aims to understand the rapid progression of common cancers with very poor survival, including lung cancer and, more recently, pancreatic cancer (https://www.iarc.who.int/teams-ccg/).

During the biennium, CCG provided important insights in the field of neuroendocrine neoplasms of the lung, with relevance for both biological understanding and the clinical setting. In terms of biology, CCG provided a multi-omic data set of patient-derived tumour organoids from neuroendocrine neoplasms (Alcala et al., 2024) and contributed to the study showing that ONECUT2 reprogrammes neuroendocrine fate and is an actionable therapeutic target in small cell lung cancer (Gutiérrez et al., 2025). With respect to clinically relevant findings, CCG contributed to the effort led by the European Neuroendocrine Tumor Society (ENETS) to address the lack of consensus in clinical management of lung neuroendocrine tumours (Koumarianou et al., 2024), as well as to the ENETS position statement on the treatment of patients with grade 3 well-differentiated neuroendocrine tumours of the gastro-enteropancreatic tract.

CCG led the assessment of the current and emerging criteria for the histopathological classification of lung neuroendocrine tumours in the lungNENomics project (Mathian et al., 2024) and contributed to the identification of *TERT* expression as a marker of clinically aggressive lung neuroendocrine tumours with fatal outcome (Werr et al., 2025) and to the discovery of OTP, ASCL1, and HNF1A protein expression as a panel to facilitate the identification of the previously published molecularly defined subgroups of lung neuroendocrine tumours (Leunissen et al., 2025a). All these findings were summarized in a recent invited review led by CCG addressing the basic science and translational implications of current knowledge on neuroendocrine tumours (Fernandez-Cuesta et al., 2025a).

Finally, CCG developed the EPIC rare cancers database, accompanied by the creation of an interactive web application, to promote epidemiological research in rare cancers (Fernandez-Cuesta et al., 2025b). CCG's projects have a strong computational biology component, particularly for the analysis and integration of –omics data, the interpretation of histopathological images with deep-learning algorithms, and the modelling of cancer evolutionary processes. CCG actively shares these tools as open-source packages (https://github.com/IARCbioinfo), ultimately building capacity for cancer genomics research at IARC and elsewhere, and substantially contributing to Area 4 (described above).

Area 6: Understanding variations in cancer incidence and survival

The HEADSpAcE study, led by GEM, was completed in 2024 with the establishment of the HEADSpAcE Data Centre (https://headspace.iarc.who.int/data-centre/), which includes comprehensive epidemiological, clinical, and demographic data with follow-up data from 18 500 patients with head and neck cancer recruited in 18 centres in 14 countries across North America, South America, Europe, South Asia, and the Middle East.

The initial results explored the health system factors associated with advanced-stage diagnosis of head and neck cancer. HEADSpAcE conducted 1562 patient interviews across 17 centres in 13 countries to assess reasons for delayed diagnosis within each centre (Creaney et al., 2025). At the cancer centre level, the most important health system factors identified were formal referral triaging and routine monitoring of time intervals between referral and diagnosis. Moreover, through the international comparisons, there was a general trend for fully publicly funded health systems to be associated with lower proportions of advanced-stage diagnosis. The survey also identified significant gaps in formal communication systems between primary and secondary care, routine monitoring of data on routes of referral and stage of diagnosis, and overarching governance of diagnostic pathways. Finally, the study found that limited diagnostic pathway protocols or guidelines were available at the head and neck cancer centre level.

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The Nutrition and Metabolism Branch (NME) focuses on the implementation and coordination of epidemiological studies on cancer to identify causal relationships between nutrition, metabolism, and cancer and to inform cancer prevention. The activities of NME largely cover three major research themes: (i) understanding the role of obesity and metabolic dysfunction in cancer development; (ii) studying the role of diet and lifestyle in cancer development, including the identification of biomarkers of diet and nutrition; and (iii) investigating multimorbidity and biological pathways common to cancer, diabetes, and cardiovascular diseases.

NME's research leverages methodological advances in nutritional methodology (to develop indicators that express dietary biodiversity and food processing), molecular profiling techniques, cancer epidemiology, and biostatistics to implement an integrated, multidisciplinary research programme. Given the potential for molecular profiling to help overcome challenges in nutrition and cancer research and to uncover underlying biological pathways, emphasis has been placed on conducting molecular epidemiological research that integrates –omics data (see the text box), including metabolomics, proteomics, hormone measurements, and genomics, within population-based cohorts and intervention studies.

In addition to NME's work within established cohorts such as the European Prospective Investigation into Cancer and Nutrition (EPIC) and UK Biobank and across cohort consortia, NME has invested considerable resources in developing studies in low- and middle-income countries, such as South Africa and in Latin America, where, as a result of the epidemiological transition and rapid lifestyle changes, the incidence of cancers linked to diet and lifestyle is increasing. In recent years, NME scientists worked on small-scale intervention studies, primarily focused on biomarker discovery or understanding mechanisms linking obesity and specific dietary components to cancer.

NME studies are inherently multidisciplinary and typically involve collaborations with multiple partners. Significant cancer research activities from the five NME teams are reported here.

Biostatistics and Data Integration Team (BDI)

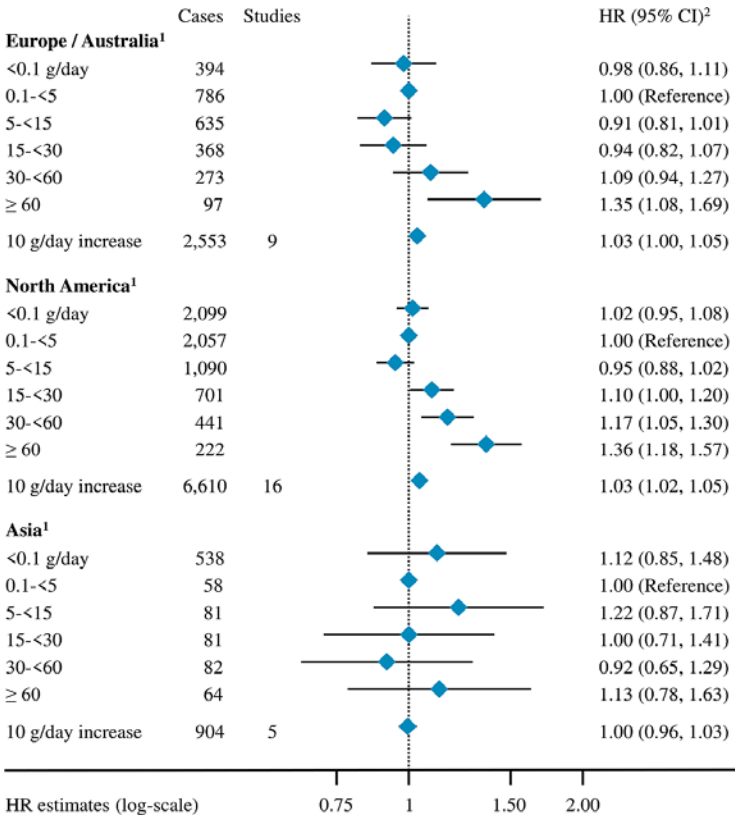
Data are at the core of cancer epidemiology, and tasks related to (i) data management, including data centralization, harmonization, and dissemination, and (ii) application of cutting-edge statistical methods are essential. During the 2024–2025 biennium, BDI continued the centralization of laboratory data as well as cancer end-point and vital status information within EPIC. BDI was responsible for data dissemination within EPIC and the recently funded European Commission project Discovering the Causes of Three Poorly Understood Cancers in Europe (DISCERN). In line with international data protection recommendations, data dissemination and analysis were seamlessly conducted via the IARC Scientific IT Platform, following the Open Science principle that data should be "as open as possible and as closed as necessary".

Methodological work was undertaken to assess the relevance of outcome-specific healthy lifestyle indices (Viallon et al., 2024), develop a method based on optimal transport for automatic alignment of untargeted metabolomics data (Breeur et al., 2024), and integrate self-reported data with biomarkers to assess relationships between dietary exposures and cancer outcomes (Pittavino et al., 2025).

In studies that used exposure assessments at baseline and follow-up, healthier lifestyle changes during adulthood were inversely associated with lifestyle-related cancers (Botteri et al., 2024) and overall mortality (Matta et al., 2024). Conversely, unhealthier lifestyle changes were positively associated with these outcomes. These results indicate that lifestyle changes in middle age may significantly affect cancer risk.

Leveraging the Diet and Cancer Cohort Consortium, BDI examined the association between alcohol intake and the risk of pancreatic cancer (Figure 1) (Naudin et al., 2025). A consistent positive association was observed in Australia, Europe, and North America, whereas no association was observed in Asia. This finding may reflect differences in alcohol consumption habits and the prevalence of genes coding for alcohol-metabolizing enzymes.

Figure 1. Association between alcohol intake and the risk of pancreatic cancer by geographical region (Europe/Australia, North America, and Asia). CI, confidence interval; HR, hazard ratio. [1] Geographical region was coded as Europe/Australia (9 cohort studies), North America (16 studies), and Asia (5 studies). [2] Cox proportional hazard models were adjusted for smoking status, smoking duration, smoking intensity, time since smoking cessation, diabetes status, body mass index, height, education level, race and ethnicity, and physical activity. Continuous analyses were further adjusted for an indicator variable for alcohol consumption status. Models were stratified by age at baseline, year of baseline questionnaire completion, study, country (in the European Prospective Investigation into Cancer and Nutrition [EPIC]), and sex. Reproduced from Naudin et al. (2025). This is an Open Access article under the CC0 1.0 license.



Sustainable Lifestyle and Cancer Team (SLC)

The overall goal of SLC is to investigate the role of dietary and lifestyle factors in cancer etiology, while also accounting for their environmental impact, often called co-benefits. This is achieved via three integrated objectives: (i) enhancing existing epidemiological studies with innovative indicators that express dietary biodiversity, food processing, and environmental impact; (ii) designing observational studies in high-, middle-, and low-income settings characterized by lifestyle transitions; and (iii) developing sustainable interventions to promote lifestyle changes for cancer prevention.

Novel indicators expressing the environmental impact of diet were computed for the EPIC cohort (Huybrechts et al., 2025). An indicator reflecting the number of dietary species consumed was inversely associated with overall gastrointestinal cancer risk, and more specifically with risk of oesophageal squamous cell carcinoma, proximal colon cancer, colorectal cancer, and liver cancer in the EPIC cohort (Figure 2) (Huybrechts et al., 2024a). Putative mechanistic pathways explaining the link between food biodiversity and cancer risk were explored by identifying circulating metabolic profiles of biodiverse diets, revealing metabolites related to homeostasis, low inflammation, low oxidative stress, and anti-obesogenic properties (Chimera et al., 2025a).

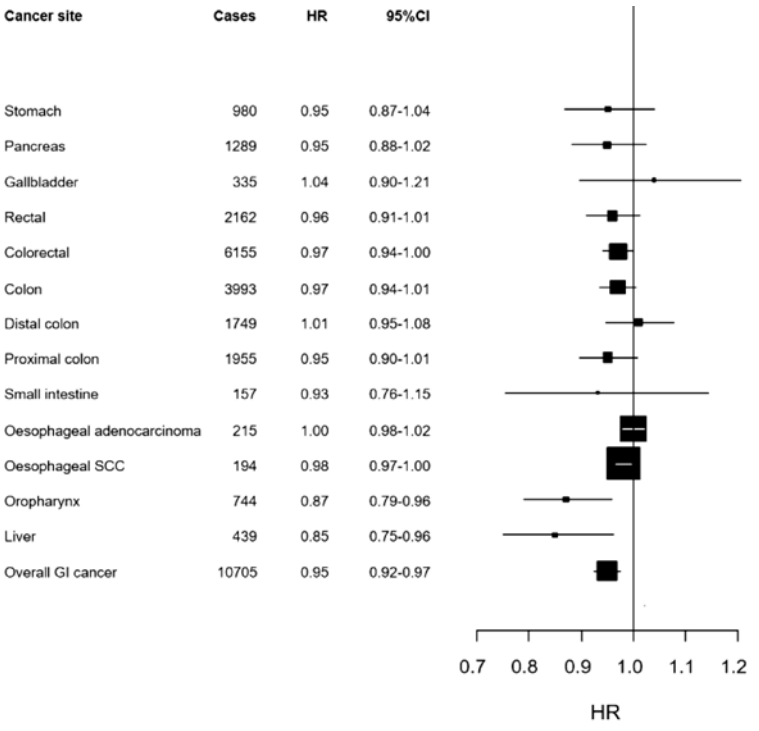
In studies that used the NOVA classification system, food processing was consistently positively linked to site-specific cancer risks (Cairat et al., 2024a; Al Nahas et al., 2025), risks of other noncommunicable diseases (Dicken et al., 2024; Rauber et al., 2024), and mortality (González-Gil et al., 2025) in several cohort studies. Together with the International Initiative for Pediatrics and Nutrition (IIPAN), the InterNatIonal CHildhood Leukemia Microbiome/MEtabolome Cohort (NICHE) and Southern European Prospective Investigation into Childhood Cancer and Nutrition (EPIC*kids*) cohorts were recently implemented (Perganti et al., 2025). These studies aim to develop large biobank and database infrastructures to investigate the impact of dietary and lifestyle factors in children and adolescents with cancer. Pilot data have been successfully collected in Brazil, Greece, Guatemala, Honduras, India, Italy, Nepal, Spain, and the United Republic of Tanzania.

Onco-Metabolomics Team (OMB)

OMB hosts the NME metabolomics laboratory, which enables the team to use liquid chromatography–mass spectrometry (LC-MS)-based metabolomics to investigate metabolic perturbations, identify biomarkers of nutrition and dietary factors, and leverage metabolomics along with other molecular and –omics data to better characterize the role of the exposome in cancer development.

The metabolomics laboratory collaborates extensively within IARC and with external research groups to conduct targeted and untargeted LC-MS metabolomics analyses, identifying novel cancer-related biomarkers and contributing expertise in biochemistry and metabolism for interpretation of the results. One recent example is a study within EPIC that identified metabolic signatures associated with greater adherence to healthy dietary and lifestyle behaviours. These signatures were inversely associated with risk of

Figure 2. Forest plot of hazard ratios (HR) and 95% confidence intervals (CI) for overall gastrointestinal (GI) cancer and site-specific cancer in relation to dietary species richness per 10-species increment after adjusting for sociodemographic, lifestyle, and other known dietary risk factors (*n* = 450 111). SCC, squamous cell carcinoma. Reprinted from Huybrechts et al. (2024a). Copyright 2024, with permission from Elsevier.



colon cancer, highlighting the potential of metabolomics to inform on candidate mechanisms of carcinogenesis related to healthy lifestyle habits (Matta et al., 2025).

Another nested case–control study in EPIC found strong positive associations of tobacco smoking and lifetime and baseline alcohol consumption with risk of hepatocellular carcinoma. The findings were strengthened by the identification of objective metabolite biomarkers of smoking and alcohol exposures in untargeted LC-MS metabolomics data acquired by OMB (Figure 3) (Aglago et al., 2025).

Further studies conducted in EPIC found the presence of steatotic liver disease and metabolic syndrome to be positively associated with overall and cancer-specific mortality, providing additional evidence of the detrimental role of metabolic dysfunction in the development of cancers and other chronic diseases (Mayén et al., 2024).

In the context of the exposome, OMB used its untargeted metabolomics platform in a multi-omics study to identify a metabolic footprint of traffic-related air pollution, a known risk factor for lung cancer. The study demonstrated the adverse impact of air pollution on the gut microbiome, suggesting a novel mechanistic link between air pollutants and systemic health effects (Cheng et al., 2024a).

Hormones and Metabolism Team (HorM)

HorM aims to conduct research on the role of hormones and metabolism in cancer etiology, with a particular focus on hormone-related cancers, including those of the breast, endometrium, ovary, and thyroid. HorM leverages state-of-the-art laboratory technologies applied to large-scale epidemiological studies conducted in both high-income countries and low- and middle-income countries.

Within the South Africa Breast Cancer (SABC) study, a population-based case–control study of breast cancer in Soweto, South Africa, untargeted high-resolution metabolomics was related to risk of breast cancer. In collaboration with OMB, HorM identified 12 molecular features that are significantly associated with breast cancer risk in Black African women, including cortisol, kynurenine, and octenoylcarnitine (Figure 4) (Mahamat-Saleh et al., 2025). Although these results need to be confirmed in prospective studies, they highlight the role of new breast cancer-related metabolic pathways, such as cortisol metabolism, the tryptophan degradation pathway, and β-oxidation.

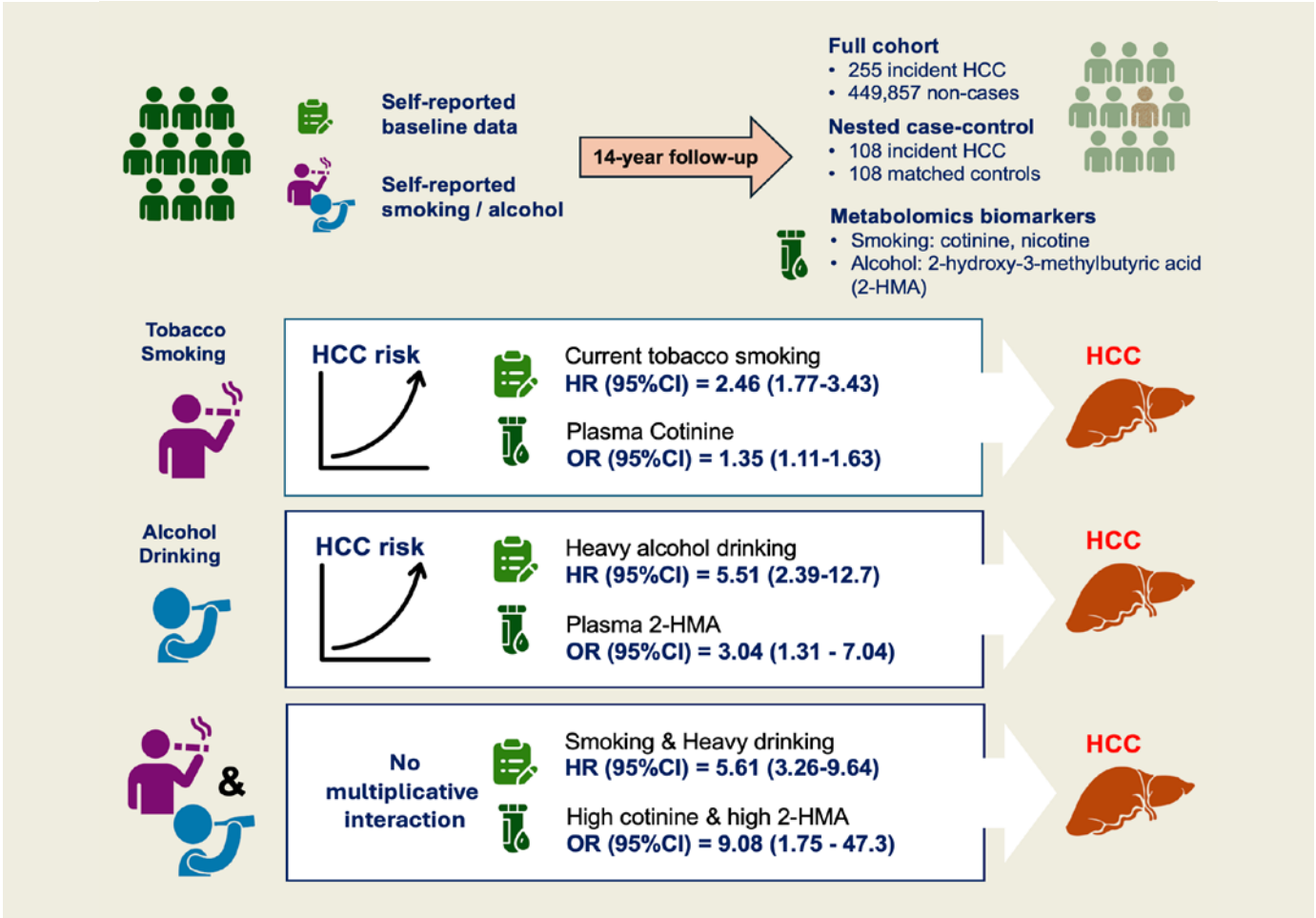
A systematic literature review and meta-analysis of 15 unique cohort studies showed that metabolically unhealthy overweight or obese individuals had higher risks of overall and obesity-related cancer compared with metabolically healthy normal-weight individuals (Mahamat-Saleh et al., 2024). Also, metabolically unhealthy normal-weight or overweight individuals had increased cancer risks. These findings highlight that excess adiposity and metabolic dysfunction jointly contribute to cancer risk and underscore the importance of combining measures of adiposity with indicators of metabolic dysfunction for risk stratification.

Two complementary studies explored the role of inflammation and immune dysregulation in development of endometrial cancer. The first study identified several plasma proteins, including interleukin 6 (IL-6) and 11β-hydroxysteroid dehydrogenase type 1 (HSD11B1), as potential contributors to endometrial carcinogenesis, supported by both observational and Mendelian randomization analyses (Wang et al., 2024b). The second study used large-scale Mendelian randomization and co-localization analyses to link 20 specific proteins to risk of endometrial cancer, revealing distinct molecular pathways for endometrioid and non-endometrioid subtypes (Wang et al., 2025).

Nutrition, Cancer, and Multimorbidity Team (NCM)

Multimorbidity, which is defined as the co-occurrence of chronic diseases in individuals, is becoming increasingly common. The main objective of NCM is to investigate how nutrition, obesity, and metabolic dysfunction interact with cardiometabolic diseases, including cardiovascular diseases and type 2 diabetes, in relation to cancer incidence, and how these factors affect survival among people living with cancer.

Figure 3. Risk of hepatocellular carcinoma (HCC) associated with tobacco smoking and alcohol consumption in the European Prospective Investigation into Cancer and Nutrition (EPIC) using blood biomarkers and self-reported intake estimates. CI, confidence interval; HR, hazard ratio; OR, odds ratio. Reproduced with permission from Aglago et al. (2025). John Wiley & Sons.



In EPIC, consumption of ultra-processed food (per 1 standard deviation increment, about 260 g/day without alcoholic drinks) was associated with an increased risk of multimorbidity of cancer and cardiometabolic diseases (hazard ratio [HR], 1.09; 95% confidence interval [CI], 1.05–1.12). Among subgroups of ultra-processed food, associations were most notable for animal-based products (HR, 1.09; 95% CI, 1.05–1.12) and artificially sweetened and sugar-sweetened beverages (HR, 1.09; 95% CI, 1.06–1.12). Other subgroups such as ultra-processed breads and cereals or plant-based alternatives were not associated with risk (Figure 5).

In another study conducted in the EPIC and UK Biobank cohorts, NCM showed that the relationship between adiposity and risk of breast cancer was significantly stronger among women with cardiovascular disease (HR, 1.31; 95% CI, 1.16–1.47) compared with women without cardiovascular disease (HR, 1.13; 95% CI, 1.11–1.16) (Fontvieille et al., 2025). This suggests that among postmenopausal women with cardiovascular disease, prevention of obesity may lead to a greater reduction in breast cancer incidence than in the general population. These findings also inform risk stratification in breast cancer screening programmes.

Figure 4. Serum metabolites and breast cancer risk in the South Africa Breast Cancer (SABC) study in Soweto, South Africa. Reproduced with permission from Mahamat-Saleh et al. (2025). John Wiley & Sons.

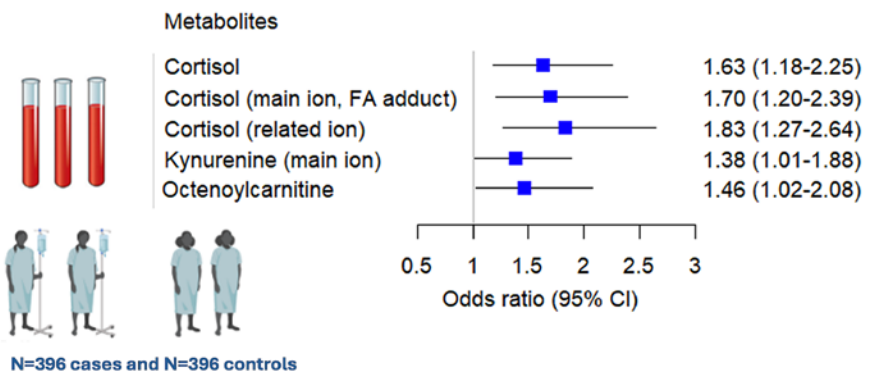
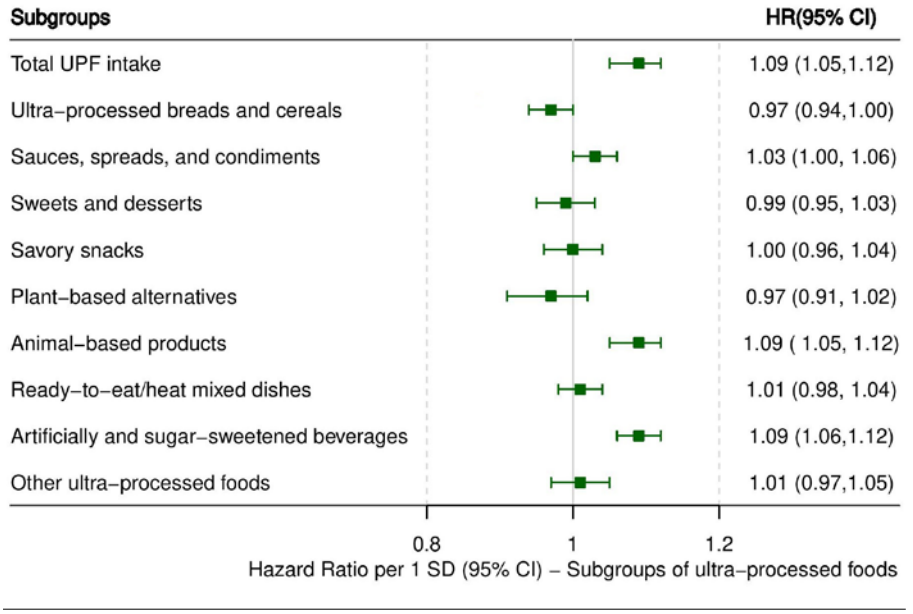


Figure 5. Associations between subgroups of ultra-processed food (UPF) consumption and risk of cancer–cardiometabolic disease multimorbidity. Cancer refers to the first malignant tumour at any site excluding non-melanoma skin cancer. Energy-adjusted subgroups of baseline UPF without alcoholic drinks (g/day) using residual method. Standardized residuals were computed by a linear regression of subgroups of baseline UPF (g/day) adjusted for energy intake and centre. Cox proportional hazards model, stratified by age at inclusion (1-year categories), sex, centre, and transition in a clock-forward multistate analysis with age as primary time variable. Subgroups were simultaneously added in the model as distinct covariables. Models were adjusted for total energy intake (continuous, kcal/day), baseline alcohol intake (g/day), height (cm), smoking status (never, former, current), the Cambridge physical activity index (inactive, moderately inactive, moderately active, active), highest attained education level (none, primary completed, technical/professional, longer education including university degree), plausibility of dietary energy reporting (under-reporter, acceptable, over-reporter), and the modified relative Mediterranean Diet Score (mrMDS), postmenopausal hormone therapy (yes, no), and menopausal status (premenopausal, perimenopausal, postmenopausal, surgical) in women. CI, confidence interval; HR, hazard ratio; SD, standard deviation. Reproduced from Cordova et al. (2023). Consumption of ultra-processed foods and risk of multimorbidity of cancer and cardiometabolic diseases: a multinational cohort study. Lancet Reg Health Eur. 35:100771. https://doi.org/10.1016/j.lanepe.2023.100771 PMID:38115963 © 2023. Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND IGO license.



In a prospective study of patients with cancer, a history of cardiovascular disease, type 2 diabetes, or both was associated with increased all-cause mortality and cancer-specific and cardiovascular disease-specific mortality. These findings support a direct role of cardiometabolic comorbidities in the prognosis of cancer (Davila-Batista et al., 2025).

Population-Based Long-Term Surveillance (LTS) IARC–Japan Team

The aim of the international LTS IARC–Japan Team is to develop research activities to examine associations between lifestyle risk factors and overall and cancer mortality among cancer survivors and to investigate prognosis in terms of quality of life after diagnosis. This research is based on the Japan Public Health Center-based Prospective Study (JPHC) cohort and EPIC. The two studies have similarities in terms of exposure assessment, availability of information on cancer incidence and mortality, and biobanks with biological material stored for large proportions of participants.

Members of the LTS IARC–Japan Team meet monthly for knowledge exchange and networking and to gauge progress in collaborative projects. Colleagues at the Japan National Cancer Center recently accessed EPIC data to investigate associations between diet and cancer risk and survival. Other collaborative projects involving EPIC and JPHC data are being developed (e.g. on consumption of ultra-processed food).

NME laboratory activities

During the 2024–2025 biennium, the NME laboratory was able to acquire two new state-of-the-art liquid chromatography–mass spectrometry (LC-MS) systems – a quadrupole time-of-flight LC-MS system and a triple quadrupole LC-MS system – funded through direct contributions from IARC Participating States. These new systems were taken into active use and now support untargeted and targeted metabolomics, significantly enhancing and modernizing the laboratory's existing instrumentation.

The newest instruments in the NME laboratory: (A) Agilent Revident quadrupole time-of-flight liquid chromatography–mass spectrometry (LC-MS) system, (B) Agilent 6495D triple quadrupole LC-MS system, and (C) Olink Signature Q100 system. © IARC.

In 2024, the NME laboratory completed its largest untargeted metabolomics study to date, the Exposome-Powered Tools for Healthy Living in Urban Settings (EXPANSE) project (https://expanseproject.eu/), analysing blood samples from 10 000 individuals across 13 cohorts in 8 countries. This study aimed to map the biological responses to cumulative exposures in an urban environment. The NME laboratory is now leading the untargeted metabolomics arm of the European Commission-funded project DISCERN (https://discern.iarc.who.int/), using the two newly acquired LC-MS systems to profile blood samples from 8000 participants from several population-based studies on kidney cancer, pancreatic cancer, and colorectal cancer to identify novel cancer causes.

From early 2024, a new Olink Signature Q100 system for targeted proteomics, acquired in collaboration with the Genomic Epidemiology Branch (GEM), has been operated by the NME laboratory and used to analyse more than 10 000 samples from global cohorts for etiological and risk prediction studies on lung cancer, endometrial cancer, and breast cancer. This new system will be instrumental in enabling multiplexed protein biomarker panels to be used at IARC.

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Mr Loïs Roy (until September 2025)
Ms Eszter Tuboly (until June 2025)

Laboratory Support, Biobanking, and Services (LSB) works with the IARC Administrative Services Office (ASO) and research Branches to provide core laboratory and biobanking services to support the Agency's research activities. LSB's expertise in research, technology, and safety ensures the smooth operation of IARC laboratories, in consultation with the Biobank Steering Committee (BSC) and the Laboratory Steering Committee (LSC). LSB also leads national and international projects on biobanking and medical research infrastructure (physical and digital), in line with the IARC Medium-Term Strategy 2021–2025.

Laboratory services

LSB provides essential laboratory services at IARC, including a central store for consumables, glass-washing facilities, mycoplasma testing and quarantine for cell cultures, pipette checking, and freezing and/or retrieval of cell lines in liquid nitrogen. These services help all laboratory teams carry out their work. In partnership with the LSC and the laboratory maintenance technician, LSB also oversees shared laboratory platforms and keeps equipment in good condition. Research links between laboratory and epidemiological teams are strengthened by regular upgrades, new state-of-the-art instruments, and the provision of sample storage capacity.

Health and safety

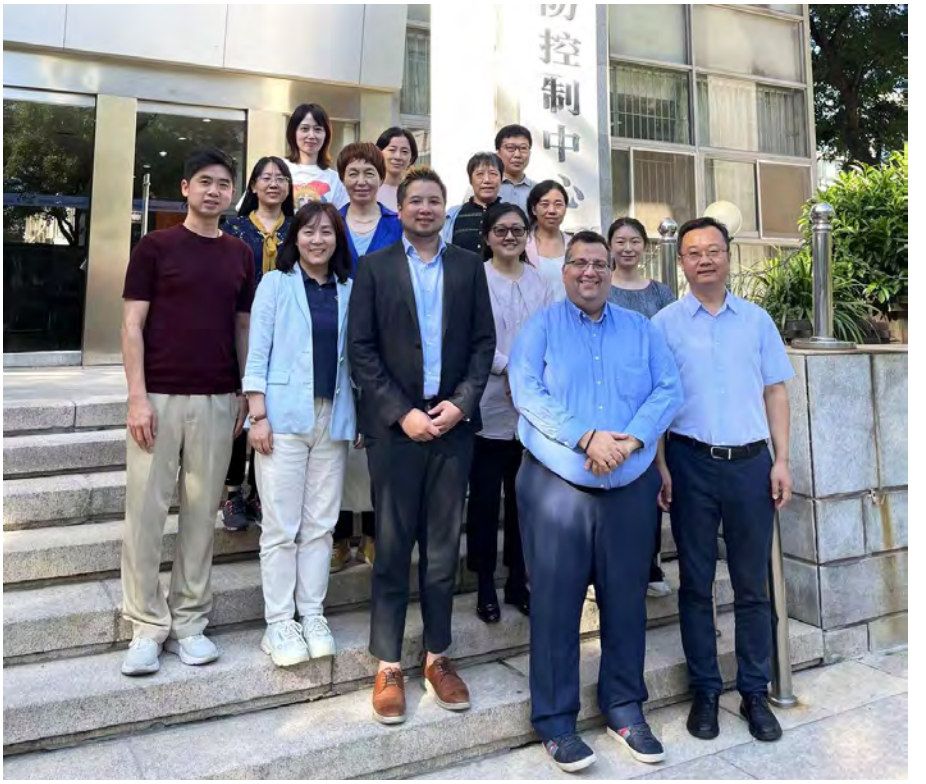
Health and safety issues are managed in collaboration with the Occupational Health and Safety Committee (OHSC). LSB coordinates the IARC safety manuals: a general manual covering overall safety and biobank operations, and a laboratory manual tailored to laboratory activities in the new IARC building. The laboratory manual, which is available online in French and English, sets out

staff roles, access rules, emergency procedures, medical services, and laboratory safety guidelines. LSB also contributed to the *Document Unique*, a document that is mandatory in all French institutes, which maps all risks, defines safety measures, and sets out action plans. The actions it describes are being implemented; these include information on personal and collective protection guidelines, management of equipment, laboratory services offered, good laboratory practices, and biological and chemical risks, including risks related to the handling of carcinogens, liquid nitrogen, and laboratory waste.

LSB manages IARC's authorizations for the use of genetically modified organisms (GMOs) and oversees declarations of biological collections in line with French regulations (CODECOH). LSB also handles import and export permits for biological samples, which are valid for 5 years, and participates in a French government working group on digitalizing this process. Work with radionuclides has ceased, and the related permits have not been renewed.

Training is a key activity for LSB. During the 2024–2025 biennium, LSB organized 34 sessions for newcomers and further training for 36 laboratory staff, covering topics such as working with liquid nitrogen, handling carcinogens, cell culture, bacterial work, and laboratory safety. Training was also provided to the cleaning and security staff, along with a workshop on laboratory water quality organized with Merck. Internationally, LSB gave health and safety presentations in Armenia, Brazil, China (Figure 1), Egypt, Georgia (through BCNet), Malaysia, Peru, the Philippines, Portugal, and Spain as part of the Interception of Oral Cancer Development (INTERCEPT) European Union COST Action, and gave lectures to biobank master's students in Lyon and Nice (France).

Figure 1. Trainees and staff participating in a Biosafety and Biobanking workshop, organized jointly by BCNet and the Chinese Center for Disease Control and Prevention (CCDC), in Beijing, China, in March 2025. © IARC/Z. Kozlakidis.



Biobank services

The IARC Biobank stores and manages biological samples from international studies and provides services such as sample retrieval, inventory, aliquoting, DNA and RNA extraction, digitization of slides, and reception or shipment of material worldwide. Its high standards are recognized by the French IBiSA accreditation, and preparatory work has begun towards the International Organization for Standardization (ISO) 20387 biobanking certification, including the review and alignment of all existing protocols with ISO requirements (Figure 2).

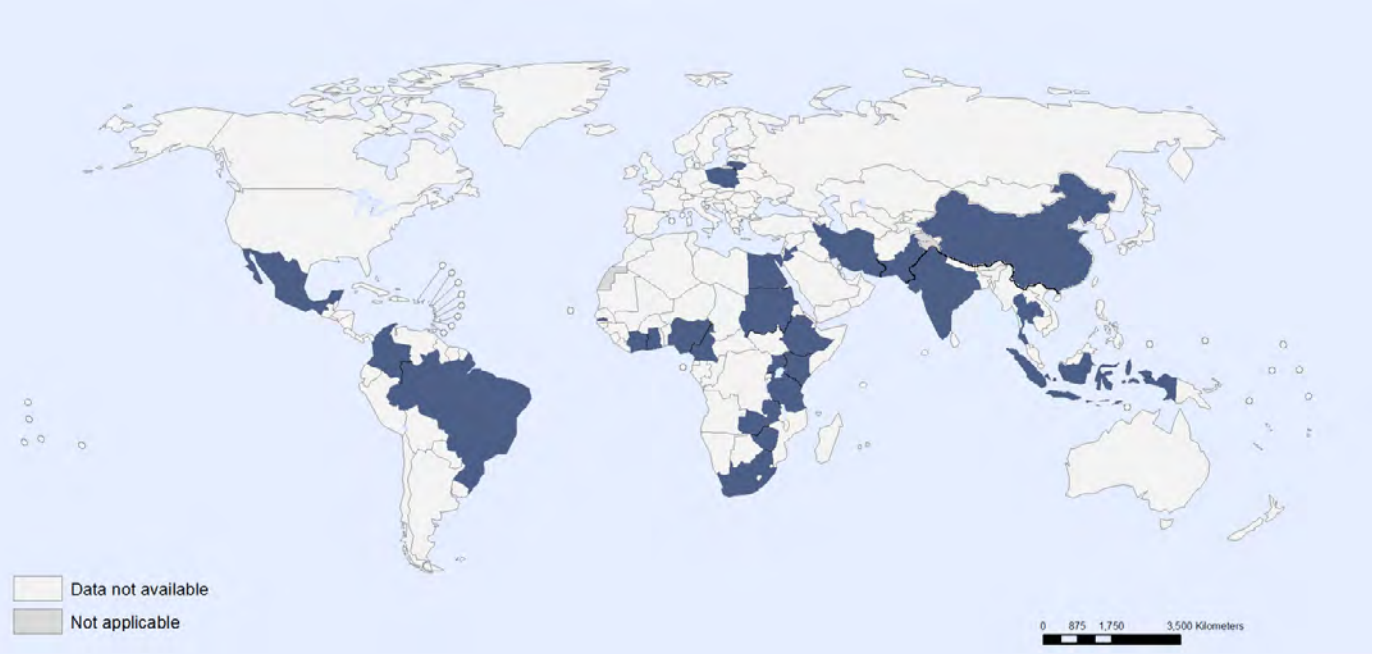
Figure 2. Biobank staff and IARC researchers at work by the liquid nitrogen tanks. © IARC.

The IARC Biobank has also become a key feature for visitors to the Agency. More than 500 people visit each year and learn about its scientific expertise and research support activities.

At the heart of the biobanking operations is the IARC sample management database (SAMI), which holds information on more than 6 million biological specimens. During the 2024–2025 biennium, more than 60 000 new samples were added to the database, and more than 35 000 samples were accessed for collaborators. SAMI is continuously being upgraded. An Agency-wide consultation in 2024 helped define future needs ahead of the next system upgrade. In addition, the information from older samples is being updated and incorporated into the database.

During the 2024–2025 biennium, 96 Material Transfer Agreements for incoming and outgoing samples were technically validated. During the same period, the IARC Biobank supported 30 international projects. This included retrieving nearly 20 000 samples from liquid nitrogen, completing 2500 DNA

Figure 3. Map of BCNet member countries. © IARC.



extractions and 6350 DNA aliquots, preparing almost 39 000 plasma and serum aliquots, and handling close to 200 international shipments and receptions to or from 37 countries worldwide. The IARC Biobank inventoried more than 22 000 individual samples and provided support across the continuum, from reception to data upload into SAMI. One request for the disposal of a defunct collection was also serviced during the biennium.

To meet growing needs and provide adequate back-up facilities, LSB oversaw the replacement of obsolete equipment and the purchase of new units to increase cold storage capacity. The real-time freezer-temperature monitoring system was fully implemented, as were the new conditions for the internally run freezer roster.

The IARC Biobank continues to perform strongly in international proficiency testing, confirming the quality and reliability of its services.

BCNet

LSB participates in many international research programmes that support IARC's mission of cancer research for cancer prevention. To tackle the lack of biological resources in low- and middle-income countries (LMICs), IARC created the LMICs Biobank and Cohort Building Network (BCNet; https://bcnet.iarc.who.int/) in 2013. Currently, BCNet connects 51 institutions in 26 countries (Figure 3).

During the 2024–2025 biennium, BCNet organized 34 workshops and presentations in countries including Armenia, Austria, Brazil, Canada, China, Egypt, France, Georgia, India, Indonesia, Nepal (Figure 4), Peru, the Philippines, Qatar, Saudi Arabia, South Africa, and Switzerland. It also hosted two webinars, released six newsletters (BCNetters), and published several important articles (Medina et al., 2025; Mohammadzadeh et al., 2025). Current collaborations focus on countries in South-East Asia, the Middle East, and sub-Saharan Africa. BCNet is directly funded by the Center for Global Health of the United States National Cancer Institute, and its success relies on the active engagement of its members worldwide, which have enriched our scientific world as well as our contextual understanding of global research.

Collaborations

Beyond BCNet, LSB represents IARC in key international infrastructure networks, including ISO (https://www.iso.org/), the Biobanking and BioMolecular resources Research Infrastructure–European Research Infrastructure Consortium (BBMRI-ERIC; https://www.bbmri-eric.eu/), and the European Open Science Cloud (EOSC). LSB participated in infrastructure research from the perspective of operational readiness and responsiveness (Aisyah et al., 2024a, 2025a) and contributed to the development of further technical recommendations and guidelines (Simeon-Dubach et al., 2024; Yang et al., 2024a; Cheong et al., 2025), with a particular emphasis on data sharing, digitization, and artificial intelligence (Caboux et al., 2025). These

Figure 4. Dr Kozlakidis training staff on biological sample collection at Kanti Children's Hospital in Kathmandu, Nepal, as part of the BCNet capacity-building activities. © IARC/Z. Kozlakidis.

experiences were presented to an international audience at the 2025 BioMed-AI Summer School, which was hosted at IARC in May 2025 (Figure 5). LSB also developed a WHO Academy course on "Managing Research Infrastructures", which is due to be released in late 2025.

LSB participated actively in global policy discussions, contributing to side events at the World Health Assembly in 2024 and 2025 and the Science Summit at the United Nations General Assembly in 2024 (Figure 6) and 2025. Within the EOSC "Upskilling Countries" Task Force, LSB helped to shape European Union recommendations on digital health research (Clare et al., 2024). In 2024, Springer published the book *Digitalization of Medicine in Low- and Middle-Income Countries*, edited by Dr Kozlakidis, with contributions from several LSB staff members (Kozlakidis et al., 2024).

During the 2024–2025 biennium, LSB completed the investigation on the impact of the COVID-19 pandemic on infrastructures and patients with cancer, as part of the regional project "Impact of COVID-19 on Cancer" (IMCOCA), a *Projet Structurant* funded by Cancéropôle Lyon Auvergne Rhône-Alpes (CLARA; https://www.canceropole-clara.com/), awarded jointly to Centre Léon Bérard (https://www.centreleonberard.fr/en) and LSB. Further work on the molecular insights from pandemic-driven work has been published in a series of publications in a collaboration with Loma Linda University and Patton State Hospital, USA (Sfera et al., 2025).

Figure 5. The participants at the BioMed-AI Summer School organized by LSB and hosted at IARC in May 2025. © IARC.

Figure 6. Dr Kozlakidis presenting at the Science Summit session "Scientific research in and with the Middle East" at the 79th session of the United Nations General Assembly, hosted by the Embassy of Qatar to the USA, in September 2024. © IARC/Z. Kozlakidis.

LSB is also a partner in several projects funded by the European Commission, including the Human Exposome Assessment Platform (HEAP) project (grant no. 874662) (https://heap-exposome.eu/), the International Human Exposome Network (IHEN) (grant no. 101137317) (https://humanexposome.net/), the Twinning for the Armenian Research Infrastructure on Cancer Research (ARICE) project (grant no. 952417) (https://www.arice.am/), the Providing Cutting-Edge Cancer Research Services Across Europe (canSERV) project (grant no. 101058620) (https://www.canserv.eu/), the Public Engagement in Research Infrastructures for the Mission on Cancer: Managing the Complexity of Emerging Technologies (PERIFORMANCE) project (https://cordis.europa.eu/project/id/101216808), and the INTERCEPT COST Action (grant no. CA21140) (https://www.cost.eu/actions/CA21140/).

A major collaboration began between LSB, the Nutrition and Metabolism Branch (NME), and the International Initiative for Pediatrics and Nutrition (IIPAN) based at Columbia University, USA. This project explores links between childhood cancers (such as acute lymphoblastic leukaemia), nutrition, and the microbiome in relation to cancer treatment outcomes (Perganti et al., 2025). It spans 12 countries globally (Argentina, Brazil, Greece, Guatemala, Honduras, India, Italy, Kenya, Nepal, Saudi Arabia, Spain, and the United Republic of Tanzania) and will continue until at least the end of 2028.

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The overall objectives of the Environment and Lifestyle Epidemiology Branch (ENV) are to investigate environmental, lifestyle, occupational, and radiation-related causes of cancer and death from cancer in human populations. ENV focuses its endeavours on three main areas: (i) research in settings where levels of exposure to putative or established carcinogens in the environment, in the workplace, or related to people's lifestyle are high, and research is thus warranted; (ii) studies of common cancer types and of specific environmental, occupational, or lifestyle exposures that occur in underresearched settings; and (iii) studies evaluating the role of broader social and biological factors throughout the course of the disease.

The inclusion of ENV in the IARC pillar From Understanding to Prevention reflects that the Branch's etiological research is tailored to directly inform prevention. Furthermore, a major objective of ENV is to enable cancer prevention and control through translation of research evidence; the main projects are the World Code Against Cancer Framework and its Regional Codes and the coordination of Cancer Prevention Europe. In selecting projects, an effort is made to ensure that the involvement

of the Agency makes a specific and substantial difference, by facilitating international collaboration, by overcoming political barriers, by assisting local collaborators in targeted studies with expertise and with increased local visibility and trust in their work, and by using the general expertise, international network, and special function of the Agency as a United Nations organization.

Topics of ongoing research, among others, are the relationship between occupational pesticide exposures and the risk of female breast cancer and of prostate cancer in agricultural workers, farmers, and their spouses; per- and polyfluoroalkyl substances (PFAS) and risk of leukaemia in children, within a wider programme of environmental causes of childhood cancer; tattoos and cancer risk; cancer in populations living near the former nuclear test site in Kazakhstan; risk factors in the East African belt with a high incidence of oesophageal squamous cell carcinoma; synergistic effects of lung carcinogens; and some selected highlights described here. The ENV research programme on non-ionizing radiation expanded to include the newest mobile technology, the fifth generation (5G), and also illustrates ENV's permanent ambition to improve environmental exposure assessment. Methodological work using validation studies showed that previously observed associations between very heavy use of mobile phones and risk of glioma in case–control studies are most likely to be the result of reporting bias creating a spurious association; this work was awarded the prestigious Rothman Prize for 2025 of the journal *Epidemiology* to the first author, Mr Liacine Bouaoun (Bouaoun et al., 2024).

Radiation exposure from CT examinations during childhood and adolescence and the related cancer risk

The use of computed tomography (CT) has grown rapidly in most high-income countries since its introduction in the 1970s. Although the benefits of CT imaging are undisputed, the potential increased cancer risk from the relatively high cumulative doses incurred from multiple scans have raised concerns; it was estimated that in the USA 1–2% of all cancers were attributable to exposures to medical radiation, mostly from CT examinations. Whereas exposure to moderate-to-high-dose ionizing radiation is a well-established risk factor for several cancer types, the risk associated with child and adolescent low-dose exposure (< 100 mGy) – the dose range typically associated with CT examinations – is less clear. The EPI-CT study, coordinated by ENV and funded by the European Commission, was set up to obtain direct estimates of cancer risk from low-dose radiation exposure from CT examinations during childhood and adolescence; it included 948 174 people from nine European countries (Figure 1).

The study found an association between cumulative dose and risk of all haematological malignancies, with an excess relative risk (ERR) of 1.96 (95% confidence interval [CI], 1.10–3.12) per 100 mGy (based on 790 cases). Similar estimates were obtained for lymphoid and myeloid malignancies. The results suggest that for every 10 000 children examined with CT today (mean dose, 8 mGy), 1–2 people are expected to develop a haematological malignancy attributable to radiation exposure in the subsequent 12 years (Bosch de Basea et al., 2025). A linear dose–response relationship was also observed for all brain cancers (ERR per 100 mGy, 1.27; 95% CI, 0.51–2.69) and for gliomas separately (ERR per 100 mGy, 1.11; 95% CI, 0.36–2.59). This multicentre study with individual dose evaluation emphasizes the careful justification of paediatric CT examinations and the use of doses as low as reasonably possible.

Cancer mortality related to occupational exposure to chrysotile (asbestos)

All commercially exploited forms of asbestos are known to cause cancer in humans. Chrysotile has been the most used form of asbestos worldwide and is currently the only type that is commercially mined. The town of Asbest, in the Sverdlovsk region of the Russian Federation, runs the world's largest open-pit chrysotile mine (Figure 2), which currently produces about 20% of the world's chrysotile and has been in operation for more than 120 years. The Asbest Chrysotile Cohort Study was set up as a historical cohort study of former and current workers exposed to chrysotile in the mine and enrichment factories, including more than 30 000 workers employed between 1975 and 2010. An outstanding strength of the study was that company

Figure 1. Relative risk for all brain cancers by cumulative brain dose due to radiation from computed tomography (CT) examinations during childhood or adolescence (lagged by 5 years and with a 5-year exclusion period). The bars show 95% confidence intervals. The solid line represents the fitted linear dose–response (excess relative risk per 100 mGy, 1.27). The dashed lines represent the upper and lower 95% confidence intervals (0.51–2.69). The dotted line represents the reference value (1). Reprinted from Hauptmann et al. (2023). Brain cancer after radiation exposure from CT examinations of children and young adults: results from the EPI-CT cohort study. Lancet Oncol. 24(1):45–53. Copyright 2023, with permission from Elsevier. © 2023 World Health Organization. Published by Elsevier Ltd. All rights reserved.

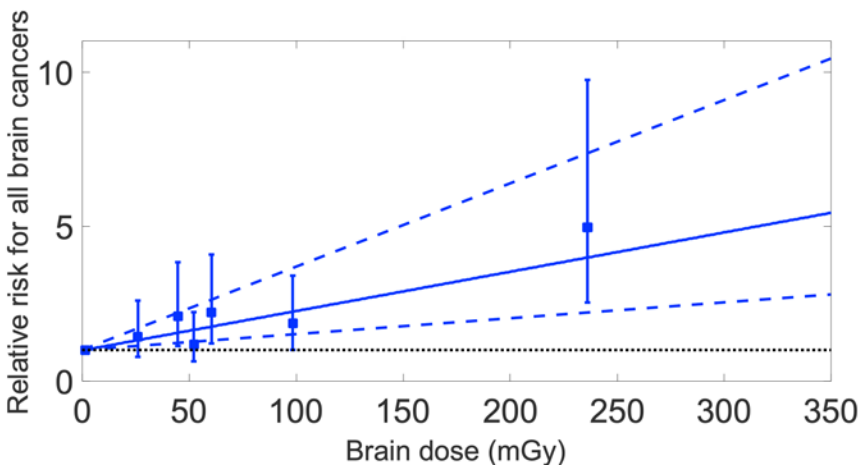


Figure 2. Chrysotile fibres in the museum of the Joint Stock Company (JSC) Uralasbest in the town of Asbest, Russian Federation. © IARC/J. Schüz.

archives of workers and workplace dust measurements enabled the calculation of cumulative exposure to dust for each individual worker, estimated based on workers' complete occupational history linked to dust measurements systematically collected from the 1950s. Exposure to chrysotile fibres was estimated using dust-to-fibre conversion factors.

The study found an exposure–response between cumulative exposure to dust and lung cancer mortality in men. For lung cancer in women, no clear association with exposure to dust was found, but a modest increase in the highest category of exposure to fibres was seen. Mesothelioma mortality was increased 7.6-fold at ≥ 80 fibres/cm^3-years and 4.6-fold at ≥ 150 mg/m^3-years (dust), based on 13 deaths from mesothelioma. For colorectal cancer and stomach cancer, there were inconsistent associations. No associations were seen for laryngeal cancer or ovarian cancer (Schüz et al., 2024).

Culminating the 7-year follow-up of the ABC-DO cohort

For the past decade, IARC has led the African Breast Cancer–Disparities in Outcomes (ABC-DO) cohort, a prospective, data-rich study of 2200 breast cancer survivors in five countries in sub-Saharan Africa. The follow-up of the cohort has now ended, and long-term survival estimates up to 7 years after diagnosis have been published (Mo et al., 2025a) (Figure 3). The results reveal a stark reality: by the 7-year time point, 61% of the women had died, 31% remained alive, and only 7% were lost to follow-up. The crude survival was 51% at 3 years, 40% at 5 years, and 33% at 7 years. Large variations between countries and racial groups in 5-year age-standardized net survival were observed, ranging from 35–42% in Zambia and Nigeria to 52–58% in Black women in Uganda, South Africa, and Namibia and > 83% in mixed-race and White women in Namibia. These statistics reflect the cumulative survival experience, whereas the annual probability of death (1-year conditional net survival, censored before the COVID-19 pandemic) generally decreased from 2 years to 3 years after diagnosis but remained exceptionally high at 8–21% for Black women in Namibia, Uganda, and Nigeria during the fifth year after diagnosis.

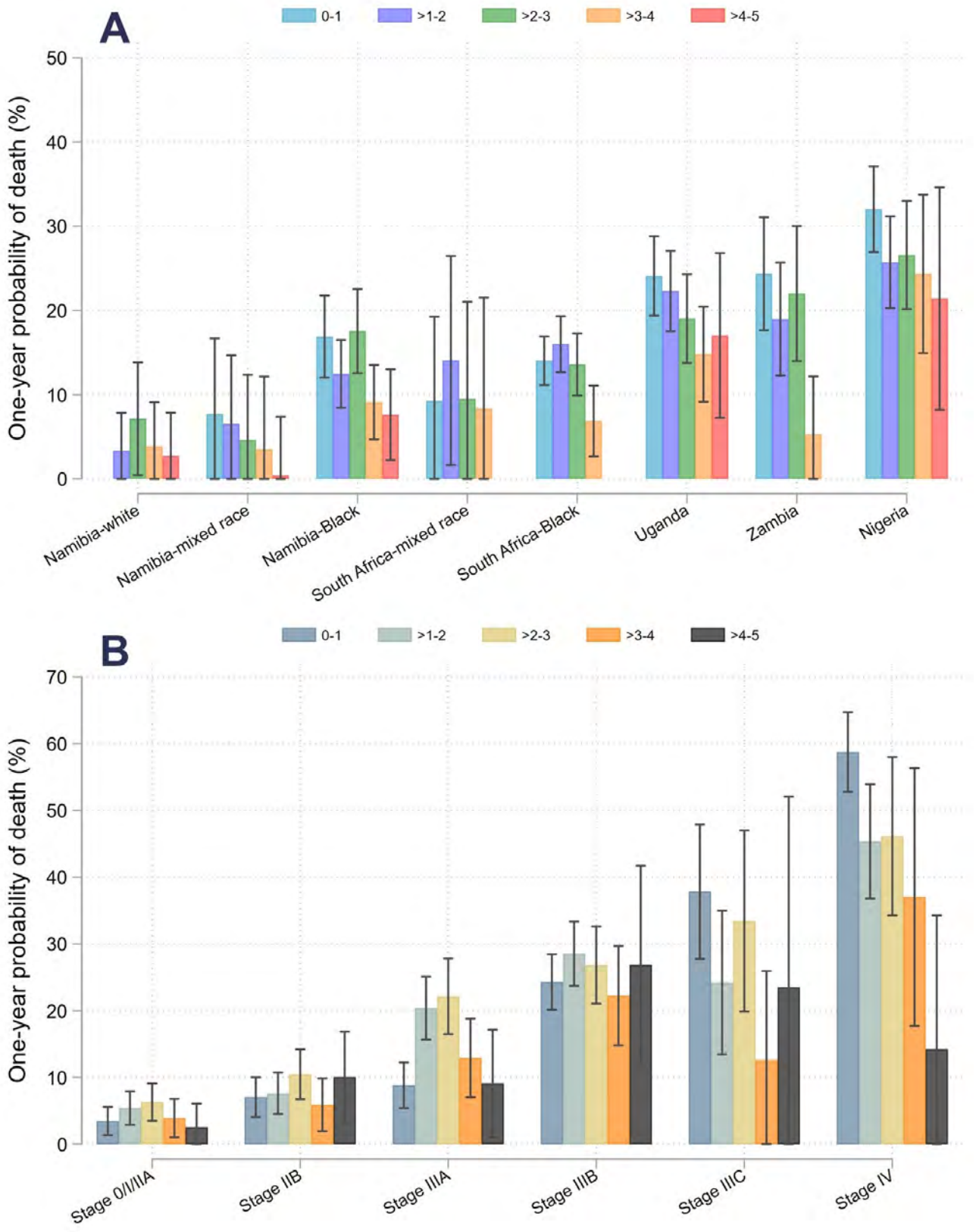
In addition, the ABC-DO cohort has been used to support the WHO Global Breast Cancer Initiative through an analysis of the averted deaths – estimated to be approximately one third of all deaths among Black women – that could be achieved if the Global Breast Cancer Initiative's 60–60–80 targets were met, as well as an assessment of how these indicators might be measured (Boucheron et al., 2025; Mo et al., 2025a). The ABC-DO study also provided insights into novel aspects of the breast cancer burden in this setting, notably the survival deficits associated with young-onset breast cancer (Mo et al., 2025b), as well as how the breast tumour microenvironment is altered in women living with HIV (Bauer et al., 2025).

Methodological guidelines for the World Code Against Cancer Framework

The World Code Against Cancer Framework (WCACF) is a multi-stakeholder initiative to promote cancer prevention globally, by serving as an umbrella strategy to develop or update independent Regional Codes Against Cancer. The WCACF was conceptualized as both inspired by and learning from the experience of producing the European Code Against Cancer fourth edition (ECAC4) (https://cancer-code-europe.iarc.fr/index.php/en/). In 2021, the Europe's Beating Cancer Plan reaffirmed IARC's role to update the ECAC to produce the fifth edition (ECAC5), which was launched in October 2025 (https://cancer-code-europe.iarc.who.int/). In 2023, the first edition of the Latin America and the Caribbean Code Against Cancer was coordinated and published by IARC in collaboration with the Pan American Health Organization (PAHO) as the first Regional Code developed outside of Europe under the WCACF. Recently, plans for an Asian Code Against Cancer were initiated (Ong et al., 2024), as well as discussions with the Gulf Center for Disease Prevention and Control.

The WCACF has a two-level hierarchical mechanism: the first level establishes the common principles, governance, rigorous methodology, and work processes to develop any region-specific code, and the second level implements the WCACF through independent Regional Codes Against Cancer, by considering and assessing the epidemiological, socioeconomic, and cultural conditions and the health system context of a given region when providing the cancer prevention

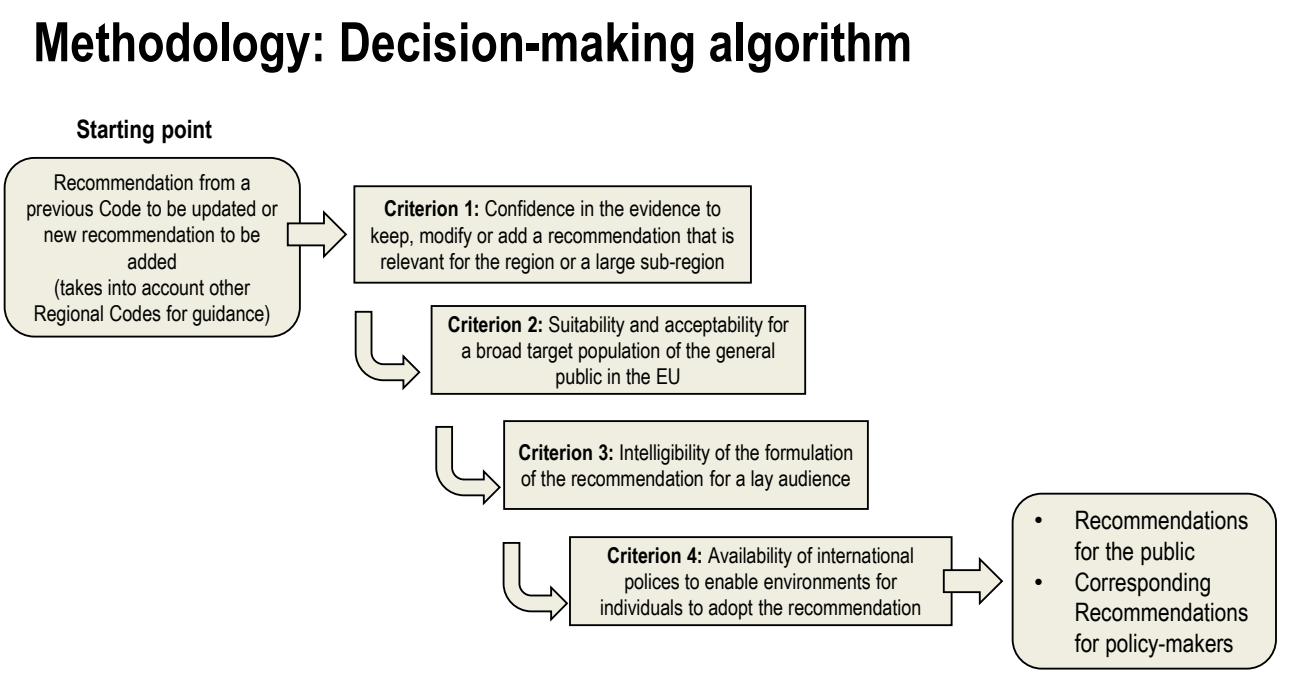
Figure 3. Results from the African Breast Cancer–Disparities in Outcomes (ABC-DO) cohort: 1-year probability of death adjusted for country and age-specific background mortality in women, with all follow-up censored on 1 June 2020 so that estimates are unaffected by the COVID-19 pandemic, (A) by country and race and (B) by stage at diagnosis. Each bar represents the 1-year probability of death of each 1-year interval, conditional on being alive at the start of the interval, in each year up to 5 years after diagnosis. Error bars represent 95% confidence intervals. No Namibian White women died in the first year after diagnosis. The 1-year probability of death in year 5 was not estimated in South Africa and Zambia because of a sample smaller than 20 people. Reproduced from Mo et al. (2025a). © 2025 Mo T et al. Published by Elsevier Ltd. This is an Open Access article under the CC BY-NC-ND 4.0 license.



priorities. Regional Codes Against Cancer articulate evidence-based and contextualized recommendations to empower individuals in the region to act to reduce their risk of cancer, while informing policy formulation and programmes that are feasible to implement. The updated methodology with its robust step-by-step decision-making algorithm reviews the scientific evidence, assesses communication aspects, and formulates the recommendations for individuals and for policy-makers (Espina at al., 2025) (Figure 4):

- Criterion 1: Confidence in the evidence to keep, modify, or add a recommendation that is relevant for an entire region, accounting for the strength of the evidence on an established cause of cancer and/or an intervention proven effective to prevent cancer or cancer death, and an assessment of the contextual factors.
- Criterion 2: Suitability, actionability, and acceptability for a broad target population. To produce ECAC5, a formative qualitative research study was conducted in nine European Union countries to explore the perceived barriers and facilitators to adopting the ECAC4 recommendations (Feliu et al., 2024).
- Criterion 3: Intelligibility of the formulation of the recommendation for a lay audience. For ECAC5, an evaluation study was conducted in 10 European Union countries to enable optimal and equitable awareness of the cancer risks.
- Criterion 4: Availability of international policies to enable environments to adopt the recommendations, ensuring that policies from authoritative organizations are included in the process. The policy selection process included a hierarchization of authoritative sources of existing policy documents, followed by a hierarchical strategy.

Figure 4. Methodology to guide the development of Regional Codes Against Cancer under the World Code Against Cancer Framework. Reproduced from Espina et al. (2025). © 2025 Espina C et al. International Journal of Cancer published by John Wiley & Sons Ltd on behalf of UICC.



Capacity-building for global cancer research

Capacity-building is an integral part of ENV research. In every research programme, ENV aims to match the cancer capacity investment with the needs of the setting where the research is being conducted. An exemplary success story is the e-learning programme of the Latin America and the Caribbean Code Against Cancer (https://campus.paho.org/es/curso/codigo-latinoamericano-y-caribeno-contra-el-cancer). This programme is a free, self-directed, and competency-based training course that includes 40 hours of certified and accredited training on primary and secondary prevention of cancer for primary health-care professionals. The training is structured around the 17 recommendations of the Latin America and the Caribbean Code Against Cancer, and it is hosted on the PAHO Virtual Campus for Public Health. This e-learning programme is the first comprehensive programme on cancer prevention designed specifically to build the capacity of primary health-care professionals in Latin America and the Caribbean. It is tailored to the specific context of the region in terms of risk factors, cancer incidence and mortality, health systems, and social inequalities.

The second Executive Meeting of the Latin America and the Caribbean Code Against Cancer project, held on 8–10 November 2022 in São Paulo, Brazil, included discussions on the dissemination and implementation of the first edition of the Latin America and the Caribbean Code Against Cancer, with a focus on capacity-building. © IARC/J. Schüz.

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Dr François Virard

The Epigenomics and Mechanisms Branch (EGM) contributes centrally to IARC's mission of cancer prevention by investigating environmental and endogenous factors that disrupt the genome and epigenome, and by identifying biomarkers for risk assessment, early detection, and disease progression. EGM has developed a truly interdisciplinary approach. By combining experimental models, large-scale epidemiological studies, and cutting-edge genomics and bioinformatics, EGM provides unique insights into the mechanisms linking exposures to cancer development.

During the 2024–2025 biennium, EGM strengthened its position as a leader in mechanistic cancer research. EGM personnel published a substantial body of original work in peer-reviewed journals, including numerous lead-author articles (e.g. Chung et al., 2024; Ghantous et al., 2024; Maroui et al., 2024; Das et al., 2025; Pinder et al., 2025), and contributed to IARC's reputation in biomarker discovery, mechanistic understanding of environmental risk factors, and translational prevention research. During this period, EGM secured substantial funding from external resources as part of large collaborative projects, while continuing to depend primarily on extrabudgetary resources.

EGM has also played a critical role in training and capacity-building, particularly with low- and middle-income countries, co-leading high-profile international collaborations and supporting early-career scientists, who, based on their work in EGM, have received awards and secured independent positions. Looking ahead, EGM will advance its strategic vision by deepening research on epigenetic and mutagenic mechanisms of

carcinogenesis, the role of infections in cancer, and the discovery of novel (epi) genetic markers, thereby reinforcing IARC's role in global cancer prevention.

Identifying epigenetic origins and markers of childhood cancer risk

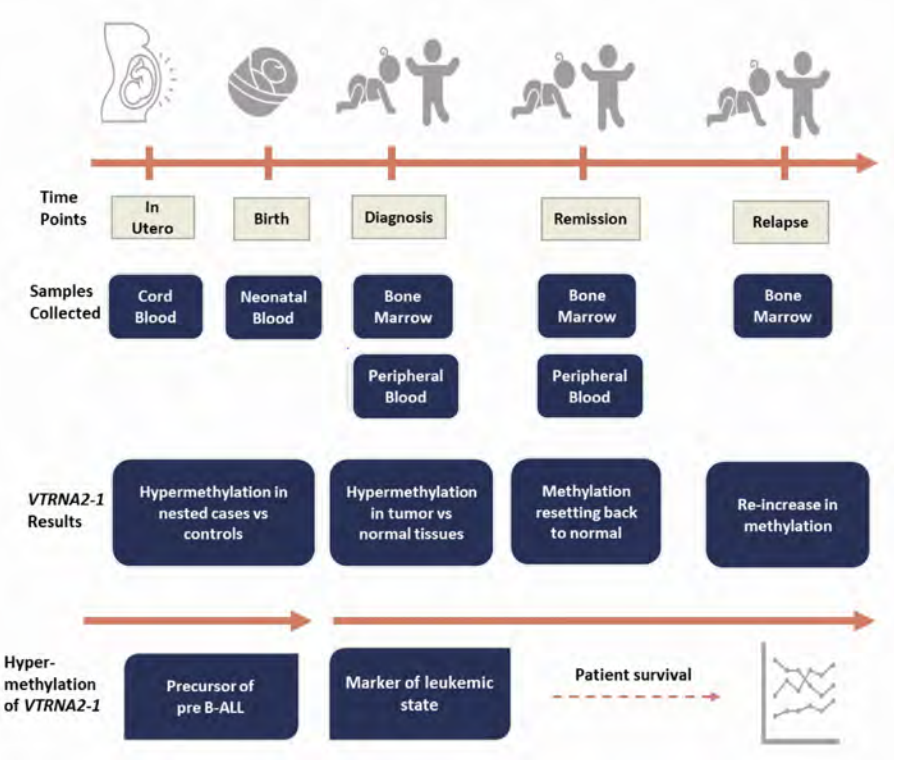
Tracing the epigenomic trajectory of paediatric cancers back to birth

Leukaemia is the most common childhood cancer, and its causes are largely unknown. Increasing evidence suggests an origin in utero, when widespread DNA methylation reprogramming directs tissue differentiation. EGM's recent work (Ghantous et al., 2024) mapped the epigenomic trajectory of paediatric pre-B acute lymphoblastic leukaemia (pre-B ALL) from the prenatal stage through birth, diagnosis, remission, and relapse (Figure 1). The findings were validated using independent technologies and populations.

EGM identified consistent hypermethylation of the imprinted, immunomodulatory tumour suppressor *VTRNA2-1* at birth in nested cases compared with controls, across diverse populations of both European and Hispanic ancestry. *VTRNA2-1* methylation remained stable for years after birth and was concordant between surrogate blood and target bone marrow tissues. In leukaemic samples, methylation at this locus was elevated at diagnosis, reset to normal at remission, and increased again above control levels at relapse. *VTRNA2-1* hypermethylation was associated with worse survival in patients with pre-B ALL and with reduced expression, supporting its functional and translational role.

Together, these findings provide a proof of concept to detect at birth epigenetic alterations that predispose to childhood leukaemia. Epigenome alterations that are evident before diagnosis could be precursors of paediatric pre-B ALL development and can offer biomarkers for early detection and actionable targets for therapy. Similar efforts are currently under way to map epigenetic precursors of paediatric brain cancers – the second most common childhood malignancy – across the disease trajectory, which may further broaden the utility of this approach.

Figure 1. Summary of the study's time points, sample types, and results. The epigenomic landscape of paediatric pre-B acute lymphoblastic leukaemia (pre-B ALL) was charted from in utero through birth, diagnosis, remission, and relapse to reveal molecular precursors and biomarkers for early detection and prognosis. The tumour suppressor *VTRNA2-1* was consistently hypermethylated in neonatal blood of nested cases compared with controls, across multiple populations. In leukaemic samples at diagnosis, a similar hypermethylation pattern was observed relative to control tissues and was associated with worse survival in patients with pre-B ALL. Notably, methylation levels at this locus normalized at remission but increased again, surpassing control levels, at relapse. Reproduced from Ghantous et al. (2024). © 2024 Ghantous A et al. This is an Open Access article under the CC BY-NC-ND 4.0 license.



Epigenetic signatures and early-life mechanisms to decipher the multifactorial origin of Burkitt lymphoma in sub-Saharan Africa

Endemic Burkitt lymphoma (eBL) is the most common paediatric cancer in sub-Saharan Africa. Although infection with Epstein–Barr virus (EBV) is a necessary factor in eBL, it is insufficient alone, indicating that environmental cofactors also contribute. One such cofactor is chronic early-life exposure to mycotoxins – fungal metabolites that are common in hot, humid regions with poor food storage. These toxins, including ochratoxin A (OTA) and aflatoxin B1 (AFB1), are highly prevalent in maternal and child diets in sub-Saharan Africa (Mouchtaris Michailidis et al., 2025).

EGM investigated, in a longitudinal mother–child cohort in Burkina Faso, how in utero and early-life exposures to mycotoxins affect epigenetic regulation and interact with EBV infection (Figure 2). OTA was the most frequently detected toxin and showed strong associations with EBV infection. Genome-wide DNA methylation analysis revealed distinct and overlapping changes linked to OTA, EBV, and their co-exposure, with the latter causing the most significant epigenetic disruptions. The affected genes were involved in immune and cancer pathways, including those implicated in eBL.

To validate these findings and identify early biomarkers of cancer risk, EGM is analysing eBL tumour samples from across sub-Saharan Africa.

In parallel, mechanistic studies showed that AFB1 and EBV synergistically enhance expression of the cytokine CCL22 in B cells via the NF-κB pathway, promoting EBV infection. This supports a

model in which environmental co-exposures disrupt immune responses and promote oncogenesis (Maroui et al., 2024) (Figure 2). Ongoing multi-omics analyses aim to uncover mechanisms and biomarkers for early detection and prevention. These findings will support evidence-based strategies to reduce mycotoxin exposure and eBL risk, particularly in regions that are vulnerable to climate change.

Identifying epigenetic drivers in breast cancer development and their environmental determinants

Epigenetic regulators are frequently altered in breast cancer, but their role as functional epigenetic drivers ("epi-drivers") of tumorigenesis and exposure-driven plasticity remains incompletely understood. In the EpiDrivers project, EGM systematically investigated 426 epigenetic regular genes (ERGs) across breast cancer subtypes using integrated transcriptomic, (epi)genomic, and multi-omics analyses. The results revealed recurrent ERG disruptions at the mutational, copy number, and expression levels, suggesting a driver role of epigenetic mechanisms in breast cancers (Figure 3). Bioinformatic analyses uncovered recurrent disruptions in chromatin modifiers, with several candidates

Figure 2. Epigenetic signature and early-life mechanisms to decipher the synergistic impact of mycotoxins and Epstein–Barr virus (EBV) infection in endemic Burkitt lymphomagenesis in sub-Saharan Africa. (A) Overview of the mother–child cohort in Burkina Faso. (B) Bar plot showing the prevalence of mycotoxins detected in blood samples at each time point. Ochratoxin A (OTA) was the most prevalent mycotoxin across all time points. (C) Circus plot illustrating the genomic distribution of significant differentially methylated positions and regions (DMPs/DMRs) across all chromosomes associated with EBV infection, OTA exposure, or the synergy of both. DMRs (false-discovery rate [FDR] < 0.05) and DMPs (adjusted *P* value < 0.05). (D) Representative figure of the pathway analyses performed, identified through KEGG and disease ontology (DO) pathway enrichment analyses on the genes associated with DMRs. The figure represents top-ranked pathways associated with the hypermethylated genes after combined exposure to EBV and OTA at 6 months. (E) Representative figure of the results of mechanistic analyses, showing the increase in expression and secretion of the cytokine CCL22 after exposure to aflatoxin B1 (AFB1) in B cells. CCL22 expression enhances the EBV infection rate, and the synergy of both enhances further CCL22 expression. This complements previous EGM studies showing the synergistic impact of both exposures on the expression of other cancer- and epigenetic-related genes (i.e. *TGFBI*, *KDM2B*). © IARC.

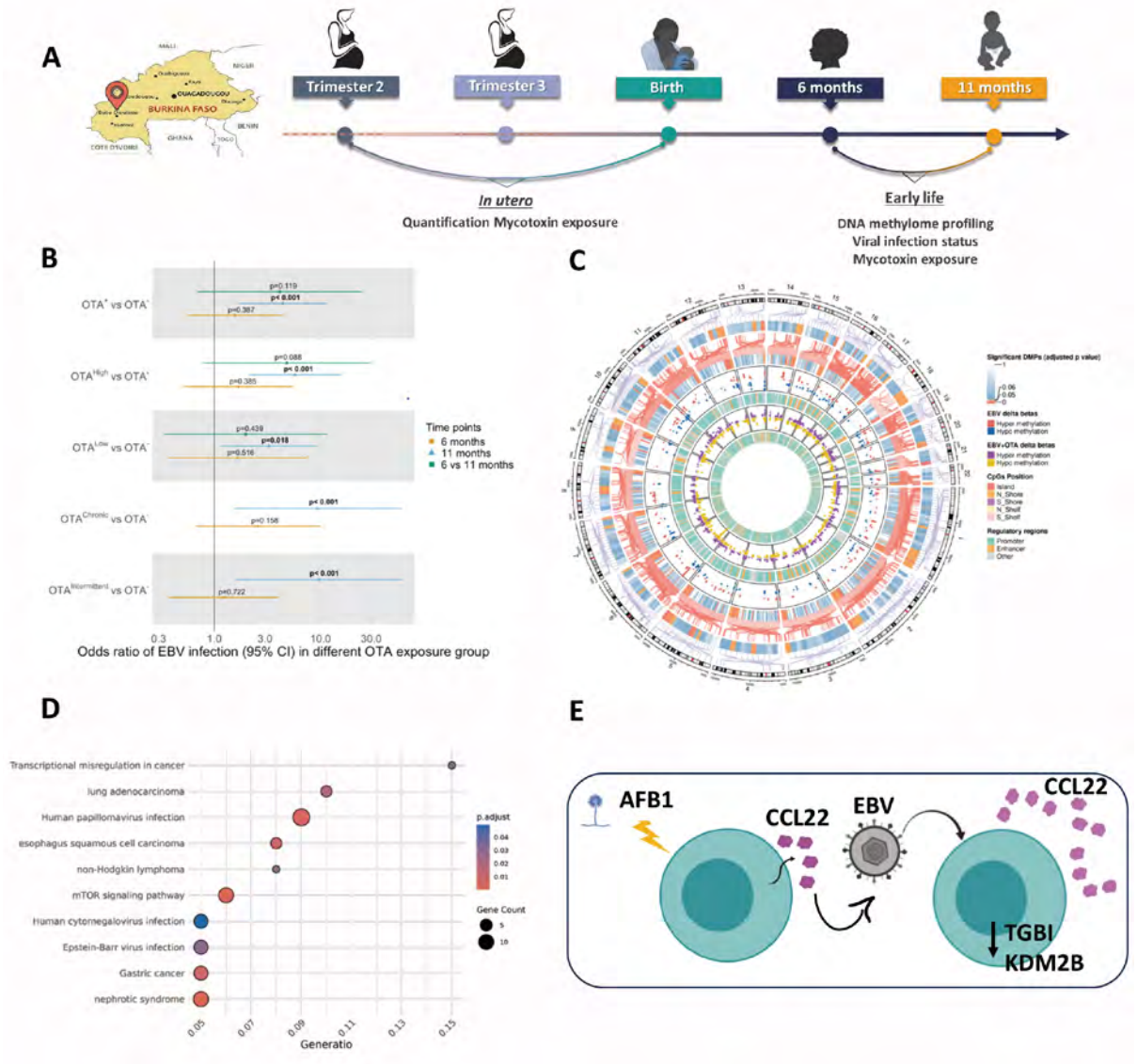
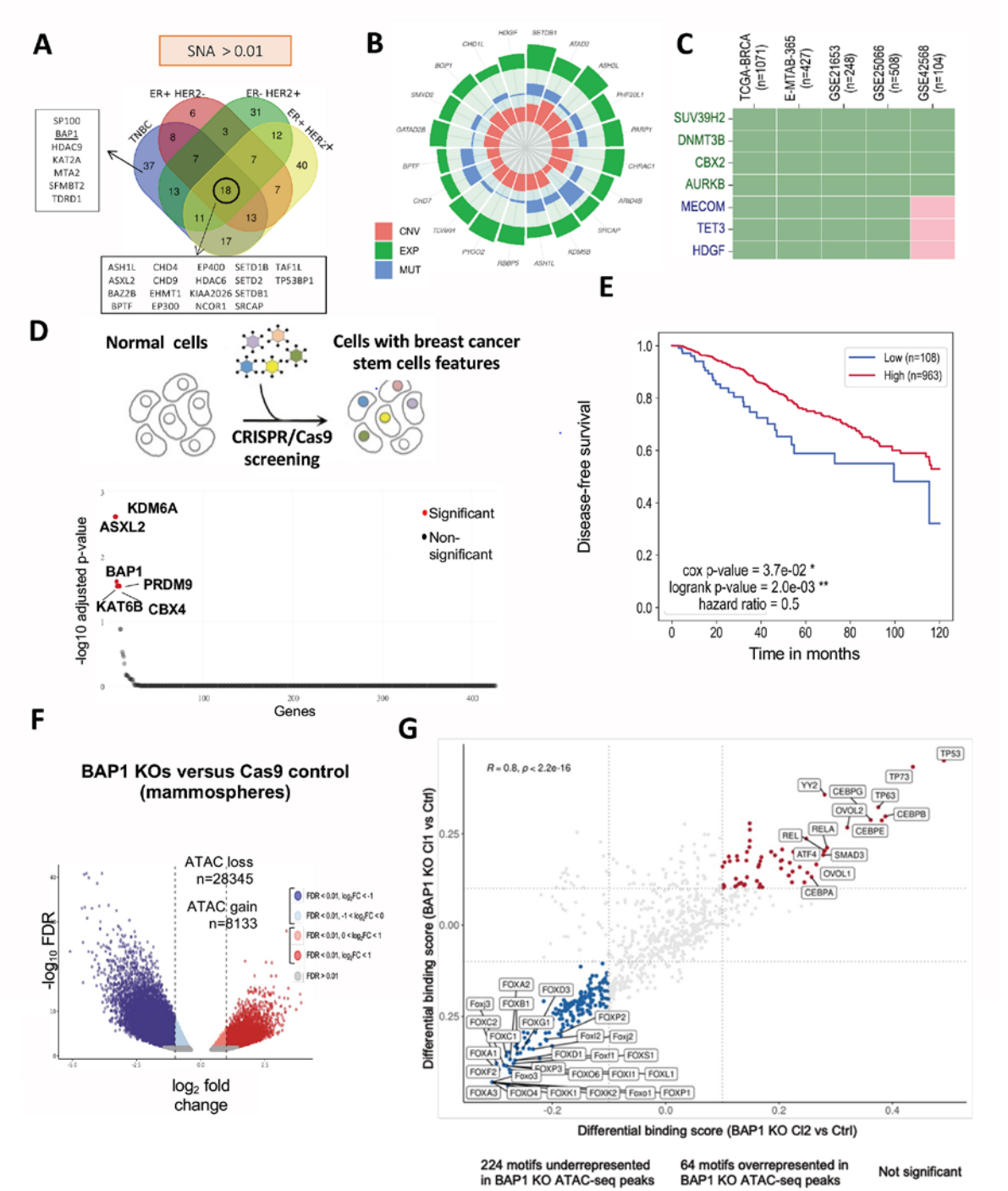


Figure 3. Identifying epigenetic drivers of breast cancers and studying their link with environmental exposures. (A) Representative images of in silico data curation of alterations of epigenetic regulator genes (ERGs) in breast cancer and breast cancer subtypes. The Venn diagram shows ERGs identified as frequently mutated in breast cancer subtypes (similar analyses have been performed for deregulations at the copy number and expression levels). (B) Bar plot showing the top 20 ERGs with driver potential across breast cancer. (C) Figure representing the association between candidate ERG overexpression and lower disease-free survival among all patients with breast cancer in several analysed data sets. Green: ERG validated in the corresponding data set; pink: ERG non-validated in the corresponding data set (no association with survival). ERGs were considered as validated in a data set if (1) nominal *P* value of log-rank test < 0.05, (2) false-discovery rate (FDR) < 0.25, and (3) hazard ratio > 1.0. (D) CRISPR/Cas9 screening approach to identify epidrivers of mesenchymal breast cancer stem cell (BCSC) markers in non-tumorigenic breast cells. Representation of enriched ERG guide RNAs (gRNAs) identified in the mesenchymal BCSC-like population (bottom). (E) Disease-free survival analysis showing association between BAP1 loss and low survival. (F) Volcano plot of global chromatin accessibility (ATAC-seq peaks) identified in cells lacking the epidriver BAP1 (BAP1 KOs) compared with MCF10A-Cas9 control cells cultured as mammospheres. Blue and red dots represent peaks with loss and gain of ATAC-seq accessibility (log_2fold change [FC] < 0 and log_2FC > 0), respectively. (G) Differential transcription factor binding in BAP1 KO clones compared with MCF10A-Cas9 control (Ctrl) cells cultured as mammospheres. Blue: 224 underrepresented motifs (differential binding score < –0.1; *P* < 0.01); red: 64 overrepresented motifs (differential binding score > 0.1; *P* < 0.01); and grey: motifs with no representative alteration (–0.1 ≤ differential binding score ≤ 0.1) in ATAC-seq peaks from BAP1 KOs. © IARC.

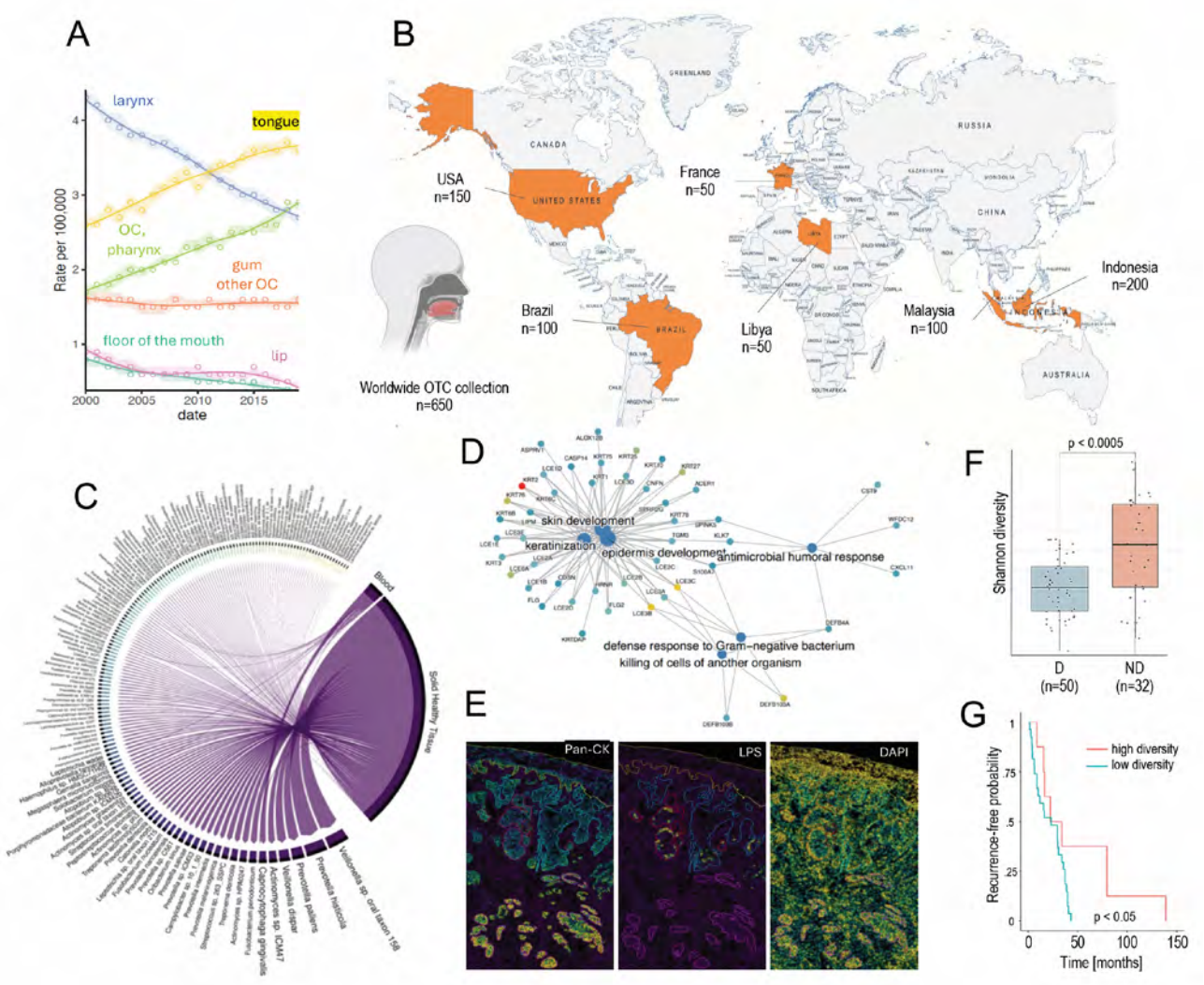


showing subtype-specific driver potential and prognostic associations. Functional analysis using CRISPR-based screening further uncovered key chromatin modifiers as potential epidrivers implicated in tumour aggressiveness. Among them, the histone deubiquitinase BAP1 emerged as a critical epidriver. Its loss promoted epithelial-to-mesenchymal transition, acquisition of breast cancer stem cell-like traits, and aberrant glycosylation through widespread chromatin and transcriptome remodelling (Figure 3). Functional rescue experiments confirmed that catalytic activity underlies its control of cell identity and glycan complexity, nominating it as a novel regulator of tumour aggressiveness and a potential prognostic marker.

In parallel, the ExpoDrivers project interrogates how environmental exposures interact with (epi)driver alterations to reshape cancer risk and progression. EGM demonstrated that p53 deficiency synergizes with sodium arsenite, a carcinogen with known epigenetic activity, to produce exposure-specific DNA methylation changes and chromatin remodelling, which are partially reversible upon p53 restoration (Chung et al., 2024). These results reveal how environmental stressors can amplify the oncogenic impact of epigenetic deregulation.

Together, these projects establish a framework for identifying breast cancer epidrivers and mapping their interplay with exposures. By connecting mechanistic insights on disruption of epigenetic drivers with context-dependent environmental modulation, this work advances precision epigenetic strategies for early detection, prevention, and therapy.

Figure 4. Microbiome–host interactions in oral tongue cancer (OTC). (A) Increasing OTC incidence in the USA (Surveillance, Epidemiology, and End Results [SEER] data) implicates squamous cell carcinoma of the oral tongue as the driver of the increase in oral cancer incidence. (B) Global study of OTC cases coordinated by EGM with partners in Brazil, France, Indonesia, Libya, Malaysia, and the USA (case/sample numbers shown). (C) Public data sets (The Cancer Microbiome Atlas [TCMA]) show that healthy tissue has minimal impact on the tumour microbiome. (D) The Cancer Genome Atlas (TCGA) gene expression implicates keratinization and antimicrobial responses in OTC lacking known risk factors. (E) Pixel intensity maps of OTC tumours show co-localization of cytokeratin (Pan-CK) and Gram-negative bacteria (LPS). 4′,6-Diamidino-2-phenylindole (DAPI) stains nuclei. (F) Bacterial (Shannon) diversity associates with alcohol consumption history (non-smokers only): D, ever drinker; ND, never drinker. (G) Kaplan–Meier curve shows OTC recurrence-free probability by bacterial diversity. © IARC.



Microbiome and molecular profiles of cancer development and treatment response

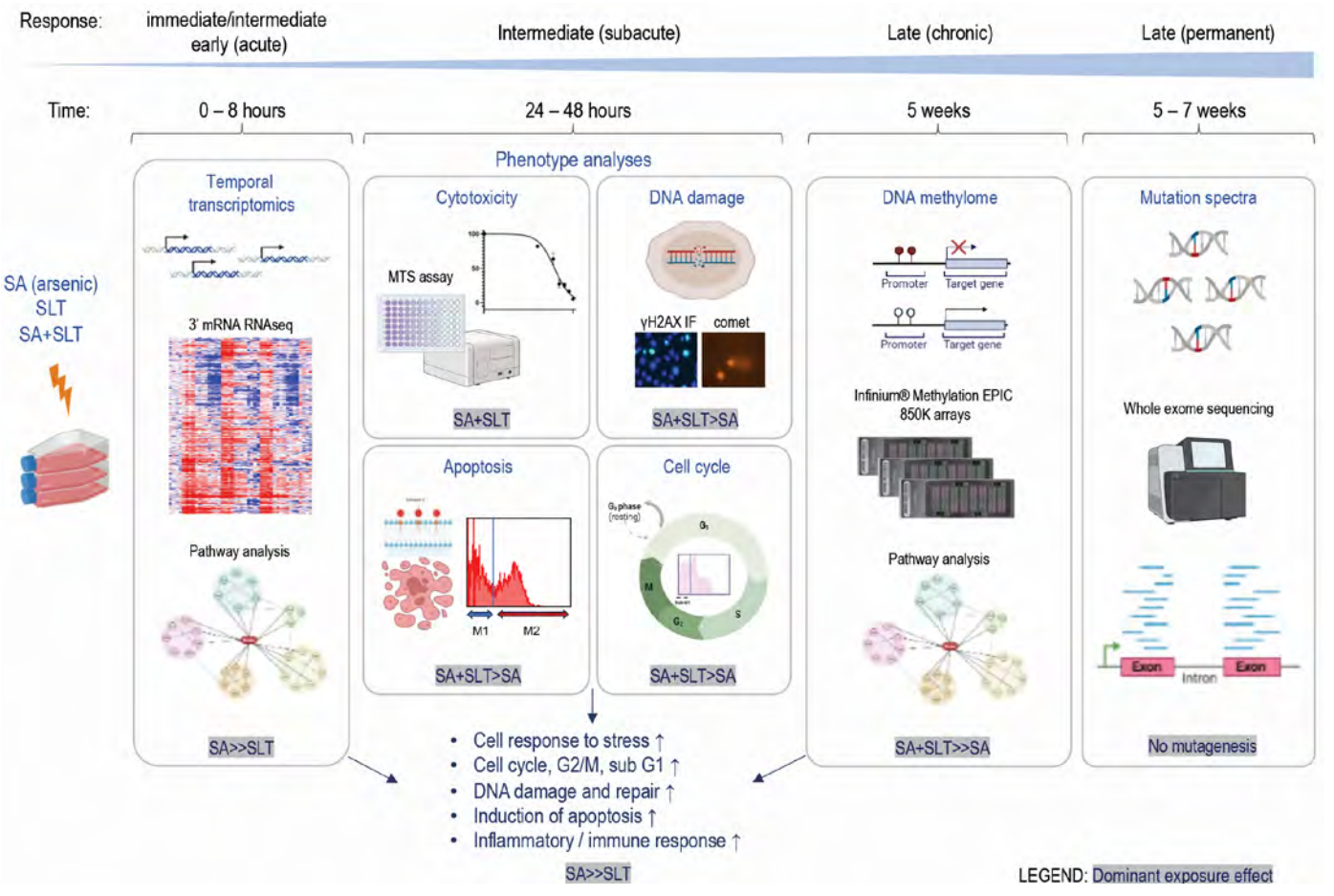
Microbiome–host interactions in oral tongue cancer

The incidence of oral tongue squamous cell carcinoma (OTC) is increasing worldwide, including in younger patients with no identified risk factors (NIRF): non-smokers, non-drinkers, and human papillomavirus (HPV)-negative individuals. EGM found that NIRF cases are characterized by molecular programmes indicating greater tumour cell keratinization, immune activation, and reduced antibacterial responses. To investigate bacterial, viral, and fungal microbiome–host interactions in OTC, EGM and partners devised a multi-omics study of ~650 samples from six countries across five continents (Figure 4). In the samples from the USA, lack of alcohol consumption history correlated with higher bacterial diversity and better recurrence-free survival. Spatial histopathology revealed Gram-negative bacteria inside tumour cells and shifts in antimicrobial peptide expression linked to tumour grade and invasion (Figure 4). EGM is further investigating the potential roles of oncogenic viruses (HPV16, EBV1, EBV2, and human herpesvirus [HHV-6B]) and fungi (*Candida, Malassezia, Cryptococcus*, and *Aspergillus*), which show a more limited presence compared with bacteria, in OTC development. These new findings define distinct NIRF OTC microbiome traits, implicating host tissue–microbe interactions in OTC progression and suggesting microbial targets for prevention and therapy.

Arsenic and smokeless tobacco in oral carcinogenesis

Chronic exposure to arsenic causes diverse health effects, including cancer. In South Asia, smokeless tobacco (SLT) use often coincides with arsenic exposure from contaminated groundwater. To examine molecular and cellular effects of arsenic and/or SLT co-exposure, EGM performed temporal multi-omics profiling of transcriptomic and DNA methylation changes in human telomerase reverse transcriptase (hTERT)-immortalized human normal oral keratinocytes (NOK), along with genotoxicity, mutagenicity, and cell viability assays (Figure 5). Acute arsenic exposure or arsenic and SLT co-exposure triggered cell-cycle, apoptosis, and inflammation programmes, aligning with corresponding chronic

Figure 5. Comprehensive schematic of the experimental design and the molecular and phenotypic outcomes and results reflecting the candidate mechanisms by which arsenic (SA = sodium arsenite) and smokeless tobacco (SLT) co-exposure can lead to the induction of carcinogenesis in oral cells. IF, immunofluorescence; MTS, 3-(4,5-dimethylthiazol-2-yl)-5-(3-carboxymethoxyphenyl)-2-(4-sulfophenyl)-2H-tetra-zolium. Reproduced from Das et al. (2025), Wiley. © 2025 International Union of Biochemistry and Molecular Biology.

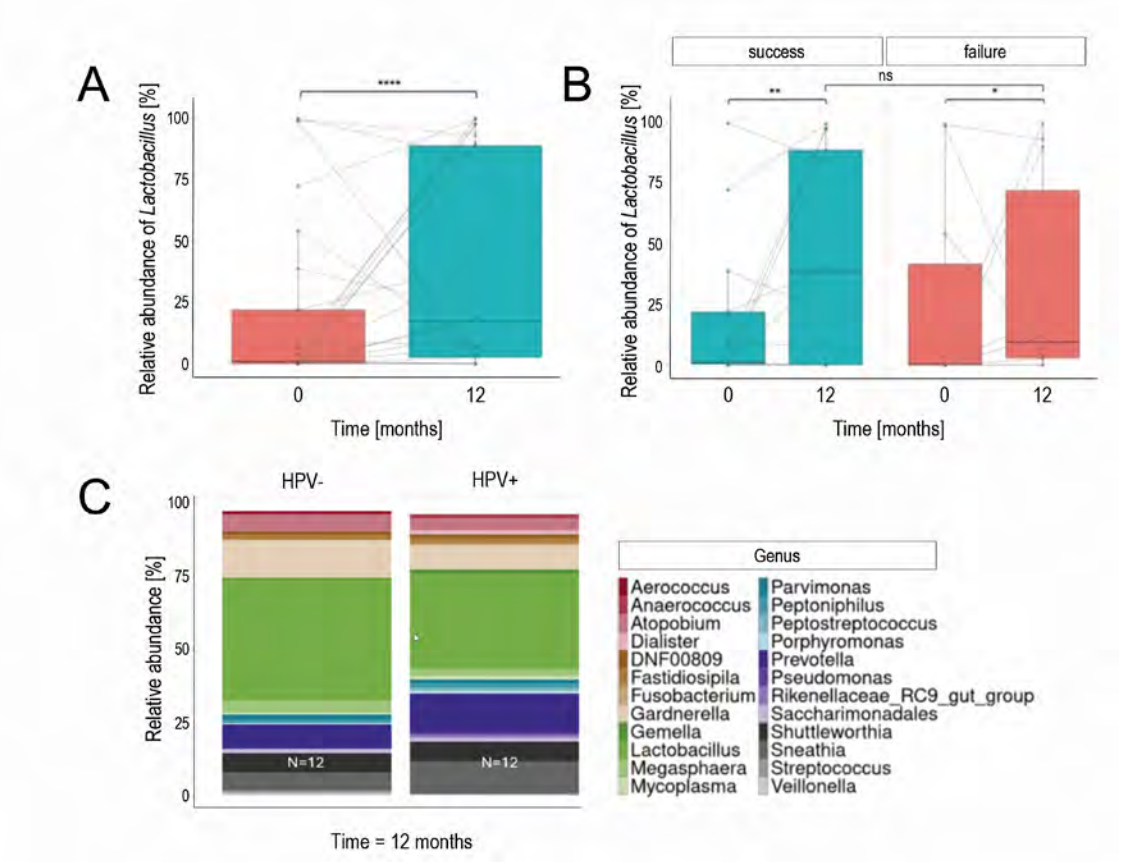


exposure-induced DNA methylation changes. Dose-dependent decreases in viability, increased DNA damage, cell-cycle disruption, and apoptosis were most pronounced under co-exposure. Live-cell imaging indicated that DNA damage was largely secondary to apoptosis, supported by the absence of significant exome-wide mutagenesis after chronic treatment. Overall, the published results (Das et al., 2025) delineate acute and chronic responses to arsenic exposure and SLT use relevant to oral carcinogenesis, converging on cancer-related pathways and offering a molecular framework for biomarker discovery in high-risk exposed populations.

Vaginal microbiome signatures of cervical cancer treatment response

Increasing evidence suggests that the microbiome plays a significant role in cancer development. In several studies conducted between 2020 and 2024, EGM characterized the microbiome associated with colorectal cancer and obesity, the anal microbiome in immunocompetent and immunocompromised individuals with HPV infection, and the vaginal microbiome composition in HIV-positive women undergoing treatment of the cervical transformation zone. In research published by the Early Detection, Prevention, and Infections Branch (EPR) (Basu et al., 2024), the success rates of treatment were reported to be significantly lower in women living with HIV compared with HIV-negative women, irrespective of the treatment method used. Together with EPR and external partners, EGM analysed the vaginal microbiome in relation to treatment outcomes at baseline, 3 months, and 12 months. The results showed that among women who experienced successful treatment, an increasing abundance of *Lactobacillus* and a decreasing abundance of pathogenic bacteria was observed over time (Figure 6). This trend was further confirmed when stratifying by HPV status and through clustering analysis. These published findings (Pinder et al., 2025) suggest that a microbiome profile dominated by *Lactobacillus* could serve as a potential predictive biomarker for positive responses to cervical lesion treatments.

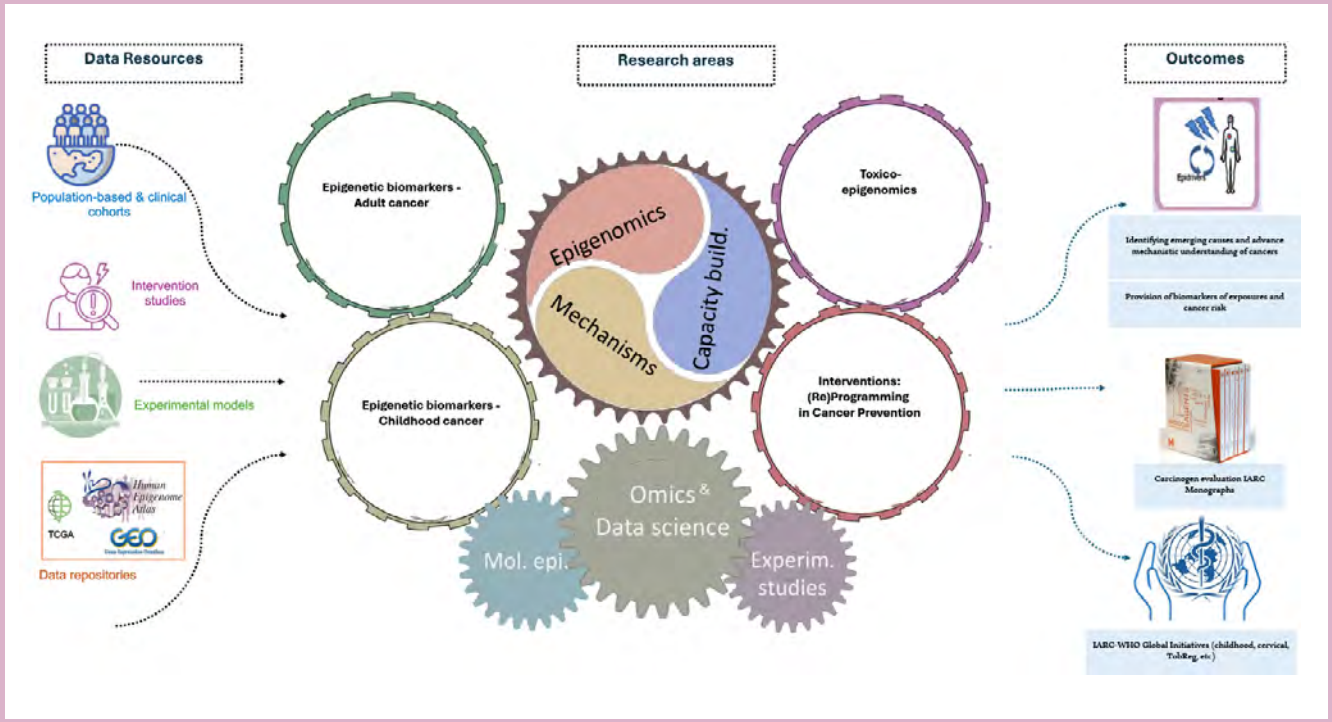
Figure 6. Analysis of the relative abundance of the vaginal microbiome in women undergoing treatment of the cervical transformation zone in a screen-and-treat programme in Zambia. (A) Relative abundance (%) of *Lactobacillus* at baseline and 12 months, regardless of treatment outcome (Wilcoxon signed-rank test, ** *P* < 0.0001). (B) Relative abundance of *Lactobacillus* stratified by treatment outcome. Wilcoxon signed-rank test, ** *P* < 0.01, * *P* < 0.05; Mann–Whitney test, not significant (ns), *P* > 0.05. (C) Relative abundance of bacterial genera stratified by human papillomavirus (HPV) status at 12 months, irrespective of HPV status at baseline. Reproduced from Pinder et al. (2025). © 2025 Pinder L et al. Published by Wolters Kluwer Health, Inc. This is an Open Access article under the CC BY 3.0 IGO license.**



EGM research areas at the intersection of exposures and cancer

EGM conducts interdisciplinary research combining molecular epidemiology, toxico-epigenomics, and experimental mechanistic studies to investigate how environmental and lifestyle factors contribute to cancer development. The studies focus on understanding (epi)genomic and other molecular alterations and deregulated pathways, and identifying biomarkers of exposures, early biological effects, and cancer risk. EGM uses a comprehensive set of approaches, including genomic and epigenomic profiling, bioinformatics, multi-omics analyses, cell and molecular biology, biochemistry, and cutting-edge in vitro and in vivo cancer modelling systems. EGM also supports research on epigenome-targeted interventions to assess the potential for cancer prevention through epigenetic reprogramming.

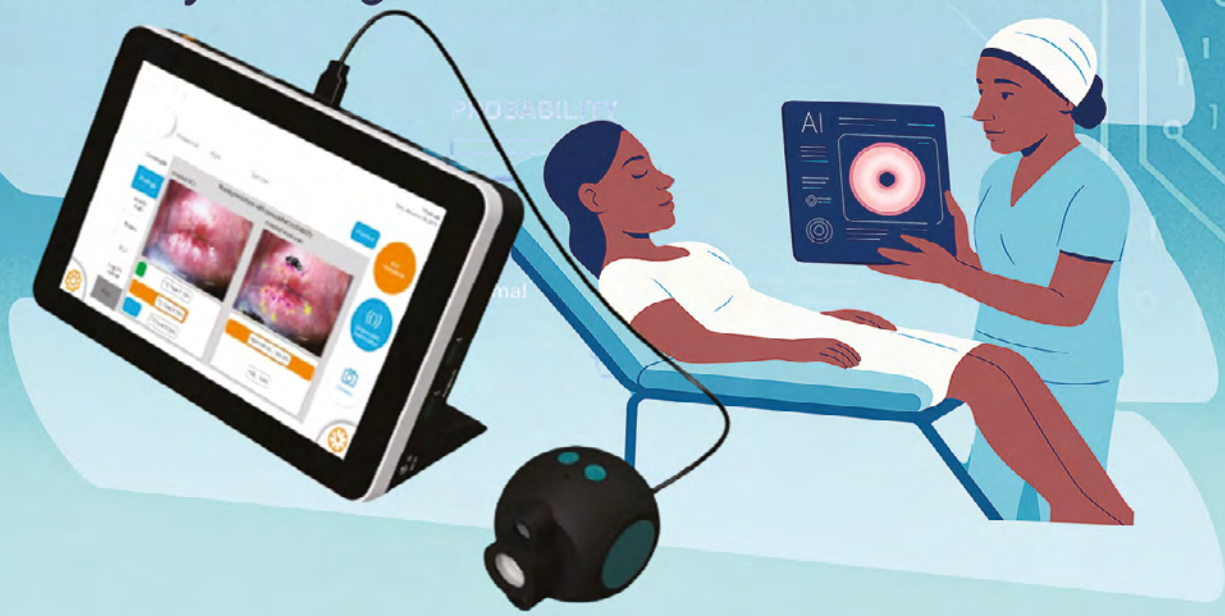
EGM data resources, research areas, and outcomes. Capacity build., capacity-building; Experim. studies, experimental studies; Mol. epi., molecular epidemiology. © IARC.



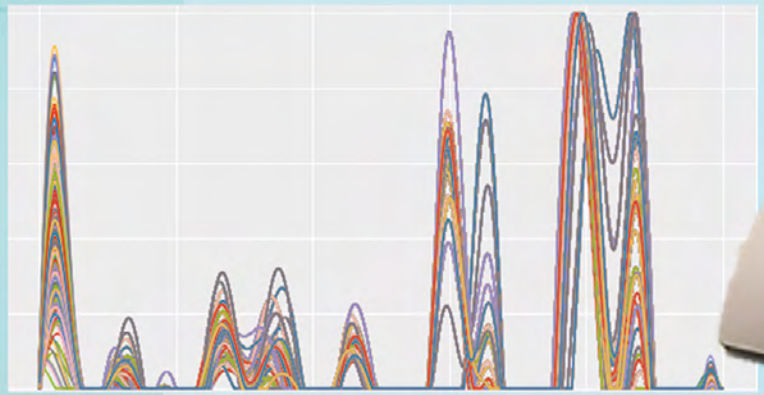
Research is conducted in collaboration with various IARC programmes and a global network of external partners, often within large-scale molecular epidemiology studies and international consortia that share platforms, biospecimens, and data. EGM's work results in the identification of actionable biomarkers and mechanistic evidence that support carcinogen evaluation in the *IARC Monographs* programme and contribute to WHO global cancer prevention initiatives. These interdisciplinary and collaborative efforts underscore EGM's commitment to advancing cancer research and public health on a global scale. In parallel, EGM is actively engaged in capacity-building, training researchers worldwide in -omics technologies, molecular epidemiology, and mechanistic methods, thereby strengthening global cancer research infrastructure and fostering scientific collaboration.

EPR Research in AI

AI to analyze images for cervical cancer detection



AI and spectroscopy to detect HPV infection in urine samples



AI-based chatbot to help women make informed-decision to participate in cervical screening

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The primary objective of the Early Detection, Prevention, and Infections Branch (EPR) is to generate robust evidence on the efficacy, effectiveness, and programmatic implementation of various cancer prevention and early detection interventions. This evidence is shared with WHO and other international and national agencies to inform guidelines and shape policies for cancer control. Beyond evaluating efficacy, EPR scientists actively support countries in implementing evidence-based interventions that are equitable and tailored to local contexts.

During the 2024–2025 biennium, EPR-led research evaluating new technologies and novel strategies for strengthening cancer prevention and early detection yielded significant public health impact. A systematic review of 1174 studies confirmed that 77.0% of human papillomavirus (HPV)-associated cervical cancers globally are attributable to HPV16 and HPV18 (Wei et al., 2024). The attributable fraction increased to 94.7% when considering the seven most oncogenic HPV types included in the nonavalent vaccine. Another systematic review reported that 48.1% of oropharyngeal squamous cell carcinomas were positive for high-risk HPV, with 40.2% specifically attributed to HPV16 (Lu et al., 2024). These findings provide critical insights into the potential protective effects of current HPV vaccines.

The ongoing IARC study evaluating the long-term efficacy of a single-dose HPV vaccine in India has provided reassuring evidence. The vaccine demonstrated a high efficacy of 92.0% (95% confidence interval [CI], 87.0–95.0%) against persistent HPV16/18 infections, comparable to the efficacy observed with two or three doses. No cases of cervical intraepithelial neoplasia grade 2 or worse (CIN2+) associated with HPV16/18 were detected up to 15 years after vaccination (Malvi et al., 2024). Building on these findings, the IARC Public Health Decision Science Team (PHDS) used simulation models tailored to country-specific data to assess the public health impact of switching from a two-dose to a single-dose schedule (Figure 1). In Brazil, the model estimated that reallocating resources to female catch-up vaccination while adopting a single-dose strategy could prevent a significant number of additional cervical cancers (Man et al., 2024). These results were instrumental in Brazil's policy shift to a single-dose schedule. Further supporting the impact of HPV vaccination, data-linkage studies from several countries reported vaccine efficacy against cervical cancer ranging from 62% to 100% among girls vaccinated before the age of 16 years (Arbyn et al., 2024b).

Figure 1. Image from the CHRONOS project website (https://chronos.iarc.who.int/), launched by IARC in 2024. CHRONOS – Center of Excellence for Monitoring HPV Vaccination Impact – is a global initiative led by the IARC Public Health Decision Science Team (PHDS) to monitor the impact of human papillomavirus (HPV) vaccination and to conduct HPV prevalence surveys through the development of standardized methods, materials, tools, e-learning resources, and teaching toolkits. These resources will help local teams plan, prepare, conduct, monitor, and analyse HPV vaccination impact studies in women, with precision and consistency. The website is also a channel for interested countries and stakeholders to initiate collaborations with IARC. Local evidence is essential to inform context-specific cervical cancer control policies and to ensure the comparability of programmes across countries and populations and over time. Through the CHRONOS project, IARC continues to strengthen global efforts to ensure that evidence-driven policies contribute to cervical cancer elimination. © IARC.

A substantial component of EPR's research has been dedicated to gastric cancer prevention. Projections indicate that about 15.6 million cases of gastric cancer are expected to occur globally over the lifetime of individuals born in 2008–2017, and 76% of these cases are attributable to *Helicobacter pylori* infection (Park et al., 2025a) (Table 1). A meta-analysis synthesizing data from multiple randomized controlled trials (RCTs) showed that administering eradication therapy prevents gastric cancer in *H. pylori*-positive individuals, with consistency in results among studies of different design (Ford et al., 2025). IARC led an expert Working Group Report providing global guidance on implementation of population-based *H. pylori* screen-and-treat strategies to prevent gastric cancer, which will help to catalyse further research and implementation. In addition, an RCT nested within the GISTAR study in Latvia demonstrated that high-dose amoxicillin and bismuth therapy was more effective and less prone to contribute to antibiotic resistance compared with the clarithromycin-containing triple therapy (clarithromycin, amoxicillin, and esomeprazole) (Sjomina et al., 2024a).

Table 1. Number of people at risk and number of gastric cancers expected in people born in 2008–2017 by continent, subregion, Human Development Index level, and incidence rate category

	Number of people at risk	Expected gastric cancer cases in absence of changes in the current control measures		Gastric cancer cases attributable to *Helicobacter pylori* infection		PAF	NCGC:CGC ratio
		Number	%	Number	%	%	
Continent							
Africa	361 976 899	1 734 090	11.09	1 398 975	11.79	80.67	8.8
Americas	150 177 542	1 971 916	12.61	1 525 317	12.86	77.35	5.3
Asia	747 283 175	10 620 801	67.92	7 988 392	67.35	75.21	5.6
Europe	81 167 377	1 242 968	7.95	904 805	7.63	72.79	4.6
Oceania	6 764 264	67 832	0.43	43 794	0.37	64.56	2.3
Total	1 347 369 256	15 637 607	100.00	11 861 283	100.00	75.85	5.4
Subregion							
Northern Africa	55 254 703	330 136	2.11	259 254	2.19	78.53	7.9
Sub-Saharan Africa	306 722 196	1 403 954	8.98	1 139 720	9.61	81.18	9.2
Latin America and the Caribbean	104 241 729	1 644 937	10.52	1 329 804	11.21	80.84	9.6
Northern America	45 935 814	326 979	02.09	195 513	1.65	59.79	2.1
Central Asia	15 435 999	304 933	1.95	222 324	1.87	72.91	4.7
East Asia	197 204 416	5 871 080	37.54	4 516 617	38.08	76.93	5.9
South-East Asia	112 402 947	847 885	5.42	676 930	5.71	79.84	8.4
South Asia	365 763 486	2 936 142	18.78	2 093 237	17.65	71.29	4.2
Western Asia	56 476 328	660 760	4.23	479 285	04.04	72.54	4.3
Eastern Europe	33 776 332	690 744	4.42	526 802	4.44	76.27	6.3
Northern Europe	12 733 793	111 672	0.71	70 688	0.60	63.30	2.6
Southern Europe	14 219 900	220 923	1.41	169 918	1.43	76.91	6.6
Western Europe	20 437 352	219 629	1.40	137 397	1.16	62.56	2.5
Australia and New Zealand	3 888 378	41 173	0.26	24 464	0.21	59.42	2.0
Melanesia	2 745 204	24 651	0.16	17 716	0.15	71.87	3.9
Micronesia (Federated States of)	30 879	377	0.00	297	0.00	78.81	7.0
Polynesia	99 804	1 631	0.01	1 316	0.01	80.70	8.2
Human Development Index level							
Low	320 264 636	1 548 170	9.90	1 241 606	10.47	80.20	8.4
Medium	406 547 794	3 079 506	19.69	2 314 135	19.51	75.15	5.2
High	426 409 118	7 865 664	50.30	5 958 303	50.23	75.75	5.0
Very high	194 147 709	3 144 267	20.11	2 347 239	19.79	74.65	6.0
Age-standardized incidence rate (per 100 000) category							
0–5	778 178 444	4 054 870	25.93	3 022 097	25.48	74.53	4.0
> 5–10	234 435 904	2 583 276	16.52	1 998 555	16.85	77.37	6.0
> 10	334 724 030	8 999 083	57.55	6 840 333	57.67	76.01	5.8

CGC, cardia gastric cancer; NCGC, non-cardia gastric cancer; PAF, population attributable fraction.
Source: Reproduced with permission from Park et al. (2025b). © 2025, Park JY et al.

Also in the GISTAR study, anti-*H. pylori* antibody titre was positively related to the risk of atrophic gastritis, suggesting its potential role in gastric cancer risk stratification (Lim et al., 2025).

To advance the development of affordable, high-quality HPV detection tests for cervical cancer screening, especially those targeting fewer than the standard 13 or 14 oncogenic genotypes, EPR convened an expert consultation to define appropriate validation criteria (Ramírez at al., 2025a). EPR also contributed to the development of validation criteria for second-generation comparator tests, which serve as benchmarks for evaluating new HPV assays (Arbyn et al., 2024a). Applying these criteria, EPR successfully validated four new, indigenously developed HPV detection tests using biobank samples stored at IARC. This process was completed within only 6 months, demonstrating the feasibility of rapid, rigorous evaluation of locally manufactured technologies to expand access to HPV detection tests.

Several EPR studies contributed valuable evidence to support the cervical cancer elimination agenda. A systematic review evaluating the utility of HPV E6/E7 oncoprotein assays for triaging HPV-positive women found that these tests achieved a pooled sensitivity of 74.6% and specificity of 92.1% for detecting CIN3+ in screening populations (Downham et al., 2024a). A study conducted among women living with HIV (WLWH) in Zambia demonstrated that although visual inspection with acetic acid (VIA) had significantly lower sensitivity (22.8%) than HPV testing (67.3%) for detecting CIN2+, it had higher specificity (92.6% vs 65.3%) (Taghavi et al., 2024).

EPR-led research continues to inform best practices for the treatment of cervical precancer, particularly among WLHV. An RCT conducted in Zambia demonstrated that thermal ablation was non-inferior to cryotherapy and large loop excision of the transformation zone (LLETZ) in terms of treatment success (Basu et al., 2024) (Figure 2). Further support for the effectiveness and safety of thermal ablation came from a combined analysis of data from three large RCTs (Conzuelo Rodriguez et al., 2025). EPR also conducted an RCT in India to assess strategies for managing HPV-positive WLWH. The results demonstrated that triaging with VIA before treatment was non-inferior to treating all HPV-positive women without triage (Joshi et al., 2025), thus supporting the WHO recommendation of a "triage and treat" approach for this population. Despite these advances, treatment failure rates in WLWH remain high (> 50%). The underlying causes are not fully understood. EPR's study in Zambia revealed a positive association between a *Lactobacillus*-dominated vaginal microbiome and treatment success among WLWH, providing new insights in this area (Pinder et al., 2025). EPR is leading the development of European guidelines for cervical screening (Figure 3).

EPR has generated important evidence to support the implementation of strategies under the WHO Global Breast Cancer Initiative. In Morocco, EPR evaluated the effectiveness of clinical breast examination (CBE)-based screening through a hospital-based study. The findings showed that the proportion of early-stage cancers (stage I/II) was similar among women diagnosed via screening (55.5%) and those who self-referred (55.7%) (Selmouni et al., 2024). There was no significant difference in 3-year survival between the two groups (94.5% vs 88.6%). The median intervals between symptom recognition, pathological diagnosis, and treatment initiation were comparable, indicating that the screening programme contributed to equitable access.

An analysis of data from 6970 patients with breast cancer in the national cancer registry of the Islamic Republic of Iran revealed major gaps in quality of care. Although 62.6% of the patients were diagnosed at stage I/II, 25% lacked documented hormone receptor or human epidermal growth factor receptor 2 (HER2) status, only 4% were evaluated by a multidisciplinary team, and 20% did not receive radiotherapy after breast-conserving surgery (Rajabpour et al., 2025). A patterns-of-care study in Morocco reinforced the value of guideline-adherent management. Patients treated according to national protocols had a significantly higher 5-year survival rate (80%) than those who did not receive protocol-based care (50%) (Mrabti et al., 2024).

As part of the European Commission-funded Prostate Cancer Awareness and Initiative for Screening in the European Union (PRAISE-U) project, EPR has played a pivotal role in shaping and supporting pilot prostate cancer screening programmes across Europe. A comprehensive systematic review evaluated current prostate cancer screening practices across the European Union and the United Kingdom, identifying areas of consensus and divergence in approaches and policies (Leenen et al., 2025). Building on this, EPR used a structured methodology to identify and define 21 key performance indicators (KPIs) spanning the full continuum of a screening programme (Singh et al., 2025a). EPR also designed the protocols for the implementation of risk-adapted pilot prostate cancer screening programmes, incorporating the previously defined KPIs as benchmarks for performance monitoring (Chandran et al., 2024). The protocol development was informed by a systematic assessment of barriers and facilitators, including a survey assessing the readiness and

Figure 2. EPR research in Zambia helped to develop and evaluate a portable thermal ablation device as a highly effective and cost-effective technology to treat cervical precancers in low- and middle-income countries. © Nurse Gloria Mwale.

Figure 3. The European Commission Initiative on Cervical Cancer (EC-CvC) Expert Working Group Foundation meeting, 5–6 February 2024, Lyon, France. © IARC.

capacity of national health systems to implement organized screening (Beyer et al., 2024a; Singh et al., 2025b).

In the area of anal cancer prevention, EPR research demonstrated that HPV16 testing followed by cytology triage is both effective and cost-effective for screening high-risk populations. These findings were instrumental in the decision by the French Ministry of Health to recommend anal cancer screening for high-risk groups (Spindler et al., 2024; Deshmukh et al., 2025).

EPR's implementation research spans diverse global settings. In Europe, EPR-led research identified effective, locally relevant strategies to enhance the uptake of HPV-based cervical cancer screening among vulnerable women (Mensah et al., 2024a). In India, EPR documented the crucial roles played by community health workers in delivering care for common cancer types, as well as the challenges they face in implementation (Palaniraja et al., 2025) (Figure 4). In Nepal, a study identified key factors contributing to delays across the cancer care continuum, from symptom recognition to treatment initiation (Singh et al., 2025c). In collaboration with multiple stakeholders in India, EPR also co-created strategies to improve access to early detection of common cancer types, ensuring that solutions were responsive to local health system realities and sociocultural contexts (Chandran et al., 2025a). EPR developed the Cervical Cancer Screening-Related Service

Figure 4. The Access Cancer Care India (ACCI) project aims to co-design and evaluate context-appropriate solutions to overcome the structural barriers to access early detection of common cancer types. © IARC/P. Basu.

Figure 5. Cancer Screening in Five Continents (CanScreen5) training events in 2024. Training of cancer screening programme managers from Francophone African countries was held in Rabat, Morocco (top) and from South Asian countries was held in Bali, Indonesia (bottom). © IARC.

Availability and Readiness Assessment (CervScreen-SARA), a structured protocol for assessing health system capacity and readiness to implement HPV-based screening (Mensah et al., 2024a). This tool was subsequently adapted to assess readiness for early detection of common cancer types (Mallafré-Larrosa et al., 2024).

EPR developed and pilot-tested INTERVENER, a web-based tool designed to help cancer screening programme managers systematically identify prioritized barriers and select evidence-based interventions to address them (Mosquera et al., 2025). INTERVENER was applied in 27 countries in Latin America and the Caribbean to assess key obstacles to cancer screening implementation and document the strategies adopted to overcome them (Mosquera et al., 2024). In addition, EPR conducted a focused study on the barriers to breast cancer screening in Brazil, further highlighting system-level and sociocultural factors that influence participation (Câmara et al., 2025).

With a continued focus on quality improvement in cancer screening, the Cancer Screening in Five Continents (CanScreen5) project has expanded its global reach, now including participation from 114 countries (Figure 5). The project continues to collect data on the organization and performance of breast, cervical, and colorectal cancer screening programmes, providing a valuable platform for benchmarking and knowledge exchange (https://canscreen5.iarc.fr). In Canada, EPR evaluated the level of organization of colorectal cancer screening programmes across 10 provinces and 2 territories, applying essential criteria for organized screening that were previously developed by EPR through a global expert consultation (Law et al., 2024). This work has provided critical insights into the strengths and gaps of screening programmes in high-income settings. In the European context, EPR led the redefinition of KPIs for breast, cervical, colorectal, and lung cancer screening (Sheridan et al., 2025). To support systematic monitoring, a data processing warehouse was developed to facilitate the submission and analysis of performance data by European screening programmes (Lucas et al., 2025). EPR convened an expert group consultation to identify best practices for cervical cancer audits. This work resulted in the definition of a comprehensive technical, legal, and ethical framework for conducting audits within organized cervical screening programmes (Chandran et al., 2025b).

EPR is at the forefront of integrating artificial intelligence (AI) into cervical cancer prevention. As part of a project funded by the United States National Cancer Institute, EPR is developing an AI-supported system to triage HPV-positive women. The opportunities and challenges of using AI in cervical cancer screening were comprehensively reviewed (Wu et al., 2024). EPR designed an AI-based chatbot to deliver a decision aid for cervical screening, specifically tailored to women with lower educational backgrounds. The RCT assessing this intervention was recognized by *Nature Medicine* as one of 11 clinical trials set to shape medicine in 2025.

In summary, EPR conducts impactful research on cancer prevention and early detection, generating evidence to guide global policies. With global projects such as CanScreen5 and AI innovations, EPR continues to influence equitable, evidence-based cancer control across diverse health-care settings.

EPR support to cancer control implementation

Between 2022 and 2024, the Improving Cancer Care Coordination and Screening (ICCCS) project in Latvia and Slovakia aimed to improve cancer care coordination and screening by co-developing strategic plans and roadmaps with local stakeholders. Funded by the European Union Technical Support Instrument and led by IARC in collaboration with Erasmus University Medical Center (Erasmus MC, the Netherlands) and, in Latvia, with the Organisation of European Cancer Institutes (OECI), it aimed to guide policy-makers towards evidence-based decisions.

In Slovakia, the project focused on three areas: (i) reorganizing the population-based cancer registry by establishing an advisory board, updating standard procedures, moving to full electronic data, and linking with health databases; (ii) enhancing breast, cervical, and colorectal screening programmes by defining governance roles, implementing call–recall systems, accrediting providers, and creating a screening registry; and (iii) designing a communication strategy with tailored messages and multichannel campaigns to raise awareness and uptake.

In Latvia, the project outputs included (i) strengthening governance of the population-based cancer registry, introducing data-sharing agreements, and adopting international standards; (ii) drafting an oversight framework for the population-based screening with call–recall, creating a screening registry, and implementing provider quality assurance; and (iii) mapping cancer care services, creating molecular tumour boards, expanding radiotherapy units, integrating electronic health records from different care providers, and reinforcing multidisciplinary teams for treatment decision and delivery.

Reports of the ICCCS project. © IARC.

The project reports are available from https://reform-support.ec.europa.eu/publications-0/improving-cancer-care-coordination-and-screening-icccs_en.


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The Evidence Synthesis and Classification Branch (ESC) comprises three programmes: the IARC Monographs Programme, the IARC Handbooks Programme, and the WHO Classification of Tumours Programme.

The IARC Monographs Programme produces the *IARC Monographs on the Identification of Carcinogenic Hazards to Humans*, a series of systematic scientific reviews that identify environmental factors (defined broadly) that may cause cancer in humans. The programme also organizes advisory groups and international scientific workshops on key issues pertaining to the assessment of carcinogens and their mechanisms.

The IARC Handbooks Programme produces the *IARC Handbooks of Cancer Prevention*, a series of systematic scientific reviews that identify interventions and strategies that may reduce the risk of cancer or mortality from cancer. The programme also runs collaborative projects on topics related to the recent *Handbooks* volumes.

The WHO Classification of Tumours Programme (WCT) produces the *WHO Classification of Tumours* series (also known as the WHO Blue Books). Now in its sixth edition as a set of 15 volumes, this series provides the definitive and internationally accepted standards for the diagnosis of tumours.

For each volume of the *IARC Monographs*, the *IARC Handbooks*, and the *WHO Classification of Tumours*, IARC convenes international, interdisciplinary groups of expert scientists and physicians to review systematically the pertinent scientific literature and to develop consensus evaluations and classifications. IARC selects these experts based on their knowledge and experience and the absence of conflicting interests.

IARC Monographs Programme (IMO)

The IARC Monographs Programme (IMO), long one of IARC's flagships, is responsible for producing the *IARC Monographs on the Identification of Carcinogenic Hazards to Humans*. The *IARC Monographs* are fundamental to the Agency's mission of identifying the preventable causes of cancer in humans. Since the inception of the *IARC Monographs* in 1971, 1055 agents have been evaluated for carcinogenicity. This international, interdisciplinary endeavour provides an authoritative reference for researchers, health authorities, and the public. Health agencies worldwide rely on the *IARC Monographs* for scientific support of actions to control exposures and prevent cancer. In addition to producing this important resource, the scientific personnel of IMO contribute to the scientific literature on topics related to the methodology and contents of the *IARC Monographs*.

Major accomplishments

IMO organized five Working Group meetings and one Advisory Group meeting during the 2024–2025 biennium. The meeting of the Advisory Group to Recommend Priorities for the *IARC Monographs* is held every 5 years. The agents evaluated at the five Working Group meetings included a range of agents that had been recommended as priorities for evaluation. The six meetings convened during the biennium were:

- Advisory Group to Recommend Priorities for the *IARC Monographs* during 2025–2029 (19–22 March 2024)
- Volume 136: Talc and Acrylonitrile (11–18 June 2024)
- Volume 137: Hydrochlorothiazide, Voriconazole, and Tacrolimus (5–12 November 2024)
- Volume 138: Automotive Gasoline and Some Oxygenated Additives (25 February–4 March 2025)
- Volume 139: Hepatitis D Virus, Human Cytomegalovirus, and Merkel Cell Polyomavirus (3–10 June 2025)
- Volume 140: Atrazine, Alachlor, and Vinclozolin (28 October–4 November 2025)

The focus and results of these meetings (Table 1) illustrate the unique ability of the *IARC Monographs* to evaluate the carcinogenicity of diverse agents. These range from chemicals that have been tested only in animal bioassays to complex exposures, such as automotive gasoline, and viruses, which have been evaluated in epidemiological and experimental studies.

The evaluations achieved in these meetings comprised 17 classifications, including 9 agents never before evaluated by IARC and re-evaluations of 8 agents considered previously.

A concise summary of each evaluation with the classification, accompanying rationale, and key references is published in *The Lancet Oncology* within several weeks of each meeting. Full details and supporting data are provided in the complete *IARC Monographs* volume, which is expected to be published about a year after each meeting. Both are available to download for free from the IARC Publications website (https://publications.iarc.who.int/).

The report of the Advisory Group to Recommend Priorities for the *IARC Monographs* during 2025–2029 was published online, and a summary of the recommendations was published in *The Lancet Oncology*.

The Advisory Group considered more than 200 candidate agents, most of

Table 1. Summary of evaluations from the five *IARC Monographs* meetings held in 2024–2025

Agent (Volume)	Overall classification	Strength of evidence of cancer in humans (tumour type provided for *limited* or *sufficient* evidence)	Strength of evidence of carcinogenicity in experimental animals	Strength of mechanistic evidence (key characteristics of carcinogens with *consistent and coherent* evidence[a])
Talc and Acrylonitrile (Volume 136)				
Acrylonitrile	Group 1	*Sufficient* (lung cancer) *Limited* (bladder cancer)	*Sufficient*	*Strong* (1, 2, 5, 9, and 10)
Talc	Group 2A	*Limited* (ovarian cancer)	*Sufficient*	*Strong* (6 and 10)
Hydrochlorothiazide, Voriconazole, and Tacrolimus (Volume 137)				
Hydrochlorothiazide	Group 1	*Sufficient* (squamous cell carcinoma of the skin and cancer of the lip) *Limited* (basal cell carcinoma, skin melanoma, Merkel cell carcinoma, and malignant adnexal skin tumours)	*Sufficient*	*Limited*
Voriconazole	Group 1	*Sufficient* (squamous cell carcinoma of the skin)	*Inadequate*	*Strong* (5 and 10)
Tacrolimus	Group 1	*Sufficient* (non-Hodgkin lymphoma and post-transplant lymphoproliferative disorder) *Limited* (leukaemia and squamous cell carcinoma of the skin)	*Sufficient*	*Strong* (2, 5, and 7)
Automotive Gasoline and Some Oxygenated Additives (Volume 138)				
Automotive gasoline	Group 1	*Sufficient* (bladder cancer and acute myeloid leukaemia) *Limited* (non-Hodgkin lymphoma [including chronic lymphocytic leukaemia], multiple myeloma, stomach cancer, and kidney cancer)	*Sufficient*	*Strong* (2, 5, 6, and 10)
Methyl *tert*-butyl ether (MTBE)	Group 2B	*Inadequate*	*Sufficient*	*Limited*
Ethyl *tert*-butyl ether (ETBE)	Group 2B	*Inadequate*	*Sufficient*	*Strong* (10)
tert-Butyl alcohol (TBA)	Group 3	*Inadequate*	*Limited*	*Limited*
Diisopropyl ether (DIPE)	Group 3	*Inadequate*	*Limited*	*Inadequate*
tert-Amyl methyl ether (TAME)	Group 3	*Inadequate*	*Inadequate*	*Inadequate*
Hepatitis D Virus, Human Cytomegalovirus, and Merkel Cell Polyomavirus (Volume 139)				
Hepatitis D virus (HDV)	Group 1	*Sufficient* (hepatocellular carcinoma)	*Inadequate*	*Strong* (6)
Human cytomegalovirus (HCMV)	Group 2B	*Limited* (acute lymphoblastic leukaemia in children)	*Inadequate*	*Limited*
Merkel cell polyomavirus (MCPyV)	Group 1	*Sufficient* (Merkel cell carcinoma)	*Sufficient*	*Strong* (2, 3, 9, and 10)
Atrazine, Alachlor, and Vinclozolin (Volume 140)				
Atrazine	Group 2A	*Limited* (non-Hodgkin lymphoma that is positive for t(14;18) chromosomal translocation)	*Sufficient*	*Strong* (5, 6, 7, 8, and 10)
Alachlor	Group 2A	*Limited* (laryngeal cancer)	*Sufficient*	*Strong* (8 and 10)
Vinclozolin	Group 2B	*Inadequate*	*Sufficient*	*Strong* (4, 6, 8, and 10)

[a] Numbers correspond to one or more of the 10 key characteristics of carcinogens, as identified by Smith et al. (2016; https://pubmed.ncbi.nlm.nih.gov/26600562/) and described in the Preamble to the *IARC Monographs* (https://monographs.iarc.who.int/iarc-monographs-preamble-preamble-to-the-iarc-monographs/).

which were received from public nominations and including the recommended priority agents remaining from a similar Advisory Group meeting convened in 2019. To develop its priority recommendations, the Advisory Group deliberated on all nominated agents both by evidence stream (i.e. human exposure, cancer in humans, cancer in experimental animals, and mechanistic evidence in humans and experimental systems) and by type of agent (e.g. infectious agents, biotoxins, complex exposures, occupations, particles and fibres, metals, pharmaceuticals, physical agents, pesticides, and a variety of miscellaneous chemicals). Priority was assigned based on (i) evidence that there is contemporary human exposure (whether widespread or more narrow) and (ii) the extent to which the available evidence on carcinogenicity from each evidence stream could support a new or updated evaluation according to the Preamble to the *IARC Monographs*. Any of the three evidence streams alone could support prioritization of agents with no previous evaluation. For previously evaluated agents, the Advisory Group considered the basis of the current classification and the potential impact of the newly available evidence during integration across evidence streams (see Table 4 in the Preamble to the *IARC Monographs*).

The Advisory Group recommended a broad range of agents for evaluation with high priority (121 agents) or medium priority (17 agents). Other agents were assigned no priority for evaluation (54 agents). Noting that suggestive evidence for additional cancer sites was found for all 10 nominated agents currently classified as *carcinogenic to humans* (Group 1), the Advisory Group considered a systematic appraisal of all 128 Group 1 agents to identify new cancer sites with *sufficient* or *limited* evidence in humans to be warranted. The Advisory Group further recommended that agents may merit priority consideration if compelling evidence indicating an emerging carcinogenic hazard (e.g. from cancer epidemiology studies, cancer bioassays, and/or mechanistic studies on key characteristics of carcinogens) becomes available in the next 5 years.

Publications

During the 2024–2025 biennium, the following *IARC Monographs* volumes were published:

- Volume 133: Anthracene, 2-Bromopropane, Butyl Methacrylate, and Dimethyl Hydrogen Phosphite (July 2024)
- Volume 134: Aspartame, Methyleugenol, and Isoeugenol (September 2024; the monograph on Aspartame was first published online in April 2024)
- Volume 135: Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) (February 2025)
- Volume 136: Talc and Acrylonitrile (September 2025; the monograph on Talc was first published in June 2025)

In addition to the published volumes, six short articles summarizing the results of each *Monographs* Working Group or Advisory Group meeting were published in *The Lancet Oncology*.

During the biennium, the full report of the Advisory Group to Recommend Priorities for the *IARC Monographs* during 2025–2029 was published. Also, two important publications resulting from scientific workshops convened in the previous biennium were published: IARC Scientific Publication No. 171, *Bias Assessment in Case–Control and Cohort Studies for Hazard Identification* (Statistical Methods in Cancer Research, Volume V), in September 2024, describing the results of a workshop convened in October 2022; and an *IARC Monographs* Technical Report, *Key Characteristics-Associated End-Points for Evaluating Mechanistic Evidence of Carcinogenic Hazards*, in June 2025, describing the results of a workshop convened in July 2023.

A webinar on Scientific Publication No. 171 was held in January 2025, and an exhibition about the I*ARC Monographs* was displayed at the IARC Governing Council session in May 2025. During the biennium, six issues of the *IARC Monographs* Newsletter were published. More information is available on the *IARC Monographs* website: https://monographs.iarc.who.int/.

IARC Handbooks Programme (IHB)

The IARC Handbooks Programme (IHB) is responsible for producing the *IARC Handbooks of Cancer Prevention*. IHB, one of IARC's flagships, provides evaluations of interventions and strategies for primary and secondary cancer prevention. The *IARC Handbooks* are an authoritative reference for researchers and the public, and they bring the evidence base to health authorities to develop recommendations and guidelines for cancer control. In addition, scientific personnel of IHB lead or contribute to collaborative projects on topics related to the methodology or content of the *IARC Handbooks*.

For each volume of the *IARC Handbooks*, a Special Report summarizing the outcomes of the Working Group meeting is published in *The New England Journal of Medicine* within 4–6 months after the meeting. The full *IARC Handbooks* volume is planned to be published 12–15 months after the meeting. Both are available to download for free from the IARC Publications website (https://publications.iarc.who.int/).

Major accomplishments

Volume 20: Alcohol Control

In collaboration with the WHO Regional Office for Europe, IHB developed a two-part volume on alcohol control (Volumes 20A and 20B) (Figure 1A). Volume 20B: Alcohol Policies, for which the Working Group meeting took place in October 2024, provides evaluations on the effectiveness of individual-level and population-level interventions in reducing alcohol consumption (Figure 1B). The two-part volume on alcohol has led to numerous presentations at international conferences, WHO workshops and forums, and several related publications. The full volume was launched on 14 October 2025 at a joint IARC and WHO Regional Office for Europe high-level meeting organized at the United Nations City in Copenhagen, Denmark. The launch was preceded by a series of webinars on the several policy interventions reviewed and evaluated in the volume.

Volume 21: Lung Cancer Screening

This volume was announced in September 2024. The preparatory phases for Volume 21 have taken place: a scoping meeting was held in April 2025, and subgroup sessions were held (remotely) in November–December 2025. The Working Group meeting will be held in April 2026 (in person). This is a first-time evaluation of lung cancer screening by the *IARC Handbooks*. The literature is now mature enough to enable meaningful evaluations to be made of both the efficacy of screening from randomized trials and the effectiveness of screening from running programmes, so far mostly assessing a decrease in stage, because data on mortality are not yet available.

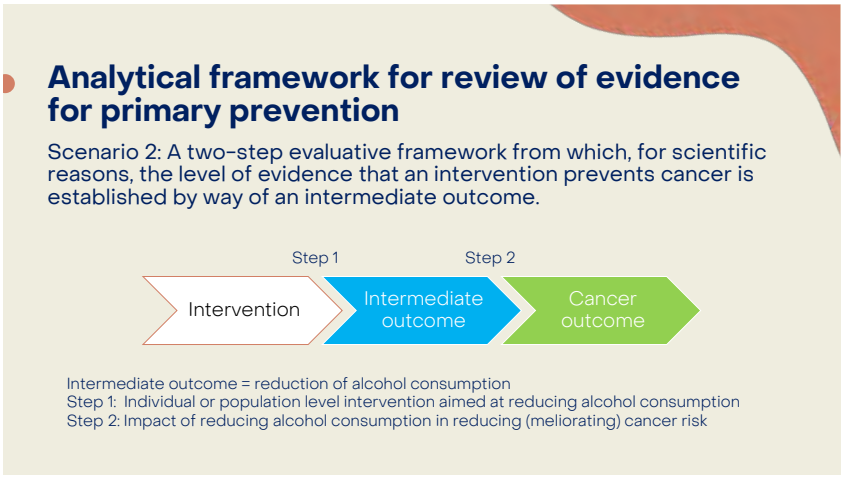
Projects related to the *IARC Handbooks*

Evidence and gap maps on oral cancer prevention

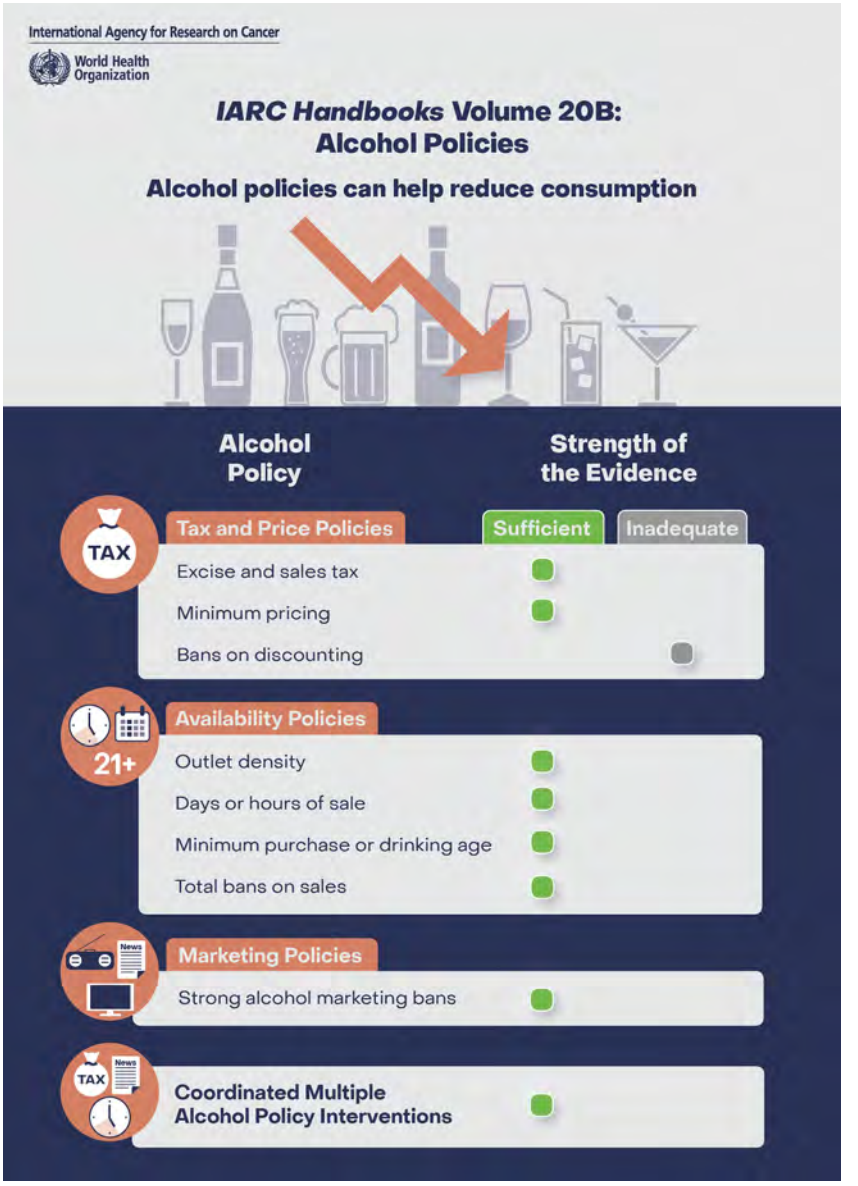
An evidence and gap map (EGM) is a systematic presentation of all relevant evidence about a specific topic or research question. EGMs provide a visual and interactive display to explore the amount and/or the level of evidence of the studies by

Figure 1. (A) Framework for *IARC Handbooks* Volume 20: Alcohol Control; (B) *IARC Handbooks* Volume 20B: Alcohol Policies. © IARC.

A



B



study design, and in turn to identify gaps where evidence is missing and pockets of low-level evidence. EGMs provide a foundational source of information on which to base future research. IHB developed five EGMs based on the literature reviewed in *IARC Handbooks* Volume 19: Oral Cancer Prevention (Figure 2).

Evaluation of biological mechanisms linking diet, lifestyle, and cancer

Within the World Cancer Research Fund International (WCRF)-led Global Cancer Update Programme (CUP Global), this collaborative project between IARC and WCRF aims to provide evaluations of biological mechanisms to complement the evaluations based on epidemiological studies. IHB scientists contributed to the development of the framework and the conceptualization and operationalization of the evaluation scheme.

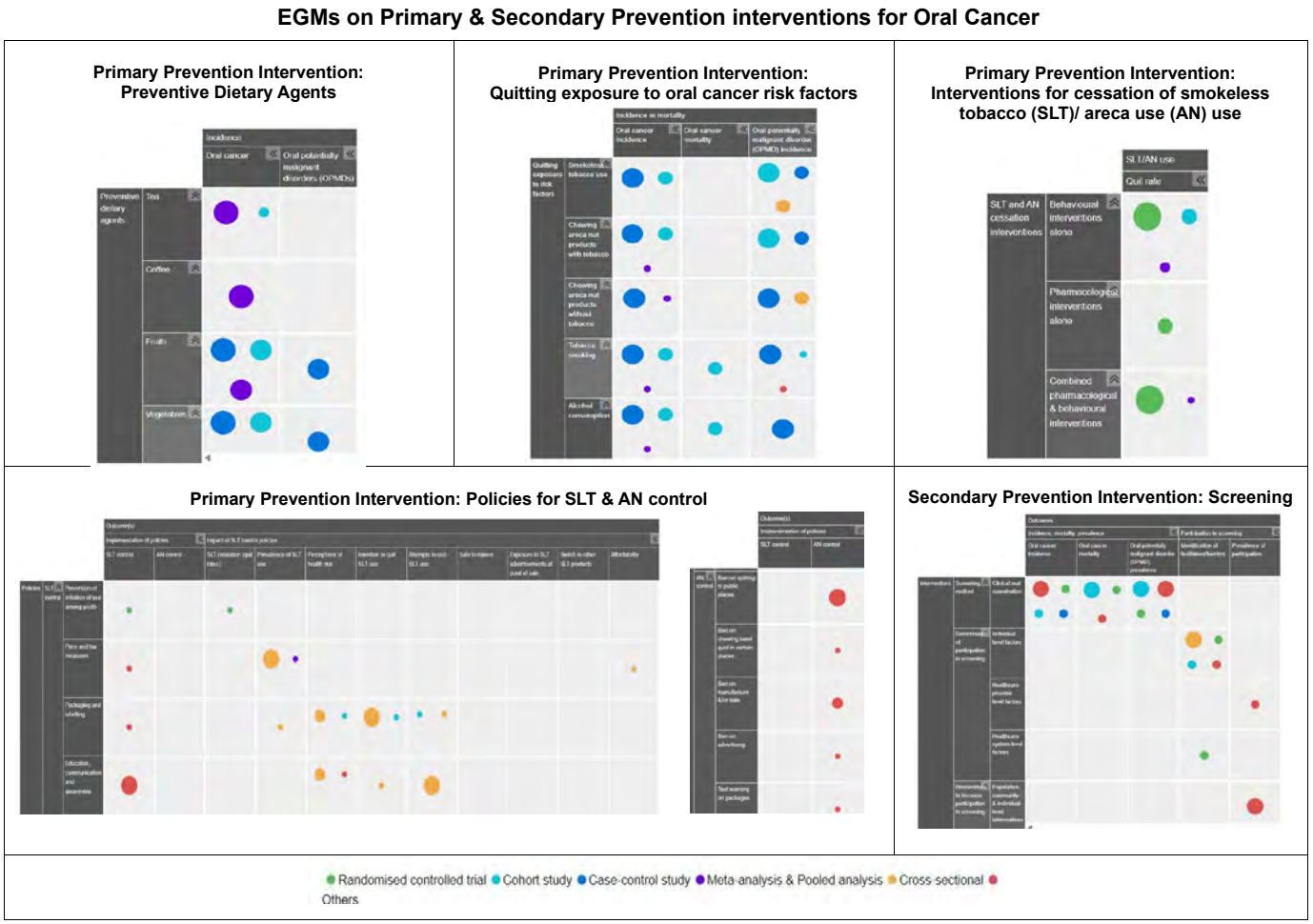
European guidelines on cervical cancer screening and diagnosis

The objective of the European Commission Initiative on Cervical Cancer (EC-CvC) is to develop evidence-based recommendations for cancer screening and diagnosis and a voluntary European quality assurance scheme for cervical cancer care services. IHB scientists have contributed to this project, namely as co-lead of the subgroup on PICO (Patient or population, Intervention, Comparison, and Outcomes) questions. The first recommendations have been published on the website of the EC Joint Research Centre (https://cancer-screening-and-care.jrc.ec.europa.eu/en/ec-cvc/european-cervical-cancer-guidelines).

Publications

- *IARC Handbooks* Volume 19: Oral Cancer Prevention was published in print in May 2024.
- *IARC Handbooks* Volume 20A: Reduction or Cessation of Alcoholic Beverage Consumption was published online in July 2024 and in print in October 2024.
- *IARC Handbooks* Volume 20B: Alcohol Policies was published online in October 2025 and in print in December 2025.

Figure 2. Evidence and gap maps for *IARC Handbooks* Volume 19: Oral Cancer Prevention. © IARC.



WHO Classification of Tumours Programme (WCT)

The work of the WHO Classification of Tumours Programme (WCT) encompasses the *WHO Classification of Tumours* series (also known as the WHO Blue Books), the *IAC-IARC-WHO Cytopathology Reporting Systems* series, the IARC histopathology laboratory, and the International Collaboration for Cancer Classification and Research (IC^{3}R) including the Evidence Gap Map project, which is funded by a European Union Horizon grant (grant number HORIZON-HLTH-2021-CARE05 PROJECT 101057127).

WHO Classification of Tumours series

Tumour classification is a major scientific endeavour of considerable importance, underpinning the diagnosis of all cancers worldwide. Beginning with the fifth edition, the adoption of a relational database approach for the series and a hierarchical classification format according to Linnaean principles has vastly improved the standardization of tumour classification across anatomical sites, requiring authors to consider all characteristics of each tumour and highlighting the increasingly multidisciplinary nature of cancer diagnosis.

During the 2024–2025 biennium, the following volumes were published in print (these are also available online on the WHO Classification of Tumours Online website; https://tumourclassification.iarc.who.int/):

- *Haematolymphoid Tumours*, fifth edition, Parts A and B (2024)
- *Head and Neck Tumours*, fifth edition, Parts A and B (2024)
- *Endocrine and Neuroendocrine Tumours*, fifth edition (2025)
- *Skin Tumours*, fifth edition (2025) (Figure 3)
- *Eye and Orbit Tumours*, fifth edition (2025).

The following volume was made available on the WHO Classification of Tumours Online website as a beta version:

- *Genetic Tumour Syndromes*, fifth edition.

Figure 3. *Skin Tumours*, fifth edition. © IARC.

This volume is in the final stages of print production.

The production process for the sixth edition is shown in Figure 4. The sixth edition began in late 2024, and the first and second editorial board meetings have been held for four volumes. The *Digestive System Tumours* and *Breast Tumours* volumes are being copy-edited, and the content has been finalized for the *Female Genital Tumours* and the *Soft Tissue and Bone Tumours* volumes. The first editorial board meetings for the next two volumes in the series – *Thoracic Tumours* and *Central Nervous System Tumours* – were held in November 2025.

Figure 4. The production process for the sixth edition of the *WHO Classification of Tumours* series. © IARC.

The print books and the accompanying website have both been very well received, and use of the classification is expanding in the wider biomedical community (e.g. among epidemiologists, radiologists, researchers, oncologists, molecular pathologists, and geneticists as well). Production of the *WHO Classification of Tumours* series continues to be funded by book sales and website subscriptions. Special discounts are provided for readers in low- and middle-income settings and for students and trainees.

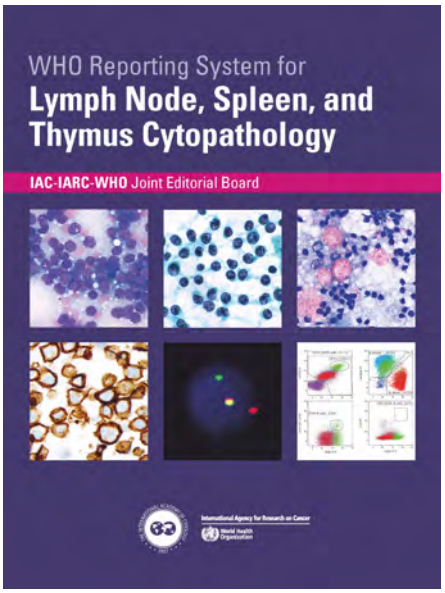
IAC-IARC-WHO Cytopathology Reporting Systems series

Cytopathology is important as a discipline for early cancer detection or diagnosis, especially in low- and middle-income settings. It also provides a pathway to molecular and cellular diagnosis. In keeping with IARC's objective of promoting international collaboration in cancer research, WCT initiated a dialogue with the International Academy of Cytology (IAC) in 2019, to develop the IAC-IARC-WHO reporting systems for cytopathology. The aim of this series is to harmonize cytopathology reporting across different body sites at a global level. The first three volumes – for lung cytopathology, pancreaticobiliary cytopathology, and lymph node, spleen, and thymus cytopathology – have been published and are also available on the WHO Classification of Tumours Online website. These will be followed by the reporting systems for soft tissue cytopathology, breast cytopathology, liver cytopathology, kidney and adrenal cytopathology, and head and neck cytopathology. After all major sites have been covered, the reporting systems will be revised regularly with emerging research evidence. These reporting systems are designed to be a helpful addition to the *WHO Classification of Tumours* series.

During the 2024–2025 biennium, the following volume was published in print (this is also available on the WHO Classification of Tumours Online website; https://tumourclassification.iarc.who.int/):

- *WHO Reporting System for Lymph Node, Spleen, and Thymus Cytopathology*, first edition (2024) (Figure 5).

Figure 5. *WHO Reporting System for Lymph Node, Spleen, and Thymus Cytopathology*, first edition. © IARC.



Histopathology laboratory

The histopathology laboratory provides pathology expertise and support across the Agency through the WCT pathologists and a research assistant. It provides a histopathology service to other IARC groups, as well as scanning and providing whole slide images for the WHO Blue Books. The histopathology imaging needs of the WHO Blue Books are critical for their future success, and close links with pathology provision within IARC are facilitated by WCT's leadership of the histopathology laboratory. This is also an essential service to the laboratory groups and others engaged in studies involving human tissue.

The histopathology laboratory has modernized its equipment, with a corresponding increase in capacity and capability. The laboratory is increasingly involved in all aspects of digital and computational pathology. Its capacity to produce high-quality immunohistochemistry for research projects has been enhanced by the acquisition of an automated immunostainer and a cryostat, which is used to produce slides and frozen sections. It is now a state-of-the-art research laboratory located within the IARC building. Collaborations with local institutions (Centre Léon Bérard) and international partners continue to expand.

International Collaboration for Cancer Classification and Research (IC^3R)

The translation of research findings into practice is never easy, and the sheer volume of information produced each year can be daunting for those involved. Crucially, scientific information must be of high quality to be of use. Unlike in other branches of medicine, the translation of cancer research into diagnostic practice is largely in the hands of its users, through incorporation into the WHO Classification of Tumours.

The International Collaboration for Cancer Classification and Research (IC^3R; https://ic3r.iarc.who.int/) was established by WCT to bring cancer research institutions together to improve research quality and to meet the need for evaluation and synthesis of research findings. Currently, 22 institutions are involved in IC^3R, and it is funded by membership dues. IC^3R aims to promote evidence-based practice in pathology and to set standards for tumour classification and cancer research harmonization to underpin successful translation of cancer pathology research into tumour classifications and clinical practice. The formation of interprofessional research teams, including pathologists, epidemiologists, systematic reviewers, and cancer researchers, under the IC^3R umbrella was further enhanced by securing a large innovative European Union Horizon grant for the WCT Evidence Gap Map project in 2022.

Evidence Gap Map (EVI MAP) project

Mapping the Evidence for the WHO Classification of Tumours: a Living Evidence Gap Map by Tumour Type (EVI MAP) is an international consortium of six partner institutions, five in Europe and one in Asia, coordinated by WCT. The initiative will enable the identification of evidence gaps, strengths, and weaknesses in the entire spectrum of human tumour classifications, to build a solid framework for future evidence-based pathology practice and research on tumour classification. It aims to inform the WCT editorial process for the upcoming editions of the WHO Blue Books, by creating dynamic interactive evidence maps for human tumours.

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Dr Arunah Chandran (Scientific director, Summer School module on Implementing Cancer Prevention and Early Detection)
Dr Isabel Mosquera (Scientific director, Summer School module on Implementing Cancer Prevention and Early Detection)
Dr Mazda Jenab (Scientific director, Summer School module on Introduction to Cancer Epidemiology)
Dr Evgenia Ostroumova (Scientific director, Summer School module on Introduction to Cancer Epidemiology)
Dr Valerie McCormack (Scientific officer, fellowship programme)

As a core function of the Agency, IARC's education and training programmes have made a substantial contribution to the development of human resources for cancer research worldwide and have also helped to widen the Agency's network of collaborators.

Key achievements of IARC's education and training programmes during 2024–2025 are presented here. Whereas the Learning and Capacity-Building Branch (LCB) coordinates the Agency's activities in these areas, many initiatives are led by the research Branches.

Research Training and Fellowship Programme

The programme offers researchers at different stages of their careers (collectively referred to as Early Career and Visiting Scientists) opportunities to receive training at IARC by participating in collaborative research projects. These Early Career and Visiting Scientists are supported either by project funds from IARC Branches or by IARC Fellowships. A total of 320 Early Career and Visiting Scientists from about 60 different countries were hosted at IARC during the biennium; 60% are low- and middle-income countries (LMICs). Nearly half of all Early Career and Visiting Scientists (47%) came from LMICs. In 2025, the number of new Early Career and Visiting Scientists onboarded increased by 23.5% compared with 2024.

Policy, support, and career growth

The internal courses programme, jointly managed by LCB and the Human Resources Office (HRO), offered about 50 courses to Early Career and Visiting Scientists in 2024–2025 (Table 1), which were attended by more than 100 people. Most of the courses were held on site. In addition, Early Career and Visiting Scientists have access to a wide range of online learning resources from the WHO ilearn platform.

As a result of the revision of the IARC Postdoctoral Charter carried out in previous years, the IARC Good Supervisory Practice Framework was developed and launched in 2025; for more details, see the HRO text in the Services to Science and Research Branch (SSR) report.

LCB continued to work closely with the Early Career Scientists Association (ECSA) (Figure 1). Among other activities, ECSA

Table 1. Generic instructor-led courses for Early Career Scientists, 2024 and 2025. © IARC.

Professional and personal development	**Teamwork, leadership, and change management**
Effective interpersonal communication techniques	Workshop on effective teamwork
Giving and receiving feedback	Using the strengths approach for your team
Motivation and well-being	Conflict resolution
Personal brand	Conflict management
Effective writing skills	Leading through uncertainty: supporting your team in times of crisis
CV skills and motivation letter writing	Project and change management fundamentals
Job search workshop	
LinkedIn and networking	
LinkedIn for job seekers	
Maximizing opportunities in times of change	
Navigating change and uncertainty: supporting well-being in times of organizational transition	
Supporting yourself and your children in uncertain times	
Stress management	
Health, safety, and well-being	**Research, publishing, and scientific skills**
Psychological first aid	Copyright and AI and Open Access (WHO Press)
SHW first aid (English and French)	Copyright myths and misconceptions
First aid at work	EndNote basic
Women's security awareness	Predatory publishing
Mental health awareness	Publishing in scientific journals
	PubMed: search efficiently
	Systematic reviews search methodology
Data, coding, and digital skills	**Open Science**
REDCap for data collection	Open Science in medical research
REDCap for surveys	Code crusaders
Introduction to medical genomics	Code champions
Introduction to supervised learning for life science	Debugging dragons: conquering bugs and writing clean code
Multi-omics data	Packaging paladins: crafting and documenting your code
Mendelian randomization	Fast and furious: speeding up your code
Statistical practice in epidemiology using R	Git started
Take IT Easy: Cybersecurity; Outlook tips; Ethical hacking; Managing personal and professional files	Branching into the multiverse: Git's hidden powers

Figure 1. Early Career Scientists Association (ECSA) Day 2024. © IARC.

organized a joint scientific conference with the German Cancer Research Center (DKFZ) to showcase the work of students and postdoctoral scientists from both institutions and provide a platform for networking.

As documented by the most recent survey, conducted in early 2024, half of the former IARC postdoctoral scientists who responded have secured a permanent or tenure-track position. Half of the former IARC postdoctoral scientists manage their own team and funding, and many have received funding related to their stay at IARC. The vast majority continue to collaborate with IARC and acknowledge the impact that the Agency's programme had on their careers.

IARC Fellowships

During the 2024–2025 biennium, the Agency awarded five IARC Postdoctoral Fellowships to candidates from LMICs for projects in line with the IARC Medium-Term Strategy 2021–2025. Of these, as part of efforts to identify complementary sources of funding for the programme, negotiations with the Mark Foundation for Cancer Research led to a renewed agreement enabling the award of one fellowship. In addition, one return grant was awarded, to assist a former IARC Postdoctoral Fellow in the establishment of research activities in their home country.

In 2023, the former Senior Visiting Scientist Award evolved into several awards for mid-career scientists from LMICs to develop collaborative research projects with IARC, contribute to enhancing their career prospects, and build the capacity of their institution through longer-term collaborations initiated or strengthened through the Fellowship. Three such fellowships were awarded in 2025.

IARC Learning (previously the IARC Courses Programme)

The IARC Learning programme is designed to enhance the capacity of the global research community, in particular in LMICs, through lifelong learning in the areas of the Agency's expertise.

E-learning resources

During the 2024–2025 biennium, several free self-learning programmes and resources were launched or further developed.

The Cancer Surveillance Branch (CSU) launched the Global Initiative for Cancer Registry Development (GICR) e-learning series (https://whoacademy.org/IARC/27-global-initiative-for-cancer-registry-development-gicr-e-learning?from=learning-space), designed for new and existing cancer registry professionals. It incorporates 16 modules that cover topics including data collection, management, statistical analysis, and effective communication of findings. The series enables participants to learn through interactive exercises, challenge quizzes, and additional reference materials. It is available in English, French, and Spanish.

The Environment and Lifestyle Epidemiology Branch (ENV) developed a competency-based e-learning programme (https://campus.paho.org/es/curso/codigo-latinoamericano-y-caribeno-contra-el-cancer) on primary and secondary prevention of cancer for primary healthcare professionals, structured around the recommendations of the first Latin America and the Caribbean Code Against Cancer. Also, the series of modules (https://learning.iarc.fr/edp/courses/cpe/) developed within the framework of the Cancer Prevention Europe programme, and deployed in five languages as an online learning programme targeting cancer prevention advocates, health practitioners, and promoters, was accredited in 2024 by the European Accreditation Council for Continuing Medical Education (EACCME).

The collaboration with the European Society for Medical Oncology (ESMO) was extended as the IARC-ESMO Learning and Capacity-Building Initiative for Cancer Prevention. Based on a joint learning needs assessment survey carried out in 2022, in addition to live learning events (webinars) described below, a variety of self-paced learning resources have been developed, such as the course on Air Pollution and Cancer (https://whoacademy.org/coursewares/course-v1:IARC+air-pollution-and-cancer+self-paced?org=IARC&from=learning-space).

The majority of IARC learning resources are accessible through a unique platform (https://whoacademy.org/IARC). Set up in 2019 and maintained at IARC until 2024, the learning infrastructure was migrated to the WHO Academy in 2025 (see the text box). During the biennium, the platform's audience has continued to increase. Since November 2019, about 9000 professionals (> 4000 during 2024–2025) have created an account on the portal to freely access learning resources. Of the all-time users of the platform, 64% are from LMICs (78% in 2024–2025).

Learning events

The Agency organized more than 50 courses targeting researchers and health professionals from many countries, in particular LMICs (Table 2). The courses lasted from a few days, such as the course on Cancer Genomic Epidemiology, to several weeks, such as the course on Childhood Cancer Registration for Caribbean countries, or even months, such as the Cancer Screening in Five Continents (CanScreen5) courses. Several courses were organized online. Some events also combined an online part and a face-to-face component, such as the IARC Summer School 2025. More than 1900 scientists and health professionals benefited from these learning events during the biennium.

As one of the key learning events of the Agency, the IARC Summer School in Cancer Epidemiology aims to improve the methodological and practical skills of cancer researchers and health professionals. In 2025, both modules – Introduction to Cancer Epidemiology, and Implementing Cancer Prevention and Early Detection – were held in a blended format, including 2–4 weeks of online self-paced activities, followed by 1 week on site in Lyon, focused on practical and networking activities. A total of 72 cancer researchers and health professionals from more than 40 countries (most of which were LMICs) participated in the two modules, representing a wide variety of disciplines and nationalities, which is what makes the Summer School so unique (Figure 2). All the resources used to deliver the 2025

Figure 2. IARC Summer School 2025. © IARC.

Summer School are available online (https://vimeo.com/iarcwho/albums). The most recent outcome survey, conducted in 2024 among participants of former IARC Summer Schools, reconfirmed that the impact of the course extends beyond the individual participants.

During the biennium, 34 webinars were organized (Table 3), targeting more than 4500 researchers and health professionals. For example, the IARC-ESMO Webinar on Nutrition, Diet, and Cancer was attended by more than 250 participants, half of them from LMICs.

Finally, a learning event on the exposome and citizen science, targeting secondary school students, was piloted within the framework of the Human Exposome Assessment Platform (HEAP) project (European Union grant agreement no. 874662) (https://heap-exposome.eu/). The teaching materials used with 250 students are now part of the online toolbox of the project, contributing to its sustainability plan.

Partnerships for dissemination and impact

To leverage the impact of its capacity-building initiatives, the Agency and partners from IARC Participating States have set up joint regional learning centres. Funded and sustained by partners, these include the organization of the IARC Summer School modules targeting researchers and health professionals from the country or region, the joint development of new learning modules, and the organization of "train the trainers" courses within the framework of relevant initiatives. Two "Introduction to Cancer Epidemiology" courses were organized by the IARC–National Cancer Center of China (NCC China) Learning Centre, which was set up in 2023, enabling the training of 72 professionals. In 2024, the Agency and the National Cancer Institute of Brazil (INCA) signed a Memorandum of Understanding to set up another regional learning centre, the IARC–Brazil Learning Centre (Figure 3), and the first course is planned for 2026. The establishment of other similar regional partnerships will be considered, subject to the availability of financial resources in LCB to launch and coordinate activities implemented with partners.

LCB also developed an online resource centre (https://resources.cci4eu.eu/) within the framework of a European Union (EU)-funded project with more than 50 institutions in Europe to develop the capacity of Comprehensive Cancer Infrastructures in EU Member States (CCI4EU). The website contains material to assist with planning and implementing capacity-building interventions as part of the CCI4EU project. Some of the IARC learning resources are disseminated widely through this site.

Table 2. Courses, 2024 and 2025. © IARC.

Course title	Location	Number of participants	External collaborations
Cancer surveillance			
ChildGICR workshop (2024)	IARC, Lyon	25	St. Jude Children's Research Hospital, USA
GICR*Net* (GICR Regional Trainers) workshop on CanReg5 (2024)	IARC, Lyon	27	
GICR Cancer Registry Assessment workshop (2025)	IARC, Lyon	20	
GICR Basic and Childhood Cancer Registration course for Uzbekistan (2025)	Uzbekistan	52	Islamic Development Bank
ChildGICR online course on Childhood Cancer Registration for Caribbean countries (2024)	Online	39	St. Jude Children's Research Hospital, USA; Cancer Institute (WIA) Chennai, India
Basic cancer registration course for Gulf Cooperation Council countries (2025)	United Arab Emirates	23	Gulf Center for Disease Prevention and Control, Saudi Arabia
Curso virtual de codificación de tumores primarios múltiples (Latin America) (2024)	Online	68	REDECAN
Curso virtual de codificación de tumores primarios múltiples (Spain) (2024)	Online	103	REDECAN
TNM and Essential TNM stage for cancer registrars in Latin America (2024)	Online	67	National Cancer Institute, Colombia
Cancer prevention and early detection			
IARC Summer School: Implementing Cancer Prevention and Early Detection (2025)	Blended; IARC, Lyon	36	
Workshop: Implement and Prevent: Cancer Prevention Across the Life Course (2024)	Portugal	26	Imperial College London and World Cancer Research Fund (WCRF), United Kingdom, on behalf of Cancer Prevention Europe
Cancer Prevention for Master in Public Health students (2024–2025)	Blended; IARC, Lyon	12 + 12	Public Health School, University of Lyon, France
CanScreen5 Train the Trainers – African region French-speaking countries (2024)	Blended; Morocco	22	WHO Regional Office for Africa; Ministry of Health of Morocco; Lalla Salma Foundation, Morocco
CanScreen5 Train the Trainers – Gulf Region (2024)	Blended; Saudi Arabia	21	Gulf Center for Disease Prevention and Control, Saudi Arabia

Table 2. Courses, 2024 and 2025 (continued). © IARC.

Course title	Location	Number of participants	External collaborations
CanScreen5 Train the Trainers – Asian countries (2024)	Blended; Indonesia	22	
CanScreen5 Train the Trainers – Asia–Pacific countries (2025)	Blended; Japan	21	National Cancer Center Japan
Formation de formateur en colposcopie (2024)	Blended; India	11	Institute of Post Graduate Medical Education and Research (IPGME&R), India
Colposcopy training (2025)	India	50	Asia–Oceania Research Organization in Genital Infections and Neoplasia (AOGIN) Conference
Colposcopy training (2025)	India	24	
Formation de formateur en colposcopie (2025)	Blended; India	11	Chittaranjan National Cancer Institute (CNCI) Hospital, India; Lalla Salma Foundation, Morocco
Training in clinical breast examination and use of portable ultrasound for detection of breast abnormalities (2024)	India	11	Institute of Post Graduate Medical Education and Research (IPGME&R), India
Research School on Immunology of Infectious Diseases and Vaccinology (2025)	Zambia	20	Centre national de la recherche scientifique (CNRS), France
Cancer research infrastructure and methods			
IARC Summer School: Introduction to Cancer Epidemiology (2025)	Blended; IARC, Lyon	36	
IARC-NCC China Summer School: Introduction to Cancer Epidemiology (2024–2025)	Blended; China	36 + 36	National Cancer Center of China
Urine-based HPV prevalence survey training course (2024)	Zimbabwe	24	University of Zimbabwe Clinical Trials Research Centre
CHRONOS – Monitoring HPV vaccination impact (2025)	Blended; IARC, Lyon	15	
Principles of biobanking (2025)	China	55	Chinese Center for Disease Control and Prevention
Biobanking best practices (2024–2025)	Nepal, Egypt, Indonesia, Peru, Brazil, Spain	20 + 25 + 60 + 60 + 60 + 30 + 40 + 30	Kanti Children's Hospital, Nepal; MASRI, Ain Shams University, Egypt; Universitas Gadjah Mada, Indonesia; National Cancer Center Peru; French Embassy in Peru; Barretos Cancer Hospital, Brazil; REBLAC; Alexandria University, Egypt; Indonesian National Genome Centre; Sant Joan de Déu Barcelona, Spain
Biobanking and international research (2025)	Egypt, India	45+82	Ain Shams University, Egypt; India Biobanking Foundation
Biobanking and precision medicine (2025)	India, Armenia, Georgia, Morocco, Tunisia	116 + 68 + 60 + 40 + 40	International Cancer Patient Coalition; Yerevan State Medical University, Armenia; Tbilisi State Medical University, Georgia; Centre Mohammed VI de la Recherche et de l'Innovation, Morocco; African Organisation for Research and Training in Cancer (AORTIC); National Institutes of Health (NIH)
Biobanking at scale for health-care research (2025)	Egypt	50	Ain Shams University, Egypt
Introduction to Medical Genomics (2024–2025)	IARC, Lyon	19 + 30	INSA Lyon, France
Cancer Genomic Epidemiology (2024)	Thailand	25	Faculty of Medicine, Chiang Mai University, Thailand
Precision Oncology Summer School – Liquid biopsy biomarkers: rationale, technological developments, and clinical applications (2024)	France	40	European Scientific Institute, France
Precision Oncology Summer School – Optimizing personalized cancer diagnosis and treatment (2025)	France	39	European Scientific Institute, France
Introduction to Supervised Learning for Life Science (2024)	IARC, Lyon	23	ColoMARK
Statistical Practice in Epidemiology using R (2024)	IARC, Lyon	44	

Table 3. Webinars, 2024 and 2025. © IARC.

Webinar title	Number of participants	External collaborations
IARC-ESMO webinar series: Smoking and Cancer (2024)	191	European Society for Medical Oncology (ESMO)
IARC-ESMO webinar series: Cancer Survival (2024)	310	European Society for Medical Oncology (ESMO)
IARC-ESMO webinar series: Air Pollution and Cancer – Epidemiological and Clinical Perspectives (2025)	223	European Society for Medical Oncology (ESMO)
IARC-ESMO webinar series: Nutrition, Diet, and Cancer (2025)	262	European Society for Medical Oncology (ESMO)
CIRC-CLB Série d'échanges – Pesticides et cancer: de la recherche a la prévention (2024)	148	Centre Léon Bérard (CLB); Métropole de Lyon; Cancéropôle Lyon Auvergne Rhône-Alpes (CLARA), France
CIRC-CLB Série d'échanges – Cancer du poumon: causes, dépistage, thérapies innovantes. On en discute ? (2024)	114	Centre Léon Bérard (CLB), France
CIRC-CLB Série d'échanges – PFAS et cancers: état des connaissances et projets en cours (2025)	66	Centre Léon Bérard (CLB), France
CANCEPT meet and share webinar series (2024)	30	CANCEPT
ECL Youth Ambassadors Summer School (2025)	25	Association of European Cancer Leagues (ECL)
Transforming Cancer Prevention: AI and Design Thinking for Youth Ambassadors – ECL Youth Ambassadors Summer School (2024)	35	Association of European Cancer Leagues (ECL)
Bias assessment in case–control and cohort studies for cancer hazard identification (2025)	206	Institute of Cancer Research, University of California Irvine, USA
Research for Implementation in Cancer Prevention – Listening, learning, and launching: formative research in real-world implementation	191	
Global and Regional Lessons of Tobacco Control: Towards a Smoke-free Future (2025)	135	
WHO Global Initiatives on Cancer: bringing together stakeholders from around the world	79	
Dismantling the Myths about Alcohol	90	
Biobanking for Precision Medicine	324	National Institutes of Health (NIH)
Artificial Intelligence and Health Law	81	World Association for Medical Law (WAML)
Biobanking for Pandemic Preparedness	170	PATH; Coalition for Epidemic Preparedness Innovations (CEPI)
International Trends and Standards in Biobanking	113	Philippines Cancer Genome Centre
Enhancing Patient Engagement in Oncology Research: Experiences, Challenges, and Pathways to Inclusion	237	Biobanking and BioMolecular resources Research Infrastructure–European Research Infrastructure Consortium (BBMRI-ERIC)
Wearable Devices and Observational Research	58	Human Exposome Assessment Platform (HEAP)
Towards Ethical Exposome Research: Challenges and Solutions in Data Protection and Governance	34	Human Exposome Assessment Platform (HEAP)
Pseudonymized Data and the GDPR: insights from the latest decision by the Court of Justice of the European Union	391	Human Exposome Assessment Platform (HEAP)
Population Cancer Prevention: past achievements and future challenges	70	Cancer Prevention Europe (CPE)
Nutrition and Cancer: from prevention – through treatment – to prognosis	75	Cancer Prevention Europe (CPE)
Breast Cancer Prevention	91	Cancer Prevention Europe (CPE)
Physical Activity: disclosing the role in primary and tertiary cancer prevention	112	Cancer Prevention Europe (CPE)
CanScreen5 webinar – WHO cervical cancer elimination and global breast cancer initiatives: progress in the Asia–Pacific region	72	
CanScreen5 webinar – Challenges in cancer screening implementation in the Asia–Pacific region	45	
CanScreen5 webinar – Implementing health information systems to manage cancer screening: Bangladesh experience	37	
CanScreen5 webinar – WHO HPV vaccination progress in the Asia–Pacific region	19	
CanScreen5 webinar – Quality assurance in cancer screening	46	
IARC@60 webinar series – Global Cancer Surveillance for Local Impact: Leveraging Partnership for Data to Action	255	
IARC@60 webinar series – Fighting the Global Cancer Epidemic through Prevention: Ensuring Equity and Access for All	186	

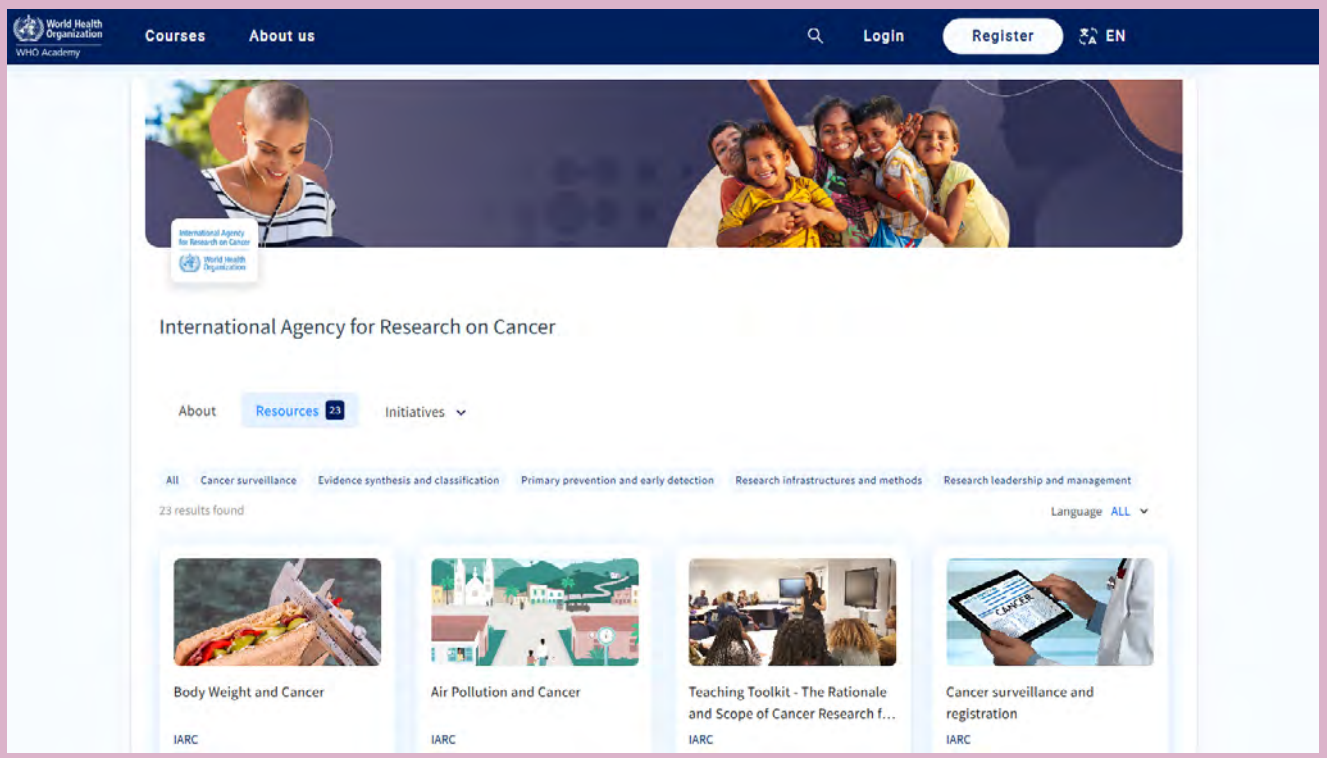
Figure 3. Signature of the Memorandum of Understanding with the National Cancer Institute of Brazil (INCA) in May 2024. © IARC.

Collaboration with the WHO Academy

The WHO Academy will provide millions of people around the world with rapid access to the highest-quality training courses in health. It will be a key lifelong learning platform to accelerate the implementation of evidence-based health practice and policy, and an important future partner for IARC. Therefore, the Agency continued to contribute to the planning of the WHO Academy through participation in its governance and administration and contributions to its programmatic activities.

With respect to learning infrastructure, based on the agreement signed in 2023, IARC collaborated with the WHO Academy on its Learning Experience Platform (LXP), which will eventually replace the current IARC Learning infrastructure. LCB has provided expertise in training design to support the development of the LXP, including through advice on key LXP functionalities and testing of demo versions. The WHO Academy team has successfully implemented most of these functionalities in the LXP and has created a dedicated learning space on the LXP, which will be managed by IARC autonomously. From the user's perspective, the IARC learning space is clearly visible and accessible from the LXP "course discovery" page. Users can easily identify the IARC courses in the list of all courses displayed (https://whoacademy.org/IARC). Once a stable version of the LXP was available, more than 90 IARC learning resources and facilitated courses were migrated, together with their more than 9000 users.

The IARC learning space on the WHO Academy Learning Experience Platform (LXP). © IARC.



In terms of learning content, the Comprehensive Learning Programme on Screening, Diagnosis, and Management of Cervical Precancer has been developed by a consortium of WHO headquarters and the six WHO regional offices, coordinated by the IARC Early Detection, Prevention, and Infections Branch (EPR). The Managing Infrastructure for Medical Research Learning Programme was also selected for the LXP and is led by IARC's Laboratory Support, Biobanking, and Services (LSB). Although resource constraints at the WHO level have affected the full development of the modules for both programmes, partial release is planned towards the end of 2025.

Services to Science & Research Branch

June 2025

International Agency for Research on Cancer

World Health Organization

Services to Science and Research Branch (SSR)

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The Services to Science and Research Branch (SSR), under the leadership of the Director of Administration and Finance (DAF), comprises six specialized operational units that provide essential support for the effective delivery of the Agency's scientific mandate. These units work in close coordination to ensure seamless operations across a broad range of functions: (i) Office of the Director of Administration and Finance, overseeing legal affairs, data protection, internal communication, and all administrative operations linked to the Agency's scientific mission and coordination with the Agency's governing bodies; (ii) Budget and Finance Office, responsible for financial management, budget planning, and support for resource mobilization activities; (iii) Human Resources Office, focusing on talent acquisition, staff development, training, and capacity-building; (iv) Administrative Services Office, managing procurement, conference services, infrastructure, and security operations; (v) Information Technology Services, delivering information systems management, digital infrastructure, technical support, cybersecurity, and telecommunications; and (vi) Publishing, Library, and Web Services, covering scientific publications, library management, digital resources, and copyright compliance.

During the 2024–2025 biennium, SSR continued to streamline processes, encourage innovation, and cultivate a deep commitment to service, working in close collaboration with scientific and administrative stakeholders to uphold the highest standards of operational performance, resource stewardship, and accountability. These efforts ensure that contributions from Participating States and donors are translated into practical, high-impact support for the Agency's research mission.

The SSR team has placed particular emphasis on strengthening internal alignment, streamlining administrative processes, and enhancing service delivery. A shared set of guiding principles – Partnership, Communication, Trust, and Mutual Respect – has helped shape a consistent, collaborative approach across operations. These values have informed initiatives across five key impact areas: Faster Delivery of Results, Technological Innovation and Advancement, Fit for Open Science, Cultural Shift and Personal Growth, and Regulatory Compliance and Risk Management. During the biennium, several major operational improvements

were implemented. These included the rollout of a ticketing system to manage support requests received by the different SSR units, upgrades to the Scientific IT Platform, and simplification of internal contract management tools and policy frameworks. SSR also played a central role in preparing for the Agency's upcoming enterprise resource planning (ERP) system, Quantum, which is designed to modernize and integrate IARC's financial and administrative systems.

To support scientific staff more effectively, SSR introduced several targeted engagement and knowledge-sharing initiatives. These include Legal Clinics, SSR Tips, the European Research Council (ERC) coaching pilot initiative, the "What Else" series, and the "Take IT Easy" series, which address administrative and technical topics in a practical and accessible format. These efforts have contributed to a clearer understanding of procedures across the Agency and are aimed at reducing the administrative workload of scientific teams. Furthermore, information sharing and regular consultations, through the monthly Town Hall meetings, the DAF Open Doors, and regular meetings of the DAF and the Director with the Staff Association Committee, have enhanced the culture of transparent and open communication within the Agency.

Finally, in response to the evolving geopolitical situation and the global financial challenges faced by the Agency, the DAF established two task forces, on finance and communications. Together, these two groups are charged with proactively discussing and managing financial risks, safeguarding internal staff morale, and mitigating reputational exposure through timely communications, guidance, and policy recommendations to IARC senior leadership.

Human Resources Office (HRO) updates

As part of the review of the IARC Postdoctoral Charter and the Quality of Work Life initiative, efforts were dedicated to the development and implementation of the IARC Good Supervisory Practice Framework. This framework serves as both a reference and a developmental tool, enabling supervisors to reflect and assess their strengths and identify areas for growth. Agency-wide, it informs learning and development needs and supports a culture of continuous improvement. This initiative seeks to foster a collaborative and empowering work culture by aligning supervisory expectations with the Agency's priorities.

Furthermore, to support the transition towards a project- and activity-based work environment, targeted learning and development initiatives were implemented, with an emphasis on project management skills and practices.

Information Technology Services (ITS) updates

During the biennium, Information Technology Services (ITS) continued to drive the modernization of IARC's digital infrastructure and the enhancement of data protection measures to support scientific excellence. Notably, ITS continued to develop the IARC Scientific IT Platform – a secure, centralized research infrastructure that enables investigators to store and analyse scientific data in compliance with international data protection standards. The Scientific IT Platform provides robust computational resources for advanced analytics, serving all IARC research Branches, and facilitates secure remote access to IARC-held scientific data for external collaborators. This is achieved without transferring individual-level data, thus strengthening data security while supporting IARC's commitment to Open Science and international collaboration.

Renewal of the virtual environment enabled ITS to take a holistic approach in redesigning infrastructure, consolidating administrative and scientific systems, and leveraging enhancements made possible by the new IARC building. The reimagined infrastructure delivers improved business continuity, efficiency, scalability, flexibility, and cost optimization for IARC's integrated server and storage solutions.

A strong cybersecurity posture remains a top priority. ITS implemented multifactor authentication for all internal and external users, including suppliers, consultants, and collaborators, and organized mandatory cybersecurity training for all personnel, supplemented by specialized in-person and virtual sessions. The renewal of central storage systems introduced encryption of all data at rest and reinforced defences against ransomware.

Parallel efforts focused on creating a modern digital workplace by standardizing hardware and software across the Agency. This harmonization improves operational efficiency, reduces costs, and streamlines administrative processes, ultimately enhancing productivity and collaboration across IARC.

Budget and Finance Office (BFO) updates

In collaboration with the DAF, the Budget and Finance Office (BFO) supported the development of the 2026–2027 Programme and Budget. For the first time, a comprehensive results-based budgeting methodology was used, encompassing the entire scope of IARC's aspirational work, including currently unfunded components. This Programme and Budget enables more transparent reporting of IARC's full range of work, highlighting areas deemed significant by the Secretariat and the Scientific Council, as well as where implementation is limited by funding constraints.

Significant changes in BFO operations will be shaped by the deployment of the new ERP system, which serves as a backbone of financial and budgetary processes. The Project Portal, IARC's primary tool managing more than 270 externally funded projects, has been updated and is expected to continue serving IARC even after the ERP implementation. Currently, IARC travel management lacks adequate systems support until the new ERP system is operational. As an interim measure, the BFO team started using a ticketing system to enhance transparency and streamline the processing of travel-related transactions. The team remains committed to improving and enhancing systems that support efficient and faster implementation of IARC's scientific research activities.

Administrative Services Office (ASO) updates

During the biennium, the Administrative Services Office (ASO) continued its programme of modernizing staff support and overseeing the management of the new IARC building and all associated systems. For technical services, a new, more efficient ticketing system replaced the previous platform, resulting in reduced response times and enhanced tracking of service requests. In addition, the virtualization of servers for the management of biobank rooms improved the handling of technical incidents. For purchasing, all procurement processes are now managed through dedicated workflows, accelerating the approval process and facilitating improved information sharing. Several contracts are now shared with the WHO Academy, reflecting an ongoing commitment to efficiency and the pursuit of synergies. Because of a marked increase in the number of IARC events, the administrative and event support team underwent a reorganization to ensure that the evolving needs could be effectively met.

Publishing, Library, and Web Services (PLW) updates

During the biennium, Publishing, Library, and Web Services (PLW) had several notable achievements, including making recent IARC book publications available on the United States National Library of Medicine (NLM) Bookshelf, populating the WHO title management system (BiblioLive) with metadata on IARC publications (with the aim of harmonizing the IARC Publications website with this platform in the future), opening the fully furnished IARC library as a welcoming space for colleagues, migrating the websites to a new design incorporating elements of the corporate visual identity, and continuing to enhance the accessibility of the websites.

In conclusion, through all of these wide-ranging efforts, SSR has demonstrated its continued commitment to operational excellence, innovation, and service – ensuring that the Agency remains well positioned to support its scientific mission in an evolving global environment.

IARC Publications and Websites

During the 2024–2025 biennium, IARC published the following reference publications:

WHO Classification of Tumours

- WHO Classification of Head and Neck Tumours, 5th edition (print)
- WHO Classification of Haematolymphoid Tumours, 5th edition (print)
- WHO Classification of Endocrine and Neuroendocrine Tumours, 5th edition (print)
- WHO Classification of Skin Tumours, 5th edition (print)

IAC-IARC-WHO Cytopathology Reporting Systems

- WHO Reporting System for Lymph Node, Spleen, and Thymus Cytopathology, 1st edition (print)

IARC Monographs

- Volume 129, Gentian Violet, Leucogentian Violet, Malachite Green, Leucomalachite Green, and CI Direct Blue 218 (print)
- Volume 130, 1,1,1-Trichloroethane and Four Other Industrial Chemicals (print)
- Volume 131, Cobalt, Antimony Compounds, and Weapons-Grade Tungsten Alloy (print)
- Volume 132, Occupational Exposure as a Firefighter (print)
- Volume 133, Anthracene, 2-Bromopropane, Butyl Methacrylate, and Dimethyl Hydrogen Phosphite (print and PDF)
- Volume 134, Aspartame, Methyleugenol, and Isoeugenol (print and PDF)
- Volume 135, Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) (PDF)
- Volume 136, Talc and Acrylonitrile (PDF)

IARC Handbooks

- Volume 19, Oral Cancer Prevention (print)
- Volume 20A, Reduction or Cessation of Alcoholic Beverage Consumption (print and PDF)
- Volume 20B, Alcohol Policies (print and PDF)

IARC Scientific Publications

- Cancer Incidence in Five Continents, Volume XII, IARC Scientific Publication No. 169 (print and PDF)
- International Incidence of Childhood Cancer, Volume III, IARC Scientific Publication No. 170 (PDF)
- Statistical Methods in Cancer Research Volume V: Bias Assessment in Case–Control and Cohort Studies for Hazard Identification, IARC Scientific Publication No. 171 (print and PDF)

IARC Technical Publications

- User's Guide to Essential TNM, IARC Technical Publication No. 48 (print and PDF)
- Guía del Usuario TNM Esencial, IARC Publicación Técnica No. 48 (PDF)
- Developing a Legal Framework for Population-Based Cancer Registries: A Toolkit, IARC Technical Publication No. 49 (PDF)

IARC Working Group Reports

- Population-Based *Helicobacter pylori* Screen-and-Treat Strategies for Gastric Cancer Prevention: Guidance on Implementation, IARC Working Group Report No. 12 (PDF)

Biennial Report

- Rapport biennal 2022–2023 (PDF)

Non-series publications

- Assessment of Barriers and Interventions to Improve Cancer Screening Programmes in Latin American and Caribbean Countries: Outcomes of the CanScreen5/CELAC Project (PDF)
- The Cancer Atlas, Fourth Edition (PDF)

Electronic resources

- Атлас раннего выявления рака молочной железы (Atlas of Breast Cancer Early Detection), IARC CancerBase No. 17
- Атлас кольпоскопии – принципы и практика (Atlas of Colposcopy: Principles and Practice), IARC CancerBase No. 13

During the 2024–2025 biennium, the PLW Web Services team developed, revamped, or validated and launched the following websites:

- Lung Cancer Cohort Consortium (LC3): https://lc3.iarc.who.int/
- Cancer Over Time: https://gco.iarc.who.int/overtime/en
- Cancer Incidence in Five Continents Time Trends (CI5*plus*) downloads: https://ci5.iarc.who.int/ci5plus/download
- Cancer Risk in Childhood Cancer Survivors (CRICCS): https://criccs.iarc.who.int/
- Mapping Socioeconomic Inequalities in Cancer Mortality across European Countries (EU-CanIneq): https://eu-canineq.iarc.who.int/
- IARC Initiative for Resilience in Cancer Control (IRCC): https://ircc.iarc.who.int/
- Cervical Cancer Elimination Planning Tool (EPT): https://gco.iarc.who.int/ept/
- Center of Excellence for Monitoring HPV Vaccination Impact (CHRONOS): https://chronos.iarc.who.int/
- Virtual RealiTy and mUsic in the Oncology SEtting (VRtuose): https://vrtuose.iarc.who.int/
- Cancer Economics: Productivity Loss: https://gco.iarc.who.int/economics/productivity_loss/
- IARC Albinism Research Network: https://albinism.iarc.who.int/
- European Code Against Cancer, 5th edition: https://cancer-code-europe.iarc.who.int/
- HEADSpAcE Data Centre: https://headspace.iarc.who.int/
- International Incidence of Childhood Cancer, Volume III results: https://iicc.iarc.who.int/results/

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Ms Agathe Philippot (until January 2025)
Ms Méline Risse
Ms Mireille Serdjian
Mr Karim Tahri (until June 2025)

The Office of the Director provides strategic leadership to the Agency by defining scientific and managerial priorities and providing specialized expertise in strategic engagement, resource mobilization, communication, and external relations, as well as in ethics and compliance.

Defining scientific priorities: outcomes of the evaluation of the IARC Medium-Term Strategy 2021–2025

The Director's Office remains committed to advancing the Agency's strategic scientific priorities, as defined in the IARC Medium-Term Strategy 2021–2025. The 2024–2025 biennium marked the completion of the most extensive evaluation of an IARC strategy to date, formally endorsed by the IARC Governing Council in May 2025. This evaluation now serves as a robust foundation for shaping the Agency's future course.

Scientifically, the evaluation of the Medium-Term Strategy 2021–2025 demonstrated IARC's effective alignment with global cancer prevention priorities. Notably, the Agency deepened its expertise across its four scientific Pillars – Data for Action, Understanding the Causes, From Understanding to Prevention, and Knowledge Mobilization – while consolidating its 10 IARC flagships, programmes identified as the Agency's scientific fingerprint. The IARC flagship programmes are the Global Cancer Observatory, the Global Initiative for Cancer Registry Development (GICR), the Mutographs project, the European Prospective Investigation into Cancer and Nutrition (EPIC) and other international consortia, Cancer Screening in Five Continents (CanScreen5), the World Code Against Cancer Framework, the *WHO Classification of Tumours* (also known as the WHO Blue Books), the *IARC Monographs*, the *IARC Handbooks of Cancer Prevention*, and IARC Learning. Designed to address some of the most urgent and complex challenges in cancer prevention and control, the IARC flagships reflect IARC's unique strengths and its enduring commitment to global public health. They have been instrumental in strengthening research capacity in low- and middle-income countries, enhancing the quality and comparability of cancer data globally, and informing the design of evidence-based policies and interventions.

In addition, IARC maintained its reputation for scientific excellence, with more than 300 peer-reviewed publications annually in leading journals. Among these, two landmark studies on cancer data and the global cancer burden were ranked among the 10 most influential scientific publications of the 21st century (https://doi.org/10.1038/d41586-025-01125-9). Beyond this scientific output, the Agency played a central role in

coordinating major international research collaborations, reinforcing its leadership in global cancer research.

Looking ahead, the forthcoming Medium-Term Strategy 2026–2030 will set IARC's strategic priorities and action plan for the next 5 years. This new strategy will focus on consolidating and enhancing the Agency's global research impact, with the 2030 targets driving outcome-oriented results to further advance cancer prevention and control efforts. The development and initial implementation of this strategy will be guided by the current IARC Director, who will remain in office until the end of 2028.

Ethics and compliance

Ethics and compliance are an integral part of the Director's Office, ensuring that IARC's research is ethical, evidence-based, and grounded in human rights. This includes safeguarding research integrity, preventing conflicts of interest, and upholding accountability to protect the Agency's reputation. The Director's Office plays a central role in ethical appraisal, ensuring rigorous science while promoting a clear ethical vision that reflects the trust placed in IARC by its Participating States, external stakeholders, and the public, and that encourages positive behaviours and conduct throughout the Agency. In line with this mandate, the Director's Office prepared the 2023–2024 biennial report on research ethics for the IARC governing bodies.

Strategic engagement

The Director's Office continues to promote strategic partnership by strengthening and expanding the Agency's network of Participating States, governmental and nongovernmental partners, funding agencies, and collaborators. Currently, the Agency works with more than 150 countries worldwide.

By following a targeted strategy – building a strong investment case, tailoring it to national priorities, and mobilizing advocates – the Agency successfully welcomed three new Participating States during the 2024–2025 biennium: the Kingdom of Saudi Arabia and Egypt in May 2024 and Portugal in May 2025. The Secretariat is actively engaging with potential new Participating States, including Algeria, Indonesia, Kuwait, Mexico, and Poland.

The strategic cooperation between IARC and WHO has already proven highly effective, unlocking significant opportunities to broaden global reach and accelerate progress in cancer control. Joint efforts have driven forward WHO initiatives such as the Cervical Cancer Elimination Initiative, the Global Breast Cancer Initiative, and the Global Initiative for Childhood Cancer, demonstrating the transformative power of coordinated international action. IARC further supports WHO directly by providing evidence to evaluate and promote cost-effective cervical cancer prevention strategies and by analysing key performance indicators for the Global Breast Cancer Initiative in Africa, generating valuable data for measuring progress in breast cancer control.

The Agency continues to strengthen its scientific collaboration with national and local partners. In 2025, in recognition of her outstanding leadership and expertise, the IARC Director was appointed as a distinguished member of the French National Academy of Medicine. Dr Weiderpass is also an expert member of the European Mission Board for Cancer, to advise the European Commission on the implementation of the actions launched, and since 2023 she has been the "ambassador" for international organizations.

During the biennium, the Agency signed eight Memoranda of Understanding, with the International Association of Cancer Registries (IACR), New Mexico Tumor Registry, Albuquerque, USA (amendment); Centre Léon Bérard, Centre Régional de Lutte Contre le Cancer, Lyon, France (amendment); the Royal College of Pathologists, London, United Kingdom (amendment); the Cancer Genomics Consortium, Lafayette, USA (amendment); the South African National Cancer Registry, National Institute for Communicable Diseases, Johannesburg, South Africa; Martin Luther University Halle-Wittenberg, Halle, Germany (amendment); Convention de Partenariat CIRC@60, Campus Sciences-U, Lyon, France; and Ecole Brassart, France.

Resource mobilization

The Director's Office continues to drive a coherent and proactive resource mobilization strategy, engaging major donors, foundations, and high-net-worth individuals to secure donations that support IARC's mission of advancing cancer research and prevention. This global outreach has already yielded notable successes. The CanScreen5 programme, supported by the Sabin Vaccine Institute, has established regional hubs and training for cancer screening managers worldwide. The Union for International Cancer Control (UICC) is funding the upcoming *IARC Handbooks* volume on lung cancer screening, providing guidelines for effective screening. The Gulf Center for Disease Prevention and Control is supporting the RESET-Gulf project to improve cancer screening, surveillance, and communication in the Gulf Region through capacity-building and training. In addition, the Charities Aid Foundation (CAF) United Kingdom contributed to the IARC@60 initiative, helping to mark the Agency's 60th anniversary with a dedicated scientific conference.

Communication and dissemination

During the 2024–2025 biennium, the Director's Office advanced its communication strategy across three interconnected axes: (i) institutional communication, to increase the visibility of the Agency; (ii) dissemination for impact, to broaden the reach and influence of IARC's scientific activities; and (iii) fundraising and resource mobilization communication, to enhance income generation through campaigns, events, and donor engagement.

A milestone initiative will be the IARC@60 conference, to be held in May 2026. This event will bring together leading global experts in cancer research, highlight IARC's scientific achievements and public health contributions, and showcase its strategic value. Beyond celebrating the Agency's history, the conference will serve as a platform to foster collaboration, strengthen international partnerships, and attract new Participating States, expanding IARC's global reach and impact in cancer research and prevention.

IARC Initiatives

IARC Research Teams

Introduction

The IARC Research Teams, which were introduced under the Medium-Term Strategy 2021–2025, were established to foster scientific collaboration across the research Branches, reduce siloed approaches, and enhance synergies on closely related research topics.

The assessment of the IARC Research Teams conducted in 2024–2025 underscored their value in coordinating IARC's scientific programmes, strengthening partnerships, increasing the visibility of IARC's research, and fostering the next generation of scientific leaders, while also highlighting their significant contributions to the implementation of the Medium-Term Strategy 2021–2025. The IARC Research Teams (https://www.iarc.who.int/research-teams/) now focus on two priorities: (i) Cancer Types Teams, which focus on specific cancer types, including supporting the WHO global initiatives for childhood cancer, cervical cancer, and breast cancer; and (ii) Innovation Teams, such as the Risk Assessment and Early Detection Team (RED). As RED transitions from the Genomic Epidemiology Branch (GEM) to the Early Detection, Prevention, and Infections Branch (EPR), its activities in 2024–2025 are outlined here.

Risk Assessment and Early Detection Team (RED) activities

RED has 16 members, comprising scientists, early career and visiting scientists, and other personnel from 14 countries. Active areas of research include lung cancer epidemiology and early detection, modifiable risk factors for cancer (tobacco use, opioid use, and body adiposity), multicancer early detection, and biomarkers for early detection of cancers driven by human papillomavirus (HPV) infection (Figure 1A). RED leverages large international consortia of prospective studies and expertise in observational epidemiology and risk assessment. In January 2026, RED will move from the Genomic Epidemiology Branch (GEM) to the Early Detection, Prevention, and Infections Branch (EPR), to reflect its translational focus.

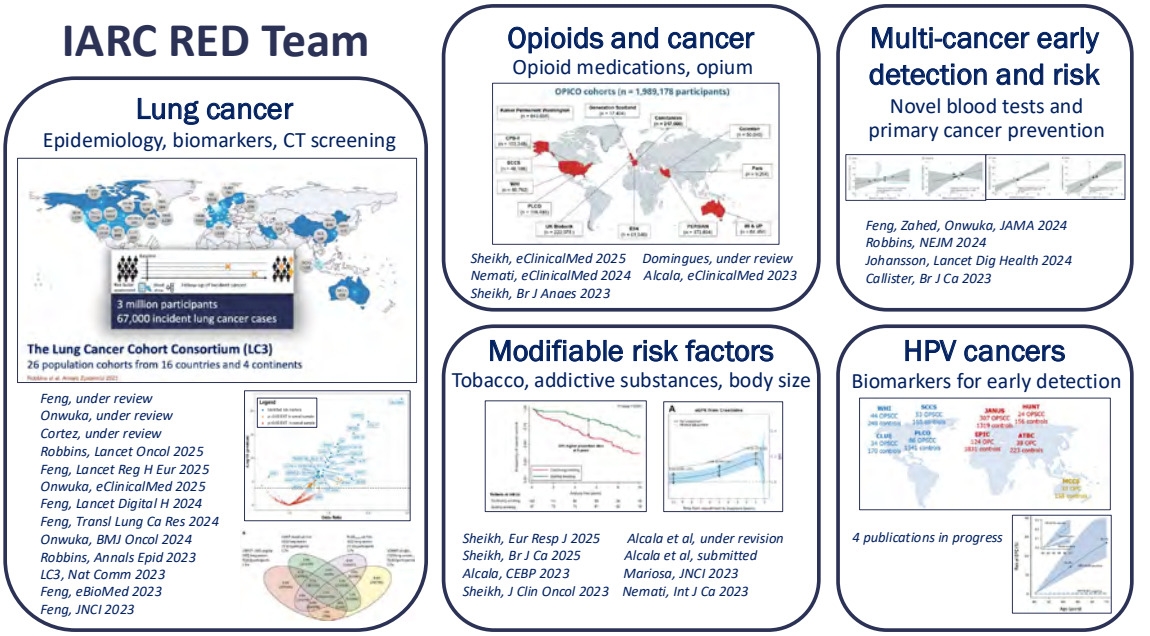
A major focus of RED is studying approaches to optimize lung cancer screening with low-dose computed tomography (LDCT). This work leverages the Lung Cancer Cohort Consortium (LC3; https://lc3.iarc.who.int/), which involves 26 population cohorts with 3 million participants and about 70 000 incident lung cancers (Figure 1B). A recent LC3 study benchmarked risk prediction tools and identified models that reliably estimate lung cancer risk (Feng et al., 2024a), and studies showed that lower education level is associated with higher lung cancer risk in people with a history of smoking but not in people who never smoked (Onwuka et al., 2025). In France, a modelling study informed a national screening pilot programme; the study estimated that 10 000 lung cancer deaths could be prevented over 5 years and showed that individual risk-based eligibility criteria were more efficient than categorical criteria (Feng et al., 2025). Another initiative aims to develop a biomarker-based risk model to better identify individuals who could benefit from LDCT screening. This work involved proteomics studies that identified markers of lung cancer risk and nodule malignancy. Together with collaborators, RED developed the Integrative Analysis of Lung Cancer Etiology and Risk (INTEGRAL) protein panel. A risk model incorporating age, smoking, and 13 markers has now been validated across the LC3, with superior performance over existing risk assessment tools.

In the area of modifiable risk factors, RED studies have focused on tobacco use and body adiposity. A recent article highlighted the golden opportunity that LDCT lung cancer screening brings to advance smoking cessation, by offering robust and evidence-based cessation support to the 50% of screening participants who currently smoke (Figure 1C) (Sheikh and Weiderpass, 2025). A parallel study highlighted the importance of smoking cessation for patients with cancer, because it offers survival benefits that exceed those of most pharmacological treatments. A recent analysis on body adiposity highlighted specific risk factors that shed light on the mechanistic pathways through which obesity causes renal cancer.

After opium consumption was classified by the *IARC Monographs* programme as carcinogenic to humans (Group 1), RED hypothesized the carcinogenic potential of pharmaceutical opioids, given their structural and functional similarity to

Figure 1. (A) Major research areas of the IARC Risk Assessment and Early Detection Team (RED); (B) the Lung Cancer Cohort Consortium (LC3; https://lc3.iarc.who.int/) brings together data and biospecimens from 3 million participants in 26 prospective cohorts worldwide; (C) framework to guide the implementation and evaluation of smoking cessation interventions in lung cancer screening programmes. (A) © IARC. (B) Compiled from Robbins et al. (2023). Design and methodological considerations for biomarker discovery and validation in the Integrative Analysis of Lung Cancer Etiology and Risk (INTEGRAL) Program. Ann Epidemiol. 77:1–12. https://doi.org/10.1016/j.annepidem.2022.10.014 PMID:36404465 and https://lc3.iarc.who.int/. (C) Reproduced from Sheikh and Weiderpass (2025). © Sheikh M, Weiderpass E 2025.

A



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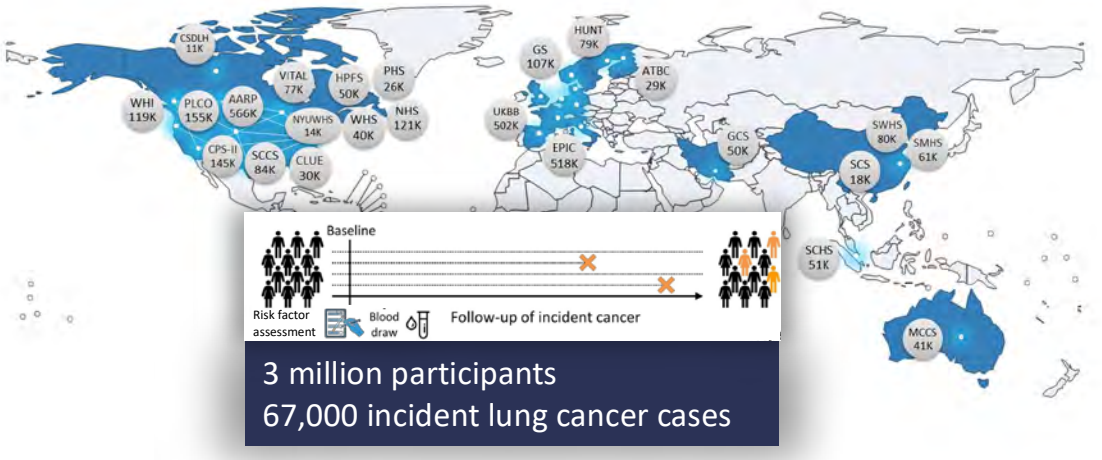
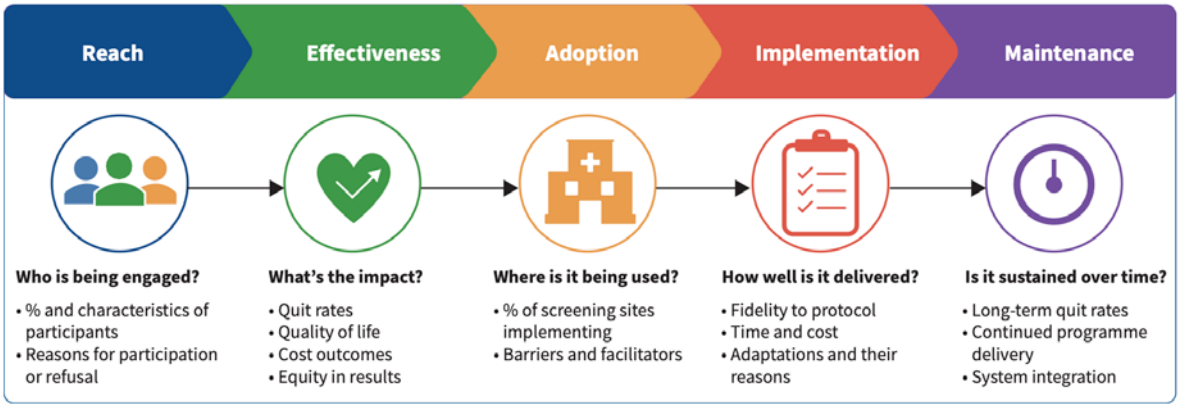


The Lung Cancer Cohort Consortium (LC3)

26 population cohorts from 16 countries and 4 continents

C



opium. To investigate this hypothesis, RED launched the Opioid Cohort Consortium (OPICO) in 2024, and the initial results show that regular use of pharmaceutical opioids is associated with increased risk of opium-related cancers (Sheikh et al., 2025).

Advances in genomics have spurred multicancer early detection tests, which aim to screen for many cancers from a single blood draw. Industry promotion of alternative end-points in randomized trials raises concerns about commercial determinants of health. In this context, a study by RED found that incidence of late-stage disease may serve as a surrogate for cancer-specific mortality for some cancer types but not others (Feng et al., 2024b), complicating aggregated outcomes in multicancer detection trials. A viewpoint article outlined broader issues in weighing benefits and harms of multicancer screening (Robbins, 2024).

In line with the transition to EPR and IARC's 2030 targets, RED will expand its portfolio with funded and policy-forming studies on the effectiveness and implementation of smoking cessation and risk-based screening. Another initiative will develop standards of evidence on the use of surrogate end-points for cancer screening.

IARC Equity and Diversity Advisory Group (EDAG)

The IARC Equity and Diversity Advisory Group (EDAG) actively promotes equity, diversity, and inclusion at IARC. This is achieved through initiatives to foster an inclusive culture, ensure fair treatment, enable development of all personnel, and promote equal access to opportunities for learning and career advancement. The EDAG is in the process of finalizing terms of reference for its operations.

Each year during this biennium, to mark International Women's Day, the EDAG and the Respectful, Safe, and Healthy Work Environment (RSHWE) initiative hosted an in-house round-table discussion led by IARC personnel. A panel discussion on Equity, Diversity, and Inclusion with two external presenters was also organized. These events were all highly attended. The IARC Award for Women in Cancer Research was not presented during this biennium.

As part of the annual Pride Month celebrations, the EDAG organized LGBTQ+ After-Work Social events. These events have been successful, and EDAG hopes to continue them in the future.

Dispensers containing free menstrual hygiene products were installed in restrooms on each floor of the IARC building.

The EDAG's disability awareness work continued, with activities held on the International Day of Persons with Disabilities. Discussions continued with external partners, including Interpol and Eurocontrol.

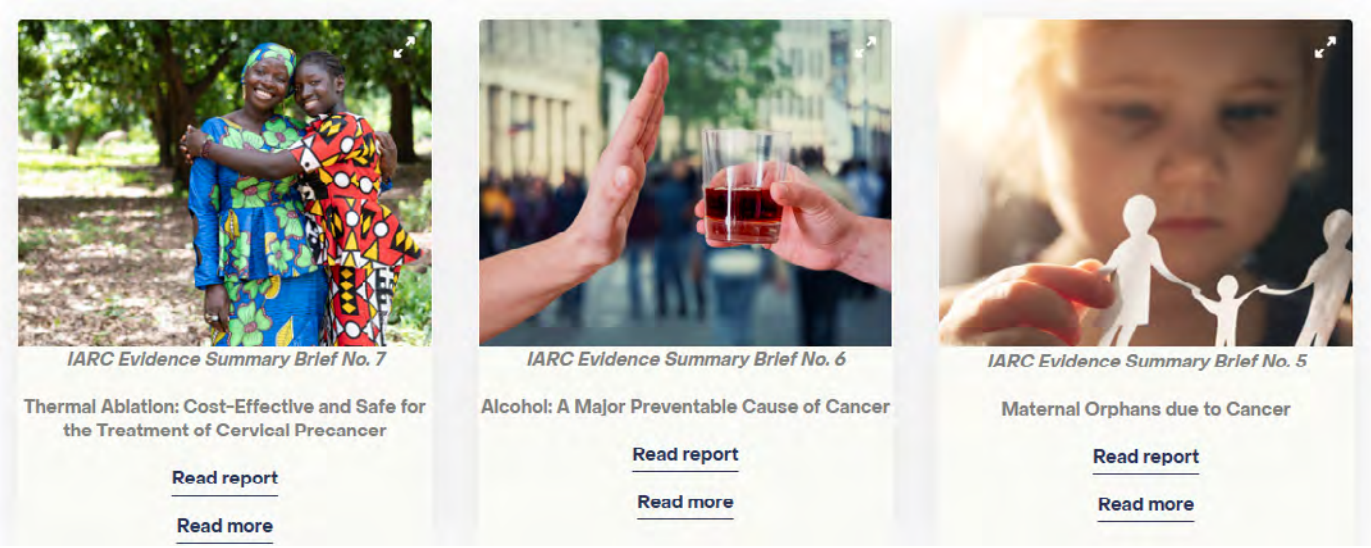
Overall, the EDAG continues to demonstrate its commitment to fostering a diverse and inclusive culture at IARC.

IARC Cross-Cutting Working Group on Cancer Prevention Knowledge Translation and Transfer (KTT WG)

The IARC Cross-Cutting Working Group on Cancer Prevention Knowledge Translation and Transfer (KTT WG), which was created in 2020, aims to translate the evidence on cancer prevention produced by IARC and its collaborators and disseminate it to specific stakeholders involved in decision-making, such as policy-makers.

For this purpose, IARC Evidence Summary Briefs on different topics, submitted by IARC personnel and selected by the IARC/WHO Editorial Board, are produced. These IARC Evidence Summary Briefs may assist in accelerating the adoption and implementation of evidence-based strategies, while creating new opportunities for capacity-building and research.

Figure 2. The dedicated webpage of the IARC Evidence Summary Briefs series (https://www.iarc.who.int/evidence-summary-briefs-series/) shows the three Briefs launched during the 2024–2025 biennium.



During the 2024–2025 biennium, the KTT WG published three new IARC Evidence Summary Briefs, on (i) maternal orphans due to cancer, (ii) alcohol, a major preventable cause of cancer, and (iii) thermal ablation for the treatment of cervical precancer (Figure 2). To date, a total of seven IARC Evidence Summary Briefs have been published.

In 2024, the KTT WG revised its terms of reference and internal processes as requested by the Director, and they were approved. In 2025, internal events were organized to increase the visibility of the initiative within the Agency and to encourage IARC personnel to participate by submitting their suggestions for research topics.

IARC 60th anniversary (IARC@60)

IARC is celebrating six decades with a forward-looking programme. The IARC 60th anniversary (IARC@60) campaign was officially launched on 7 May 2025 during the Governing Council session, marking the start of a vibrant programme of activities to celebrate the Agency's 60th anniversary and energize the international cancer research community.

During one full year (from May 2025 until May 2026), the campaign will feature a series of global seminars and webinars, each showcasing IARC's key research priorities and facilitating knowledge sharing among scientists and stakeholders across continents. Educational outreach has been a cornerstone of the campaign, with a range of initiatives including educational videos, interactive social media campaigns, and the publication of compelling feature stories from researchers.

As a tribute to the people who have shaped the Agency's legacy, the IARC@60 campaign features a photographic exhibition showcasing 60 unique roles at IARC, shining a spotlight on the Agency's greatest strength: the dedication and diversity of its personnel.

In addition, the IARC@60 campaign has promoted new collaborative projects and partnerships with IARC Participating States and research institutions, specifically aimed at capacity-building and the reduction of cancer disparities in underserved regions. The campaign's community engagement activities have strengthened ties between researchers, the public, and global health partners, reinforcing a shared commitment to innovative cancer prevention and control.

Looking forward, the capstone event of the campaign will be the IARC@60 conference, to be held in May 2026. This major gathering is set to bring together leading scientists, policy-makers, and public health experts for discussions on current trends, challenges, and the future of cancer research and prevention. The conference will provide a prominent platform for sharing scientific advances, fostering cross-generational dialogue, and charting the Agency's vision for the years ahead, ensuring that the momentum of the IARC@60 campaign continues to inspire action well beyond this anniversary year.

Committees

Laboratory Steering Committee (LSC)

Laboratory research is central to IARC's mission, underpinning investigations into cancer causes and mechanisms. The IARC Laboratory Steering Committee (LSC) oversees core laboratory facilities across five research Branches – Genomic Epidemiology (GEM), Nutrition and Metabolism (NME), Epigenomics and Mechanisms (EGM), Early Detection, Prevention, and Infections (EPR), and Evidence Synthesis and Classification (ESC) – and advises the Director on their strategic use.

During the 2024–2025 biennium, the LSC, in close collaboration with Laboratory Support, Biobanking, and Services (LSB) and the Administrative Services Office (ASO), coordinated the integration of new technical platforms to maintain IARC's leadership in laboratory-based research, and ensured comprehensive equipment maintenance, including the development of a new budget framework to reflect real laboratory needs and costs. The LSC also proposed streamlined procedures to facilitate the launch of laboratory-based projects and provided recommendations to strengthen the visibility and integration of laboratory research in the forthcoming IARC Medium-Term Strategy 2026–2030.

Finally, the LSC fostered external collaborations, notably through a joint symposium with the Structure Fédérative de Recherche (SFR) Biosciences and the Centre International de Recherche en Infectiologie (CIRI), reinforcing IARC's role as a hub for partnerships.

Biobank Steering Committee (BSC)

The role of the IARC Biobank Steering Committee (BSC) is to support biobanking activities at the Agency and advise the Director on their strategic development.

During the 2024–2025 biennium, the activities of the BSC were largely dedicated to supporting the International Organization for Standardization (ISO) 20387 accreditation for the IARC Biobank, establishing a new IARC-wide roster system, and preparing the IARC Medium-Term Strategy 2026–2030. ISO 20387 certification is becoming mandatory for large international biobanks and requires months of work and operational reorganization to be obtained. The BSC supported the Laboratory Support, Biobanking, and Services (LSB) personnel throughout this process, reviewing critical documents and appraising overall progress, which should be completed by 2027. Because outsourcing of the roster could not be envisaged for IARC, the BSC contributed to negotiating and implementing a new IARC-wide roster since early 2025 to cover the needs of the IARC Biobank while increasing the number of participants. The Medium-Term Strategy 2026–2030 for the IARC Biobank was also discussed, including plans on staffing, training, external funds, Open Science, and strategic communication, as well as maintenance and infrastructure upgrades. Finally, the BSC oversaw the process of retiring a small number of collections where samples were exhausted and/or data were unavailable.

Committee for Information Security Oversight (CISO)

The IARC Committee for Information Security Oversight (CISO) provides strategic guidance and oversight on information security matters, ensuring the protection of the Agency's data and information technology (IT) systems, including all technology and equipment used for generating, transmitting, storing, maintaining, or processing data (software, hardware, and telecommunication tools).

The CISO advises on strategy, policy, risk management, and incident response, ensuring that security measures align with IARC's regulatory framework and research mandate. It reviews and recommends implementation strategies, assesses risks, and oversees the development of incident response plans. The CISO also ensures that policies on information security matters are regularly updated and are compliant with best practices, and provides regular updates and recommendations on information security matters to the Director, the Director of Administration and Finance, and the Senior Advisory Team.

During the 2024–2025 biennium, the CISO's terms of reference were revised to better reflect the evolving IT landscape and strengthen its strategic focus. The CISO also welcomed new members, including an administrative assistant, a data manager, and an early career scientist, broadening the committee's perspective and bringing valuable expertise in data management and analysis and administrative procedures.

Data Science Steering Committee (DSSC)

The IARC Data Science Steering Committee (DSSC) provides strategic guidance for IARC's data science activities, covering bioinformatics, biostatistics, computational biology, and scientific information technology (IT). It fosters collaboration across disciplines, advises on the development of the Scientific IT Platform, and ensures that IARC's data science capacity aligns with the Agency's Medium-Term Strategy.

During the 2024–2025 biennium, the DSSC oversaw the continued expansion of the Scientific IT Platform as a cornerstone of IARC research, including pilot initiatives enabling secure data access for external collaborators and the renewal and unification of the IARC storage system to ensure sustainability and efficiency. The DSSC also reinforced training opportunities across the Agency, with courses in advanced statistical methods, genomics, programming, and data visualization, as well as targeted sessions on Open Science practices, including the FAIR principles (Findable, Accessible, Interoperable, and Reusable). Through these initiatives, the DSSC strengthened IARC's ability to manage complex datasets and apply cutting-edge methods in cancer research.

Ethics Committee (IEC)

The IARC Ethics Committee (IEC) ensures that research conducted or supported by IARC conforms to international ethical standards for research involving humans. The IEC ethical review is complementary to local and/or national ethical approval. During the 2024–2025 biennium, the IEC was composed of nine senior individuals of diverse backgrounds and nationalities. The IEC is chaired by Professor Samar Al-Homoud, supported by the vice-chairperson Professor Béatrice Fervers and by Dr Chiara Scoccianti as the secretary. An external Ethics Advisory Group (EAG) provides guidance on an ad hoc basis on areas where specialist expertise is required.

During the 2024–2025 biennium (up to June 2025), the IEC evaluated 99 new projects and 54 resubmissions of projects previously reviewed by the IEC. The IEC continued to support the IARC principal investigators with its procedure for expedited review, clearing an average of 60% of projects between official meetings. The IEC acknowledges the significant increase in workload and is actively exploring solutions to support the secretary and to expand its membership.

The IEC updated its standard operating procedures (SOPs) to clarify the responsibilities of IARC principal investigators, including the requirement to provide official confirmation of local exemptions and the inclusion of new categories of studies under regular submissions and notifications. The IEC also revised its website to include new templates for informed consent and assent, guidance on ethical aspects of artificial intelligence, and recommended training resources. IEC members and IARC personnel participated in targeted training sessions on Research Electronic Data Capture (REDCap), the revised Declaration of Helsinki, WHO guidance on artificial intelligence, and international research ethics. These efforts aimed to strengthen ethical oversight and capacity in line with evolving research practices and global standards. To strengthen collaborative opportunities, the IEC secretary engaged with WHO and other United Nations agencies by attending remote seminars and inter-agency sessions on bioethics, and contributed to discussions with European Union entities such as the Biobanking and BioMolecular resources Research Infrastructure–European Research Infrastructure Consortium (BBMRI-ERIC), focusing on shared ethical priorities, including data protection, genetic privacy, and consent management.

Occupational Health and Safety Committee (OHSC)

The mission of the IARC Occupational Health and Safety Committee (OHSC) is to ensure, in close collaboration with the Staff Physician and the IARC administration, that optimal working conditions are provided for IARC personnel.

The OHSC consists of members who represent each floor of the building, the Staff Association Committee (SAC), the Administrative Services Office (ASO), the Laboratory Safety Officer, and the Staff Physician. Between September 2022 and September 2024, Dr Berth Ntanga Atik was part of the OHSC, in her role as Staff Physician. However, since September 2024 IARC has not had a Staff Physician.

During the 2024–2025 biennium, the OHSC published a comprehensive risk assessment document for the IARC premises and associated activities, prepared an action plan for the mitigation of major risks, and, with the help of the IARC administration, identified a budget to minimize major risks. Together with ASO, the OHSC is directly involved in and oversees the implementation of the action plan.

Staff Association Committee (SAC)

In 2024, the IARC Staff Association Committee (SAC) focused on the Work Climate Survey, which revealed diminished well-being among a significant proportion of respondents. In 2025, the SAC conducted a targeted harassment survey, identifying 52 cases of alleged harassment. These findings were presented at the Governing Council session in May 2025, where Canada and the Russian Federation expressed concern and requested regular updates on progress.

To strengthen and formalize SAC–management relations, the committee developed a draft memorandum of understanding; however, it was not finalized before the SAC elections. The newly elected SAC is currently reviewing it.

Fulfilling its mandate, the SAC actively engaged in the Global Executive Office, the Global Staff Management Council, and the Federation of International Civil Servants' Associations (FICSA) Council, promoting staff welfare, policy reform, and employment conditions across the United Nations system. The June 2025 elections had a record number of candidates and resulted in a fully staffed 10-member SAC, in contrast to the previous term, when the SAC operated with only six members.

Sustainable Research Agency Committee (SRAC)

The IARC Sustainable Research Agency Committee (SRAC) was established to position IARC as a global model for sustainable research and to ensure a coordinated and integrated approach to sustainability across IARC's governance, research, and support activities. Its core missions also include developing an action plan to reduce the Agency's environmental impact while maintaining operational efficiency.

To achieve this and in line with the IARC Medium-Term Strategy, the United Nations Strategy for Sustainability Management (2020–2030), and the Greening the Blue initiative, the SRAC focuses on raising awareness, engaging personnel, monitoring key sustainability indicators, providing recommendations to senior management, and liaising with the United Nations, WHO, and local entities.

The SRAC includes representatives from research Branches and support services, covering all IARC Pillars. During the 2024–2025 biennium, the SRAC launched internal initiatives and events on sustainable transportation, food, and climate change and began a carbon footprint assessment to serve as a baseline for the action plan, which will be implemented more rigorously in the next biennium to create a visible and measurable impact.

Governing and Scientific Councils

The International Agency for Research on Cancer (IARC) was established in May 1965, through a resolution of the Eighteenth World Health Assembly, as an extension of the World Health Organization, after a French initiative. It is governed by its own governing bodies: the IARC Governing Council and the IARC Scientific Council.

Governing Council

IARC's general policy is directed by a Governing Council, composed of the Representatives of Participating States and of the Director-General of the World Health Organization (WHO). It meets every year in ordinary session in Lyon, usually within the two weeks before or after the opening of the WHO World Health Assembly. The Governing Council elects IARC's Director for a 5-year term. The Council re-elected Dr Elisabete Weiderpass in May 2023 to serve for a second 5-year term as from 1 January 2024. The chairperson of the Governing Council prepares the meetings together with the Secretariat and advises the Director throughout the year.

Scientific Council

The Scientific Council consists of highly qualified scientists selected on the basis of their technical competence in cancer research and allied fields. Members of the Scientific Council are appointed as experts and not as representatives of Participating States. When a vacancy arises on the Scientific Council, the Participating State that nominated the departing member may nominate up to two experts to replace that member. Scientific Council members are appointed for 4-year terms by the Governing Council. The Scientific Council reviews the scientific activities of the Agency and makes recommendations on its programme of permanent activities and priorities. The Scientific Council meets every year in ordinary session in late January–early February.

Budget

IARC activities are partially funded by the regular budget contributions paid by its Participating States. In addition, substantial funding comes from extrabudgetary sources, mainly grant awards, both national and international. The regular budget for the 2026–2027 biennium was approved in May 2025 at a level of €53 522 415.

Participating States and Representatives at IARC Governing Council's Sixty-Sixth Session, 15–16 May 2024 (Hybrid Format)

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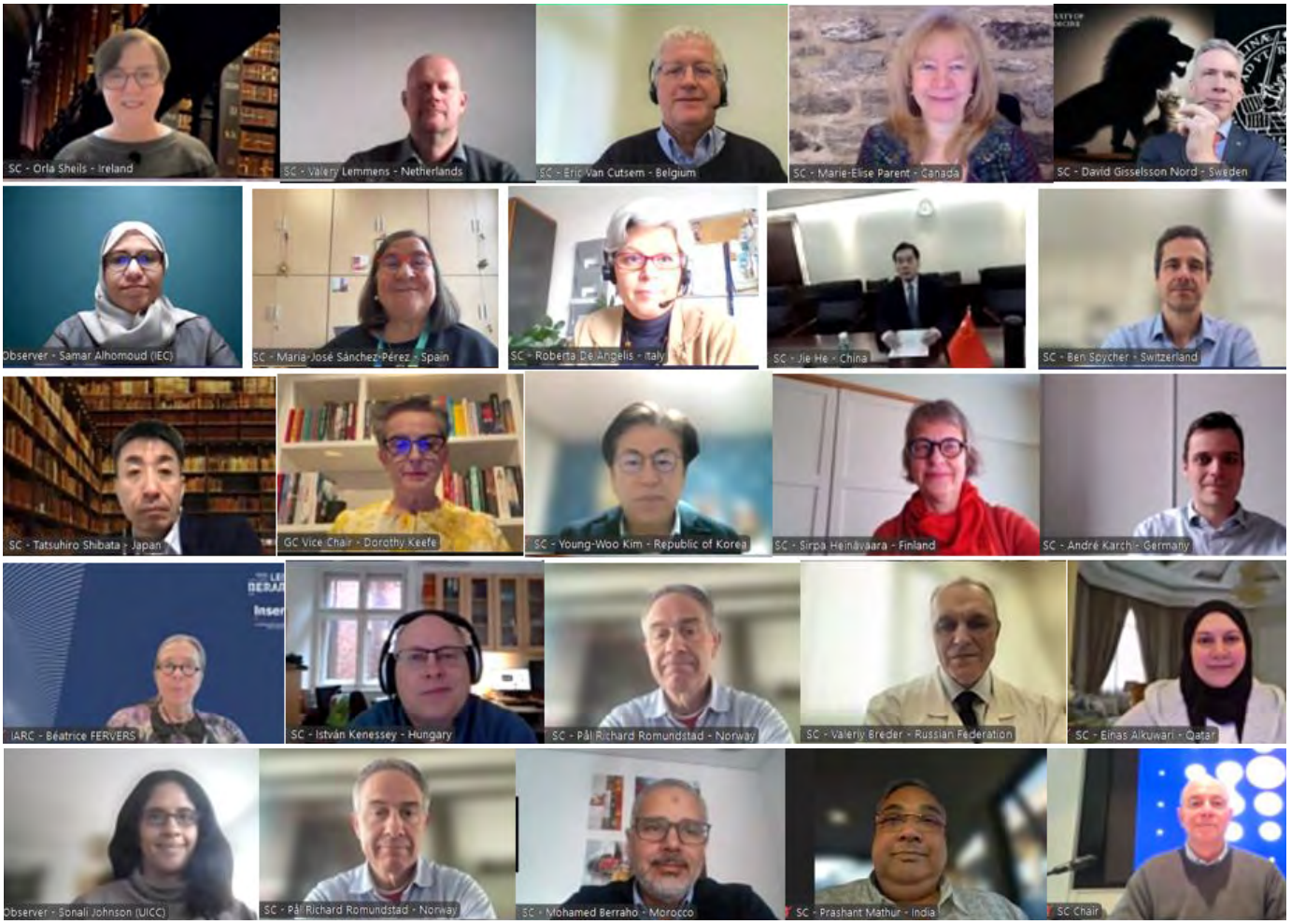

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IARC Staff Publications 2024–2025

As at 25 November 2025

Abbad-Gomez D, Domingo L, Comas M, Santiá P, Jansana A, Poblador B, et al. (2024). Effect of comorbidity and multimorbidity on adherence to follow-up recommendations among long-term breast cancer survivors. Maturitas. 182:107918. https://doi.org/10.1016/j.maturitas.2024.107918 PMID:38280353

Abu Awwad D, Shafiq J, Delaney GP, Anacak Y, Bray F, Flores JA, et al. (2024). Current and projected gaps in the availability of radiotherapy in the Asia-Pacific region: a country income-group analysis. Lancet Oncol. 25(2):225–34. https://doi.org/10.1016/S1470-2045(23)00619-8 PMID:38301690

Aglago EK, Qu C, Harlid S, Phipps AI, Steinfelder RS, Ogino S, et al. (2024). Folate intake and colorectal cancer risk according to genetic subtypes defined by targeted tumor sequencing. Am J Clin Nutr. 120(3):664–73. https://doi.org/10.1016/j.ajcnut.2024.07.012 PMID:39025327

Aglago EK, Ramos I, Keski-Rahkonen P, Chatziioannou C, Freisling H, Fedirko V, et al. (2025). Alcohol and smoking habits in association with hepatocellular carcinoma risk. Int J Cancer. 157(4):644–57. https://doi.org/10.1002/ijc.35401 PMID:40098437

Agudelo MC, Agudelo S, Lorincz A, Ramírez AT, Castañeda KM, Garcés-Palacio I, et al. (2024). Folate deficiency modifies the risk of CIN3+associated with DNA methylation levels: a nested case-control study from the ASCUS-COL trial. Eur J Nutr. 63(2):563–72. https://doi.org/10.1007/s00394-023-03289-4 PMID:38129362

Aguilera-Buenosvinos I, Morales Berstein F, González-Gil EM, Dossus L, Gunter MJ, Biessy C, et al. (2025). Adherence to the Mediterranean diet and obesity-linked cancer risk in EPIC. JAMA Netw Open. 8(2):e2461031. https://doi.org/10.1001/jamanetworkopen.2024.61031 PMID:39998833

Ahmed F, Romero Saletti S, D'Souza E, Espina C, Ritchie D, Barceló AM, et al. (2025). Assessing the user experience of the EU Mobile App for Cancer Prevention: mixed methods study. JMIR Form Res. 9:e73844. https://doi.org/10.2196/73844 PMID:40971579

Ahmed F, Romero Saletti SM, D'Souza E, Espina C, Ritchie D, Barceló AM, et al. (2025). Piloting a cancer awareness app across six European countries: a pre-post study. Front Public Health. 13:1648212. https://doi.org/10.3389/fpubh.2025.1648212 PMID:41089856

Aisyah DN, Mayadewi CA, Utami A, Rahman FM, Adriani NH, Al Farozi E, et al. (2025). Using WhatsApp for nutrition surveillance among children under 5 years in West Java, Indonesia: cross-sectional survey and feasibility study. JMIR Pediatr Parent. 8:e58752. https://doi.org/10.2196/58752 PMID:40372943

Aisyah DN, Naman M, Adisasmito W, Kozlakidis Z (2024a). Universal internet access supporting healthcare provision: the example of Indonesia. In: Kozlakidis Z, Muradyan A, Sargsyan K, editors. Digitalization of medicine in low- and middle-income countries: paradigm changes in healthcare and biomedical research. Sustainable Development Goals Series. Cham, Switzerland: Springer; pp. 239–244. https://link.springer.com/book/10.1007/978-3-031-62332-5

Aisyah DN, Setiawan AH, Lokopessy AF, Faradiba N, Setiaji S, Manikam L, et al. (2024). The information and communication technology maturity assessment at primary health care services across 9 provinces in Indonesia: evaluation study. JMIR Med Inform. 12:e55959. https://doi.org/10.2196/55959 PMID:39037345

Aisyah DN, Setiawan AH, Lokopessy AF, Mayadewi CA, Endryantoro MTA, Wibowo V, et al. (2025). Assessing internet quality across public health centers in Indonesia: cross-sectional evaluation study. JMIR Med Inform. 13:e65940. https://doi.org/10.2196/65940 PMID:40953366

Aisyah DN, Setiawan AH, Mayadewi CA, Lokopessy AF, Kozlakidis Z, Manikam L (2025). Understanding health information systems utilization across public health centers in Indonesia: cross-sectional study. JMIR Med Inform. 13:e68613. https://doi.org/10.2196/68613 PMID:40902076

Aisyah DN, Utami A, Rahman FM, Adriani NH, Fitransyah F, Endryantoro MTA, et al. (2025a). Using an electronic immunization registry (Aplikasi Sehat IndonesiaKu) in Indonesia: cross-sectional study. Interact J Med Res. 14:e53849. https://doi.org/10.2196/53849 PMID:40146988

Al Nahas A, Yammine Ghantous S, Morales Berstein F, Cakmak EK, Biessy C, Nicolas G, et al. (2025). Associations between degree of food processing and colorectal cancer risk in a large-scale European cohort. Int J Cancer. 157(2):260–76. https://doi.org/10.1002/ijc.35361 PMID:39921517

Al-Soneidar WA, Harper S, Coutlée F, Gheit T, Tommasino M, Nicolau B (2024). Prevalence of alpha, beta, and gamma human papillomaviruses in patients with head and neck cancer and noncancer controls and relation to behavioral factors. J Infect Dis. 229(4):1088–96. https://doi.org/10.1093/infdis/jiad335 PMID:37584283

Albers FEM, Lou MWC, Dashti SG, Swain CTV, Rinaldi S, Viallon V, et al. (2024). Sex-steroid hormones and risk of postmenopausal estrogen receptor-positive breast cancer: a case-cohort analysis. Cancer Causes Control. 35(6):921–33. https://doi.org/10.1007/s10552-024-01856-6 PMID:38363402

Albers FEM, Swain CTV, Lou MWC, Dashti SG, Rinaldi S, Viallon V, et al. (2025). Insulin and insulin-like growth factor and risk of postmenopausal estrogen receptor-positive breast cancer: a case-cohort analysis. Cancer Epidemiol Biomarkers Prev. 34(4):541–9. https://doi.org/10.1158/1055-9965.EPI-24-1304 PMID:39808164

Alcala N, Voegele C, Mangiante L, Sexton-Oates A, Clevers H, Fernandez-Cuesta L, et al. (2024). Multi-omic dataset of patient-derived tumor organoids of neuroendocrine neoplasms. Gigascience. 13:13. https://doi.org/10.1093/gigascience/giae008 PMID:38451475

Alduhayh S, Laskar RS, Jiang X, Zhu Z, Vincent EE, Constantinescu AE, et al. (2025). Association of genetic liability to allergic diseases with overall and early-onset colorectal cancer risk: a Mendelian randomization study. Cancer Epidemiol Biomarkers Prev. 34(5):722–36. https://doi.org/10.1158/1055-9965.EPI-24-0970 PMID:39982694

Alessy SA, Alqahtani SA, Vignat J, Abuhmaidan A, Basmi AEL, Al Lawati N, et al. (2024). The current and future cancer burden in the Gulf Cooperation Council (GCC) countries. Cancer Med. 13(17):e70141. https://doi.org/10.1002/cam4.70141 PMID:39279725

Alessy SA, Morgan E, Al-Zahrani AS, Zahwe M, Fouad H, Bray F, et al. (2025). Burden of five major types of gastrointestinal cancer in the Eastern Mediterranean Region. BMJ Open Gastroenterol. 12(1):e001577. https://doi.org/10.1136/bmjgast-2024-001577 PMID:39971587

Almanza-Aguilera E, Martínez-Huélamo M, López-Hernández Y, Guiñón-Fort D, Guadall A, Cruz M, et al. (2024). Prediagnostic plasma nutrimetabolomics and prostate cancer risk: a nested case-control analysis within the EPIC study. Cancers (Basel). 16(23):4116. https://doi.org/10.3390/cancers16234116 PMID:39682302

Amadou A, Freisling H, Sedlmeier AM, Bohmann P, Fontvieille E, Weber A, et al. (2024). Multi-trait body shape phenotypes and breast cancer risk in postmenopausal women: a causal mediation analysis in the UK Biobank cohort. J Epidemiol Glob Health. 14(2):420–32. https://doi.org/10.1007/s44197-024-00226-4 PMID:38598163

Ambriz-Barrera F, Rojas-Jiménez E, Díaz-Velásquez CE, De-La-Cruz-Montoya AH, Martínez-Gregorio H, Ruiz-De-La-Cruz M, et al. (2024). Mutational spectrum of breast cancer by shallow whole-genome sequencing of cfDNA and tumor gene panel analysis. PLoS One. 19(9):e0308176. https://doi.org/10.1371/journal.pone.0308176 PMID:39264897

Amrenova A, Baudin C, Ostroumova E, Stephens J, Anderson R, Laurier D (2024). Intergenerational effects of ionizing radiation: review of recent studies from human data (2018–2021). Int J Radiat Biol. 100(9):1253–63. https://doi.org/10.1080/09553002.2024.2309917 PMID:38319708

Antoniussen CS, Proust-Lima C, Ibsen DB, Olsen A, Overvad K, Tjønneland A, et al. (2024). Alcohol consumption trajectories and risk of breast cancer among postmenopausal women: a Danish cohort study. Eur J Epidemiol. 39(12):1353–62. https://doi.org/10.1007/s10654-024-01179-5 PMID:39630402

Arbyn M, Cuschieri K, Bonde J, Schuurman R, Cocuzza C, Broeck DV, et al. (2024a). Criteria for second generation comparator tests in validation of novel HPV DNA tests for use in cervical cancer screening. J Med Virol. 96(9):e29881. https://doi.org/10.1002/jmv.29881 PMID:39221498

Arbyn M, Rousta P, Bruni L, Schollin Ask L, Basu P (2024b). Linkage of individual-patient data confirm protection of prophylactic human papillomavirus vaccination against invasive cervical cancer. J Natl Cancer Inst. 116(6):775–8. https://doi.org/10.1093/jnci/djae042 PMID:38501990

Arévalos A, Valenzuela A, Mongelós P, Barrios H, Rodríguez MI, Báez R, et al.; ESTAMPA Paraguayan Study Group (2024). Genital infections in high-risk human papillomavirus positive Paraguayan women aged 30–64 with and without cervical lesions. PLoS One. 19(10):e0312947. https://doi.org/10.1371/journal.pone.0312947 PMID:39471231

Arrossi S, Straw C, Sanchez Antelo V, Paolino M, Baena A, Forestier M, et al. (2024). Implementation of WHO guidelines for cervical cancer screening, diagnosis and treatment: knowledge and perceptions of health providers from Argentina. BMC Cancer. 24(1):996. https://doi.org/10.1186/s12885-024-12650-7 PMID:39134975

Arroyo Mühr LS, Gini A, Yilmaz E, Hassan SS, Lagheden C, Hultin E, et al. (2024). Concomitant human papillomavirus (HPV) vaccination and screening for elimination of HPV and cervical cancer. Nat Commun. 15(1):3679. https://doi.org/10.1038/s41467-024-47909-x PMID:38693149

Asangbeh-Kerman SL, Davidović M, Taghavi K, Dhokotera T, Manasyan A, Sharma A, et al.; IeDEA (2024). Cervical cancer prevention and care in HIV clinics across sub-Saharan Africa: results of a facility-based survey. J Int AIDS Soc. 27(7):e26303. https://doi.org/10.1002/jia2.26303 PMID:38979918

Auguste A, Jansana A, Freisling H, Ferrari P, Laouali N, Severi G, et al. (2025). Impact of hypertension on cancer stage at diagnosis among French women: the E3N prospective cohort. Cancer Med. 14(15):e71021. https://doi.org/10.1002/cam4.71021 PMID:40719276

Bajwa A, Chidebe RCW, Adams T, Funston G, Soerjomataram I, Cohen R, et al. (2025). Challenges and opportunities in ovarian cancer care: a qualitative study of clinician perspectives from 24 low- and middle-income countries. J Cancer Policy. 44:100582. https://doi.org/10.1016/j.jcpo.2025.100582 PMID:40203992

Baker JL, Gordon-Dseagu VLZ, Voortman T, Chan D, Herceg Z, Robinson S, et al. (2025). Lifecourse research in cancer: context, challenges, and opportunities when exploring exposures in early life and cancer risk in adulthood. Health Open Res. 6:16. https://doi.org/10.12688/healthopenres.13748.1 PMID:39974286

Bakhshimoghaddam F, Baez D, Dolatkhah N, Sheikh M, Poustchi H, Hekmatdoost A, et al. (2024). Which dietary patterns fend off nonalcoholic fatty liver disease? A systematic review of observational and interventional studies. BMC Nutr. 10(1):153. https://doi.org/10.1186/s40795-024-00961-8 PMID:39609906

Barcena Barbeira P, Paolino M, Binder F, Almonte M, Baena A, Mazzadi JD, et al. (2025). Implementation of second round of HPV-based screening for cervical cancer in programmatic contexts in Argentina. Rev Panam Salud Publica. 49:e92. https://doi.org/10.26633/RPSP.2025.92 PMID:40895372

Barrera B, Feliu A, Espina C, Brand T, Zeeb H, Ahmed F (2025). Leveraging AI to enhance qualitative research: experiences and recommendations from case studies in cancer prevention literacy across the European Union. Int J Qual Methods. 24:24. https://doi.org/10.1177/16094069251365766

Bashorun AO, Kotei L, Jallow AF, Jawla O, Richard-Ugwuadu EU, Jagana M, et al. (2025). Human papillomavirus, sexually transmitted infections, and antimicrobial resistance in West Africa: estimating population burden and understanding exposures to accelerate vaccine impact and drive new interventions: the PHASE survey protocol. PLoS One. 20(9):e0332842. https://doi.org/10.1371/journal.pone.0332842 PMID:40982426

Basu P (2025). Progress toward cervical cancer elimination: global disparities and China's contributions. Cancer Biol Med. 22(9):991–6. https://doi.org/10.20892/j.issn.2095-3941.2025.0428 PMID:41024615

Basu P, Mwanahamuntu M, Pinder LF, Muwonge R, Lucas E, Nyambe N, et al. (2024). A portable thermal ablation device for cervical cancer prevention in a screen-and-treat setting: a randomized, noninferiority trial. Nat Med. 30(9):2596–604. https://doi.org/10.1038/s41591-024-03080-w PMID:38918630

Bauer M, Santos P, Wilfer A, van den Berg E, Zietsman A, Vetter M, et al. (2025). HIV status alters immune cell infiltration and activation profile in women with breast cancer. Nat Commun. 16(1):4699. https://doi.org/10.1038/s41467-025-59408-8 PMID:40393975

Baussano I, Tenet V, Baghdasarova K, Harutyunyan Z, Vorsters A, Heideman D, et al. (2025). HPV burden in Armenia among unvaccinated women: a series of cross-sectional population-based prevalence surveys. Vaccine. 62:127405. https://doi.org/10.1016/j.vaccine.2025.127405 PMID:40627870

Becerra-Tomás N, Markozannes G, Cariolou M, Balducci K, Vieira R, Kiss S, et al. (2024). Post-diagnosis adiposity and colorectal cancer prognosis: a Global Cancer Update Programme (CUP Global) systematic literature review and meta-analysis. Int J Cancer. 155(3):400–25. https://doi.org/10.1002/ijc.34905 PMID:38692659

Beigrezaei S, Dianati M, Salehi-Abargouei A, Fararouei M, Akbari-Beni A, Brinkman M, et al. (2024). The association between animal protein, plant protein, and their substitution with bladder cancer risk: a pooled analysis of 10 cohort studies. Eur J Nutr. 64(1):55. https://doi.org/10.1007/s00394-024-03551-3 PMID:39718625

Bell M, Baussano I, Rol M, Tenet V, Heideman DAM, Gheit T, et al. (2025). Optimization and analytical validation of the Allplex HPV28 genotyping assay for use in first-void urine samples. J Clin Microbiol. 63(2):e0140424. https://doi.org/10.1128/jcm.01404-24 PMID:39723836

Benitez Fuentes JD, Morgan E, de Luna Aguilar A, Mafra A, Shah R, Giusti F, et al. (2024a). Global stage distribution of breast cancer at diagnosis: a systematic review and meta-analysis. JAMA Oncol. 10(1):71–8. https://doi.org/10.1001/jamaoncol.2023.4837 PMID:37943547

Benitez Fuentes JD, Morgan E, Soerjomataram I (2024). Clarification regarding breast cancer stage in France – reply. JAMA Oncol. 10(6):832–3. https://doi.org/10.1001/jamaoncol.2024.0671 PMID:38662350

Berden J, Chimera B, Hanley-Cook GT, Cakmak EK, Vineis P, Nicolas G, et al. (2025). Biodiverse diets present co-benefits for greenhouse gas emissions, land use, mortality rates and nutritional adequacy in Europe. Nat Food. 6(9):857–67. https://doi.org/10.1038/s43016-025-01214-y PMID:40835792

Berden J, Hanley-Cook GT, Chimera B, Aune D, Pinho MGM, Nicolas G, et al. (2025). Quantifying the environmental and food biodiversity impacts of ultra-processed foods: evidence from the European Prospective Investigation into Cancer and Nutrition (EPIC) study. Public Health Nutr. 28(1):e164. https://doi.org/10.1017/S1368980025101067 PMID:40931427

Berger E, Dudouet R, Dossus L, Baglietto L, Gelot A, Boutron-Ruault MC, et al. (2025). Biological embodiment of educational attainment and future risk of breast cancer: findings from a French prospective cohort. BMJ Open. 15(2):e087537. https://doi.org/10.1136/bmjopen-2024-087537 PMID:39915021

Berger E, Gelot A, Fournier A, Dossus L, Boutron-Ruault MC, Severi G, et al. (2024). Educational level and characteristics of invasive breast cancer: findings from a French prospective cohort. Cancer Causes Control. 35(8):1151–63. https://doi.org/10.1007/s10552-024-01873-5 PMID:38615276

Berrington de González A, Masten SA, Bhatti B, Fortner RT, Peters S, Santonen T, et al. (2024). Advisory Group recommendations on priorities for the *IARC Monographs*. Lancet Oncol. 25(5):546–8. https://doi.org/10.1016/S1470-2045(24)00208-0 PMID:38621402

Best AF, Filho AM, Rosenberg PS (2025). Forecasting cancer incidence and prevalence using age-period-cohort and survivorship models: a practical, flexible, and interpretable framework. Front Oncol. 15:1484896. https://doi.org/10.3389/fonc.2025.1484896 PMID:40224176

Beyen TK, Seife E, Gurara AM, McCormack V, Taye G, Addissie A (2024). Spatiotemporal distribution, time to treatment outcome clustering and determinants of esophageal cancer in Ethiopia, a scoping study. Cancer Control. 31:10732748241251712. https://doi.org/10.1177/10732748241251712 PMID:38716644

Beyer K, Leenen R, Venderbos LDF, Helleman J, Denijs F, Bramer W, et al.; The PRAISE-U Consortium (2024). Health policy for prostate cancer early detection in the European Union and the impact of opportunistic screening: PRAISE-U Consortium. J Pers Med. 14(1):12. https://doi.org/10.3390/jpm14010084 PMID:38248785

Beyer K, Leenen RCA, Venderbos LDF, Helleman J, Remmers S, Vasilyeva V, et al.; on behalf of the PRAISE-U Consortium (2024a). Understanding the barriers to prostate cancer population-based early detection programs: the PRAISE-U BEST survey. J Pers Med. 14(7):751. https://doi.org/10.3390/jpm14070751 PMID:39064006

Bina F, Bani F, Khalilzadeh B, Gheit T, Karimi A (2025). Advancements in fluorescent nanobiosensors for HPV detection: from integrating nanomaterials to DNA nanotechnology. Int J Biol Macromol. 311(Pt 1):143619. https://doi.org/10.1016/j.ijbiomac.2025.143619 PMID:40306516

Boccacino JM, Del Castillo Velasco-Herrera M, Beale MA, Billington J, Vermes I, Obolenski S, et al. (2025). SPARKI: a tool for the statistical analysis of pathogen identification results. Bioinformatics. 41(11):btaf596. https://doi.org/10.1093/bioinformatics/btaf596 PMID:41169153

Bodén S, Zheng R, Ribbenstedt A, Landberg R, Harlid S, Vidman L, et al. (2024). Dietary patterns, untargeted metabolite profiles and their association with colorectal cancer risk. Sci Rep. 14(1):2244. https://doi.org/10.1038/s41598-023-50567-6 PMID:38278865

Bohmann P, Stein MJ, Amadou A, Baurecht H, Fervers B, Fontvieille E, et al. (2025). WHO guidelines on waist circumference and physical activity and their joint association with cancer risk. Br J Sports Med. 59(6):360–6. https://doi.org/10.1136/bjsports-2024-108708 PMID:39843229

Bohmann P, Stein MJ, Weber A, Konzok J, Fontvieille E, Peruchet-Noray L, et al. (2025). Body shapes of multiple anthropometric traits and all-cause and cause-specific mortality in the UK Biobank. Epidemiology. 36(2):264–74. https://doi.org/10.1097/EDE.0000000000001810 PMID:39887119

Bøje RB, Bardou M, Mensah K, Rico Berrocal R, Bonvicini L, Iorio G, et al.; CBIG-SCREEN Consortium (2025). How can cervical screening meet the needs of vulnerable women? A qualitative comparative study with stakeholder perspectives from seven European countries. BMJ Open. 15(1):e090631. https://doi.org/10.1136/bmjopen-2024-090631 PMID:39863407

Bøje RB, Bardou M, Mensah K, Rico Berrocal R, Giorgi Rossi P, Bonvicini L, et al.; CBIG-SCREEN Consortium (2024). What are the barriers towards cervical cancer screening for vulnerable women? A qualitative comparative analysis of stakeholder perspectives in seven European countries. BMJ Open. 14(5):e079921. https://doi.org/10.1136/bmjopen-2023-079921 PMID:38760040

Bomans L, Ramirez AT, Hillemanns P, Gultekin M, Arbyn M (2025). Prediction of treatment failure after excisional treatment of cervical precancer: a systematic review and meta-analysis. Obstet Gynecol. 146(4):487–99. https://doi.org/10.1097/AOG.0000000000005997 PMID:40638922

Boni SP, Tenet V, Horo A, Heideman DAM, Bleeker MCG, Tanon A, et al.; on behalf The IeDEA West Africa Collaboration (2024). High-risk human papillomavirus distribution according to human immunodeficiency virus status among women with cervical cancer in Abidjan, Côte d'Ivoire, 2018 to 2020. Int J Cancer. 154(6):962–8. https://doi.org/10.1002/ijc.34774 PMID:37942579

Borgmästars E, Jacobson S, Simm M, Johansson M, Billing O, Lundin C, et al. (2024). Metabolomics for early pancreatic cancer detection in plasma samples from a Swedish prospective population-based biobank. J Gastrointest Oncol. 15(2):755–67. https://doi.org/10.21037/jgo-23-930 PMID:38756646

Borgmästars E, Ulfenborg B, Johansson M, Jonsson P, Billing O, Franklin O, et al. (2024). Multi-omics profiling to identify early plasma biomarkers in pre-diagnostic pancreatic ductal adenocarcinoma: a nested case-control study. Transl Oncol. 48:102059. https://doi.org/10.1016/j.tranon.2024.102059 PMID:39018772

Bosch de Basea M, Thierry-Chef I, Harbron R, Hauptmann M, Byrnes G, Bernier MO, et al. (2025). Author correction: Risk of hematological malignancies from CT radiation exposure in children, adolescents and young adults. [Erratum for: Nat Med. 2023 Dec;29(12):3111–3119. https://doi.org/10.1038/s41591-023-02620-0]. Nat Med. 31(7):2452. https://doi.org/10.1038/s41591-025-03689-5 PMID:40217080

Bose S, Mandal R, Banerjee D, Vernekar M, Siddiqi M, Chakrabarti J, et al. (2025). Analysis of time trends of prevalence of high-risk HPV infections, high grade cervical precancer and cervical cancer disease in women from Eastern India over 20 years – pooled analysis from three studies. Cancer Epidemiol. 95:102776. https://doi.org/10.1016/j.canep.2025.102776 PMID:39970849

Botteri E, Peveri G, Berstad P, Bagnardi V, Hoff G, Heath AK, et al. (2024). Lifestyle changes in middle age and risk of cancer: evidence from the European Prospective Investigation into Cancer and Nutrition. Eur J Epidemiol. 39(2):147–59. https://doi.org/10.1007/s10654-023-01059-4 PMID:38180593

Bouaoun L, Byrnes G, Lagorio S, Feychting M, Abou-Bakre A, Béranger R, et al. (2024). Effects of recall and selection biases on modeling cancer risk from mobile phone use: results from a case-control simulation study. Epidemiology. 35(4):437–46. https://doi.org/10.1097/EDE.0000000000001749 PMID:38771708

Boucheron P, Zietsman A, Anele A, Offiah AU, Galukande M, Parham G, et al. (2025). Measuring the WHO Global Breast Cancer Initiative pillars' key performance indicators in Sub-Saharan Africa: experience in the African Breast Cancer–Disparities in Outcomes hospital-based cohort study. EClinicalMedicine. 81:103104. https://doi.org/10.1016/j.eclinm.2025.103104 PMID:40034567

Bouras E, Gill D, Zuber V, Murphy N, Dimou N, Aleksandrova K, et al. (2024). Identification of potential mediators of the relationship between body mass index and colorectal cancer: a Mendelian randomization analysis. Int J Epidemiol. 53(3):dyae067. https://doi.org/10.1093/ije/dyae067 PMID:38725300

Bouras E, Papagiannopoulos CK, Mustafa R, Sobieski D, Schmit SL, Wu AH, et al. (2025). Investigating the relationship of plasma microRNAs and colorectal cancer risk using genetic evidence. BMC Med. 23(1):532. https://doi.org/10.1186/s12916-025-04311-8 PMID:41039543

Bouras E, Yu R, Kim AE, Markozannes G, Murphy N, Albanes D, et al. (2025). Using gene–environment interactions to explore pathways for colorectal cancer risk. EBioMedicine. 121:105964. https://doi.org/10.1016/j.ebiom.2025.105964 PMID:41076992

Brantley KD, Jones ME, Tamimi RM, Rosner BA, Kraft P, Nichols HB, et al. (2025). Development and validation of a risk prediction model for premenopausal breast cancer in 19 cohorts. Breast Cancer Res. 27(1):67. https://doi.org/10.1186/s13058-025-02031-8 PMID:40312753

Bray F (2024). Cancer trends in the UK. BMJ.384:q504. https://doi.org/10.1136/bmj.q504 PMID:38479756

Bray F, Laversanne M (2025). Stat Bite: Recent trends in colon cancer incidence at ages 25–49 vs 50–74 in 50 countries. J Natl Cancer Inst. 117(10):2146–7. https://doi.org/10.1093/jnci/djaf223 PMID:41062101

Bray F, Laversanne M, Sung H, Ferlay J, Siegel RL, Soerjomataram I, et al. (2024). Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 74(3):229–63. https://doi.org/10.3322/caac.21834 PMID:38572751

Bray FI, Laversanne M, Colombet M (2025). Stat Bite: National or subnational coverage of population-based cancer registries included in Cancer Incidence in Five Continents, Volume XII. J Natl Cancer Inst. 117(2):383–4. https://doi.org/10.1093/jnci/djae303 PMID:40748550

Bray FI, Vignat J (2025). Stat Bite: Variations in nasopharyngeal cancer incidence rates according to registries included in Cancer Incidence in Five Continents, Volume XII. J Natl Cancer Inst. 117(4):816–7. https://doi.org/10.1093/jnci/djaf029 PMID:40748659

Breeur M, Stepaniants G, Keski-Rahkonen P, Rigollet P, Viallon V (2024). Optimal transport for automatic alignment of untargeted metabolomic data. Elife. 12:43. https://doi.org/10.7554/eLife.91597 PMID:38896449

Brochez L, Volkmer B, Hoorens I, Garbe C, Röcken M, Schüz J, et al. (2025). Skin cancer in Europe today and challenges for tomorrow. J Eur Acad Dermatol Venereol. 39(2):272–7. https://doi.org/10.1111/jdv.20368 PMID:39377431

Bull CJ, Hazelwood E, Legge DN, Corbin LJ, Richardson TG, Lee M, et al. (2024). Impact of weight loss on cancer-related proteins in serum: results from a cluster randomised controlled trial of individuals with type 2 diabetes. EBioMedicine. 100:104977. https://doi.org/10.1016/j.ebiom.2024.104977 PMID:38290287

Burdier FR, Bosch FX, Waheed DE, Teblick L, Poljak M, Baay M, et al. (2025). Accelerating HPV-related cancer elimination – a meeting report. BMC Proc. 19(Suppl 19):22. https://doi.org/10.1186/s12919-025-00337-1 PMID:40877872

Businge L, Hagenimana M, Motlhale M, Bardot A, Liu B, Anastos K, et al. (2024). Stage at diagnosis and survival by stage for the leading childhood cancers in Rwanda. Pediatr Blood Cancer. 71(7):e31020. https://doi.org/10.1002/pbc.31020 PMID:38668553

Byun J, Han Y, Choi J, Sun R, Shaw VR, Zhu C, et al.; INTEGRAL-ILCCO Consortium (2025). Genome-wide association study for lung cancer in 6531 African Americans reveals new susceptibility loci. Hum Mol Genet. 34(14):227–37. https://doi.org/10.1093/hmg/ddaf059 PMID:40341939

Cabanes A, Taylor C, Basu P, Kardinah K, Magsanoc-Alikpala K, Pastrana A (2024). The role of civil society in the implementation of the Global Breast Cancer Initiative (GBCI) framework: takeaways from Southeast Asia. Asian Pac J Cancer Prev. 25(7):2561–5. https://doi.org/10.31557/APJCP.2024.25.7.2561 PMID:39068591

Caboux E, Courtney P, Cheong IH, Kozlakidis Z (2025). Social acceptance of artificial intelligence in biobanking. In: Mayrhofer MT, Slokenberga S, Mežinska S, editors. Artificial intelligence in biobanking: ethical, legal and societal challenges. London, UK: Routledge; pp. 173–192. https://doi.org/10.4324/9781032634487

Cacau LT, Hanley-Cook GT, Vandevijvere S, Leclercq C, De Henauw S, Santaliestra-Pasias A, et al. (2024). Association between adherence to the EAT-*Lancet* sustainable reference diet and cardiovascular health among European adolescents: the HELENA study. Eur J Clin Nutr. 78(3):202–8. https://doi.org/10.1038/s41430-023-01379-4 PMID:38093098

Cairat M, Huybrechts I, Fournier A (2024). Exposure assessment of titanium dioxide via drugs available on the French market: a nationwide descriptive study. Therapie. 79(6):718–29. https://doi.org/10.1016/j.therap.2024.07.005 PMID:39174454

Cairat M, Severi G, Huybrechts I, Fournier A (2025). Ingestion of titanium dioxide as an excipient in medicines and the risk of cancer: a nationwide study within the French National Health Data System. Eur J Epidemiol. 40(7):833–43. https://doi.org/10.1007/s10654-025-01263-4 PMID:40601245

Cairat M, Yammine S, Fiolet T, Fournier A, Boutron-Ruault MC, Laouali N, et al. (2024a). Degree of food processing and breast cancer risk: a prospective study in 9 European countries. Food Prod Process Nutr. 6(1):89. https://doi.org/10.1186/s43014-024-00264-2 PMID:39399144

Câmara AB, Moraes Luizaga CT, Pereira Baltar Cury LC, Contreras CAH, López RVM, Duarte LS, et al. (2025). The influence of sociodemographic factors on barriers to breast cancer screening: a cross-sectional study. Cancer Epidemiol. 97:102852. https://doi.org/10.1016/j.canep.2025.102852 PMID:40435845

Canelo-Aybar C, Alonso-Coello P, Muratov S, Tarride JE, Dimitrova N, Giusti F, et al.; ECIBC contributor group (2025). Evaluation of breast cancer screening programmes: candidate performance indicators and their association with breast cancer mortality. Breast. 84:104621. https://doi.org/10.1016/j.breast.2025.104621 PMID:41202390

Caramenti L, Gradowska PL, Moriña D, Byrnes G, Cardis E, Hauptmann M (2024). Finite-sample bias of the linear excess relative risk in cohort studies of computed tomography-related radiation exposure and cancer. Radiat Res. 201(3):206–14. https://doi.org/10.1667/RADE-23-00187.1 PMID:38323646

Cariolou M, Christakoudi S, Gunter MJ, Key T, Pérez-Cornago A, Travis R, et al. (2024). Adiposity assessed close to diagnosis and prostate cancer prognosis in the EPIC study. JNCI Cancer Spectr. 8(5):12. https://doi.org/10.1093/jncics/pkae070 PMID:39180334

Castro-Espin C, Cairat M, Navionis AS, Dahm CC, Antoniussen CS, Tjønneland A, et al. (2024). Prognostic role of pre-diagnostic circulating inflammatory biomarkers in breast cancer survival: evidence from the EPIC cohort study. Br J Cancer. 131(9):1496–505. https://doi.org/10.1038/s41416-024-02858-6 PMID:39342063

Cavalli F, Mikkelsen B, Weiderpass E, Sullivan R, Jaffray D, Gospodarowicz M (2024). World Oncology Forum amplifies its appeal in global fight against cancer. Lancet Oncol. 25(2):170–4. https://doi.org/10.1016/S1470-2045(24)00010-X PMID:38301688

Centeno BA, Saieg M, Siddiqui MT, Perez-Machado M, Layfield LJ, Weynand B, et al. (2024). The World Health Organization Reporting System for Pancreaticobiliary Cytopathology: overview and summary. Cancer Cytopathol. 132(7):396–418. https://doi.org/10.1002/cncy.22806 PMID:38709670

Centonze G, Maisonneuve P, Mathian É, Grillo F, Sabella G, Lagano V, et al. (2025). Digital immunophenotyping of lung atypical carcinoids and large cell neuroendocrine carcinomas identifies three subtypes with specific tumor-immune microenvironment features. Endocr Pathol. 36(1):39. https://doi.org/10.1007/s12022-025-09886-9 PMID:41136735

Ceylan A, Uyar R, Çelik D, Rafieerad A, Çinar OO, Summak GY, et al. (2024). Spatial transcriptomics reveals the interplay between cancer and immune cells directed by MXene quantum dots. Nano Today. 56:13. https://doi.org/10.1016/j.nantod.2024.102285

Chalitsios CV, Markozannes G, Aglago EK, Berndt SI, Buchanan DD, Campbell PT, et al. (2025). Physical activity and molecular subtypes of colorectal cancer: a pooled observational analysis and Mendelian randomization study. JNCI Cancer Spectr. 9(6):pkaf095. https://doi.org/10.1093/jncics/pkaf095 PMID:41031512

Chalitsios CV, Markozannes G, Papagiannopoulos C, Aglago EK, Berndt SI, Buchanan DD, et al. (2025). Waist circumference, a body shape index, and molecular subtypes of colorectal cancer: a pooled analysis of four cohort studies. Cancer Epidemiol Biomarkers Prev. 34(4):568–77. https://doi.org/10.1158/1055-9965.EPI-24-1534 PMID:39898780

Chan DSM, Cariolou M, Markozannes G, Balducci K, Vieira R, Kiss S, et al. (2024). Post-diagnosis dietary factors, supplement use and colorectal cancer prognosis: a Global Cancer Update Programme (CUP Global) systematic literature review and meta-analysis. Int J Cancer. 155(3):445–70. https://doi.org/10.1002/ijc.34906 PMID:38692645

Chan WC, Liu L, Bouras E, Zuber V, Wen W, Long J, et al. (2025). Associations of blood lipids and LDL cholesterol lowering drug-targets with colorectal cancer risk: a Mendelian randomisation study. Br J Cancer. 132(1):103–10. https://doi.org/10.1038/s41416-024-02900-7 PMID:39580580

Chandran A, Kataria I, Oswal K, Isaac R, Mallafré-Larrosa M, Palaniraja S, et al. (2025a). Co-designing and evaluation of a context-appropriate strategy to improve access to early detection and care of oral, breast and cervical cancers in rural India: a formative phase implementation research protocol. Ecancermedicalscience. 19:1849. https://doi.org/10.3332/ecancer.2025.1849 PMID:40259906

Chandran A, Mackie A, Sasieni P, Arbyn M, Carvalho AL, Chauvet C, et al.; CervScreen Technical Working Group (2025b). Technical, legal and ethical framework of cancer audit in cervical screening – summary of best practices for organised programmes delineated through an expert group consultation. Int J Cancer. 157(1):32–40. https://doi.org/10.1002/ijc.35403 PMID:40208390

Chandran A, van Harten M, Singh D, Vilaseca J, Patasius A, Tupikowski K, et al.; PRAISE-U Consortium (2024). Risk-stratified approach to implementing population-based prostate cancer screening in five pilot sites in the European Union: a protocol for the PRAISE-U project. Eur Urol Open Sci. 70:8–17. https://doi.org/10.1016/j.euros.2024.09.003 PMID:40103637

Chang K, Parnham JC, Rauber F, Levy RB, Huybrechts I, Gunter MJ, et al. (2024). Plant-based dietary patterns and ultra-processed food consumption: a cross-sectional analysis of the UK Biobank. EClinicalMedicine. 78:102931. https://doi.org/10.1016/j.eclinm.2024.102931 PMID:39619237

Chavanel B, Virard F, Cahais V, Renard C, Sirand C, Smits KM, et al. (2024). Genome-scale mutational signature analysis in archived fixed tissues. Mutat Res Rev Mutat Res. 794:108512. https://doi.org/10.1016/j.mrrev.2024.108512 PMID:39216514

Chen J, Sun Y, Dan L, Wellens J, Yuan S, Yang H, et al.; EPIC Investigators (2025). Composition of plant-based diets and the incidence and prognosis of inflammatory bowel disease: a multinational retrospective cohort study. Lancet Reg Health Eur. 52:101264. https://doi.org/10.1016/j.lanepe.2025.101264 PMID:40166364

Chen T, Pham G, Fox L, Adler N, Wang X, Zhang J, et al. (2024). Genomic insights for personalised care in lung cancer and smoking cessation: motivating at-risk individuals toward evidence-based health practices. EBioMedicine. 110:105441. https://doi.org/10.1016/j.ebiom.2024.105441 PMID:39520911

Chen Z, Guo X, Tao R, Huyghe JR, Law PJ, Fernandez-Rozadilla C, et al. (2024). Fine-mapping analysis including over 254,000 East Asian and European descendants identifies 136 putative colorectal cancer susceptibility genes. Nat Commun. 15(1):3557. https://doi.org/10.1038/s41467-024-47399-x PMID:38670944

Cheng SL, Hedges M, Keski-Rahkonen P, Chatziioannou AC, Scalbert A, Chung KF, et al. (2024). Correction to "Multiomic signatures of traffic-related air pollution in London reveal potential short-term perturbations in gut microbiome-related pathways". Environ Sci Technol.58(39):17520–1.https://doi.org/10.1021/acs.est.4c09132 PMID:39283711

Cheng SL, Hedges M, Keski-Rahkonen P, Chatziioannou AC, Scalbert A, Chung KF, et al. (2024a). Multiomic signatures of traffic-related air pollution in London reveal potential short-term perturbations in gut microbiome-related pathways. Environ Sci Technol. 58(20):8771–82. https://doi.org/10.1021/acs.est.3c09148 PMID:38728551

Cheng TS, Noor U, Watts E, Pollak M, Wang Y, McKay J, et al. (2024). Circulating free insulin-like growth factor-I and prostate cancer: a case-control study nested in the European Prospective Investigation into Cancer and Nutrition. BMC Cancer. 24(1):676. https://doi.org/10.1186/s12885-023-11425-w PMID:38831273

Cheong IH, Zhao Y, Jiang M, Lei S, Wang H, Kozlakidis Z, et al. (2025). Technical guideline for low-temperature preservation of pathogenic microorganisms in China and its relevance to developing countries. Biopreserv Biobank. 23(2):152–6. https://doi.org/10.1089/bio.2024.0022 PMID:38963755

Chimera B, Cakmak EK, Blanco-Lopez J, Berden J, Biessy C, Keski-Rahkonen P, et al. (2025a). Metabolic profile of biodiverse diets in a healthy European cohort. Am J Clin Nutr. 122(1):208–20. https://doi.org/10.1016/j.ajcnut.2025.04.016 PMID:40500642

Chimera B, Hoobler R, Deschasaux-Tanguy M, Van Merris E, Roels O, Playdon M, et al. (2025). The gut microbiome and eating behavior outcomes: a systematic review. Obes Rev. 26(4):e13880. https://doi.org/10.1111/obr.13880 PMID:39667924

Choudhary P, Monasso GS, Karhunen V, Ronkainen J, Mancano G, Howe CG, et al. (2024). Maternal educational attainment in pregnancy and epigenome-wide DNA methylation changes in the offspring from birth until adolescence. Mol Psychiatry. 29(2):348–58. https://doi.org/10.1038/s41380-023-02331-5 PMID:38052982

Chu AH, Lin K, Croker H, Kefyalew S, Becerra-Tomás N, Dossus L, et al. (2025). Dietary patterns and colorectal cancer risk: Global Cancer Update Programme (CUP Global) systematic literature review. Am J Clin Nutr. 121(5):999–1016. https://doi.org/10.1016/j.ajcnut.2025.02.021 PMID:40010692

Chung F, Zavadil J (2024). New risk factors and molecular landscapes of hepatic angiosarcoma in the Taiwanese population. J Pathol. 262(1):1–3. https://doi.org/10.1002/path.6224 PMID:37929656

Chung FF, Khoueiry R, Sallé A, Cuenin C, Bošković M, Herceg Z (2024). Sodium arsenite-induced DNA methylation alterations exacerbated by p53 knockout in MCF7 cells. Heliyon. 10(21):e39548. https://doi.org/10.1016/j.heliyon.2024.e39548 PMID:39512451

Chung HF, Hayashi K, Dobson AJ, Sandin S, Ideno Y, Hardy R, et al. (2025). Association between endometriosis and type and age of menopause: a pooled analysis of 279 948 women from five cohort studies. Hum Reprod. 40(6):1210–9. https://doi.org/10.1093/humrep/deaf068 PMID:40304605

Clare H, Lindvall J, Kozlakidis Z, Anderberg S, Saurugger B, Clivaz C, et al. (2024). Progress towards engagement in EOSC: a report on the activities and impact of the EOSC Association Task Force "Upskilling Countries to Engage in EOSC". Zenodo. https://zenodo.org/records/11108790

Clifford GM (2024). Expanding the list of cancers recognized to be caused by infectious agents. J Natl Cancer Inst. 116(12):1875–7. https://doi.org/10.1093/jnci/djae185 PMID:39172647

Cobo Díez MJ, Vázquez-Ruiz Z, Huybrechts I, Martin-Moreno JM, González IG, Martínez-González MA, et al. (2025). Degree of food processing and incidence of obesity-related cancers in the "Seguimiento Universidad de Navarra" project. J Nutr. 155(11):3987–96. https://doi.org/10.1016/j.tjnut.2025.08.031 PMID:40914514

Cogliano VJ, Corsini E, Fournier A, Nelson HH, Sergi CM, Antunes AMM, et al. (2025). Carcinogenicity of hydrochlorothiazide, voriconazole, and tacrolimus. Lancet Oncol. 26(1):15–6. https://doi.org/10.1016/S1470-2045(24)00685-5 PMID:39622256

Collen S, Chandran A, Guglielmetti P, Májek O, Roobol MJ, Van Poppel H, et al. (2025). Informing prostate cancer screening policy makers in the European Union: lessons from cancer screening governance and policymaking. Eur J Public Health. 35(3):440–6. https://doi.org/10.1093/eurpub/ckaf066 PMID:40478531

Colling R, Indave I, Del Aguila J, Jimenez RC, Campbell F, Chechlińska M, et al. (2024). A new hierarchy of research evidence for tumor pathology: a Delphi study to define levels of evidence in tumor pathology. Mod Pathol. 37(1):100357. https://doi.org/10.1016/j.modpat.2023.100357 PMID:37866639

Colling R, Indave I, Del Aguilla J, Cierco Jimenez R, Campbell F, Chechlinska M, et al. (2024). Moving forward on tumor pathology research reporting: a guide for pathologists from the World Health Organization Classification of Tumors Living Evidence Gap Map by Tumour Type group. Mod Pathol. 37(7):100515. https://doi.org/10.1016/j.modpat.2024.100515 PMID:38763419

Collins LG, Lindsay D, Lal A, Doan T, Schüz J, Jongenelis M, et al. (2024). A systematic review of the modelling and economic evaluation studies assessing regulatory options for e-cigarette use. Int J Drug Policy. 129:104476. https://doi.org/10.1016/j.drugpo.2024.104476 PMID:38851141

Colombo GE, Mahamat-Saleh Y, Armour M, Madan K, Sabag A, Kvaskoff M, et al. (2025). Non-malignant gynaecological disease and risk of cardiovascular or cerebrovascular disease: a systematic review and meta-analysis. Heart. 111(9):402–11. https://doi.org/10.1136/heartjnl-2024-324675 PMID:39993911

Combes JD, Didelot JM, Radenne S, Zaegel-Faucher O, Lesage AC, Siproudhis L, et al.; ANRS-EP57-APACHES Study group (2024). Cumulative detection of anal high-grade squamous intraepithelial lesions over 2-year follow-up in men who have sex with men living with human immunodeficiency virus in France. J Infect Dis. 230(1):55–60. https://doi.org/10.1093/infdis/jiad506 PMID:39052708

Constantinescu AE, Bull CJ, Jones N, Mitchell R, Burrows K, Dimou N, et al. (2024). Circulating white blood cell traits and colorectal cancer risk: a Mendelian randomisation study. Int J Cancer. 154(1):94–103. https://doi.org/10.1002/ijc.34691 PMID:37578112

Conzuelo Rodriguez G, Cremer ML, Muwonge R, Basu P (2025). Use of thermal ablation in low-resource settings: experience from three multicenter noninferiority randomized clinical trials. JCO Glob Oncol. 11(11):e2500050. https://doi.org/10.1200/GO-25-00050 PMID:40479636

Cooley V, Fortner RT, Mukama T, Naudin S, Pala V, Dossus L, et al. (2025). Prospective evaluation of 92 protein biomarkers for early detection of endometrial cancer. Int J Cancer. 157(3):480–9. https://doi.org/10.1002/ijc.35428 PMID:40177982

Córdova R, Kim J, Thompson AS, Noh H, Shah S, Dahm CC, et al. (2025). Plant-based dietary patterns and age-specific risk of multimorbidity of cancer and cardiometabolic diseases: a prospective analysis. Lancet Healthy Longev. 6(8):100742. https://doi.org/10.1016/j.lanhl.2025.100742 PMID:40845891

Cornish N, Haycock P, Brenner H, Figueiredo JC, Galesloot TE, Grant RC, et al.; Inter-Lymph Consortium, INVENT-MVP Consortium (2024). Causal relationships between risk of venous thromboembolism and 18 cancers: a bidirectional Mendelian randomization analysis. Int J Epidemiol. 53(1):11. https://doi.org/10.1093/ije/dyad170 PMID:38124529

Corredor C, Piñeros M, Wiesner C, de Vries E (2024). Using administrative registries as a source for population-based cancer incidence and mortality. BMC Cancer. 24(1):232. https://doi.org/10.1186/s12885-023-11754-w PMID:38373947

Cortez Cardoso Penha R, Sexton Oates A, Senkin S, Park HA, Atkins J, Holcatova I, et al. (2024). Understanding the biological processes of kidney carcinogenesis: an integrative multi-omics approach. Mol Syst Biol. 20(12):1282–302. https://doi.org/10.1038/s44320-024-00072-3 PMID:39592856

Creaney G, de Aquino Goulart M, McMahon A, Paterson C, McCaul J, Perdomo S, et al.; HEADSpAcE Consortium (2025). Advanced stage head and neck cancer diagnosis: HEADSpAcE Consortium health systems benchmarking survey. Head Neck. 47(7): 1977–88. https://doi.org/10.1002/hed.28094 PMID:39994901

Cruz-Romero SD, González S, Juez JY, Becerra DS, Baldión AM, Hakim JA, et al. (2024). TIROSEC: molecular, clinical and histopathological profile of papillary thyroid carcinoma in a Colombian cohort. Adv Ther. 41(2):792–805. https://doi.org/10.1007/s12325-023-02756-y PMID:38170436

da Cunha AR, Rumgay H, Vignat J, Laversanne M, Colombet M, Curado MP, et al. (2025). Global burden and international trends of laryngeal cancer incidence: a population-based study of recorded data and national estimates. Cancer Epidemiol. 99:102935. https://doi.org/10.1016/j.canep.2025.102935 PMID:40997398

Dal Maso L, Vaccarella S, Franceschi S (2025). Trends in thyroid cancer incidence and overdiagnosis in the USA. Lancet Diabetes Endocrinol. 13(3):167–9. https://doi.org/10.1016/S2213-8587(24)00343-7 PMID:39922211

Daltveit DS, Morgan E, Colombet M, Steliarova-Foucher E, Bendahhou K, Marcos-Gragera R, et al. (2025). Global patterns of leukemia by subtype, age, and sex in 185 countries in 2022. Leukemia. 39(2):412–9. https://doi.org/10.1038/s41375-024-02452-y PMID:39567675

Damasco-Avila E, Ubico P, Blanco J, Perez M, Farncombe T, Morales G, et al. (2024). The nutritional burden of cancer: nutritional status and body composition differences between children with acute lymphoblastic leukemia and their siblings in Guatemala. Nutr Cancer. 76(10):994–1000. https://doi.org/10.1080/01635581.2024.2382391 PMID:39033402

Damerell V, Klaassen-Dekker N, Brezina S, Ose J, Ulvik A, van Roekel EH, et al.; FOCUS Consortium (2025). Circulating tryptophan-kynurenine pathway metabolites are associated with all-cause mortality among patients with stage I–III colorectal cancer. Int J Cancer. 156(3):552–65. https://doi.org/10.1002/ijc.35183 PMID:39308420

Damgacioglu H, Curtis C, Sonawane K, Clifford G, Palefsky JM, Chiao EY, et al. (2025). Anal cancer incidence among women with a history of cervical cancer by age and time since diagnosis. JAMA Netw Open. 8(9):e2531362. https://doi.org/10.1001/jamanetworkopen.2025.31362 PMID:40932718

Damgacioglu H, Sonawane K, Clifford GM, Palefsky JM, Lazenby GB, Orr BC, et al. (2025). Anal cancer incidence among women with a history of vulvar cancer by histology, age, and time since diagnosis. Oncologist. 30(10):oyaf307. https://doi.org/10.1093/oncolo/oyaf307 PMID:40990826

Daniel N, Farinella R, Chatziioannou AC, Jenab M, Mayén AL, Rizzato C, et al. (2024). Genetically predicted gut bacteria, circulating bacteria-associated metabolites and pancreatic ductal adenocarcinoma: a Mendelian randomisation study. Sci Rep. 14(1):25144. https://doi.org/10.1038/s41598-024-77431-5 PMID:39448785

Daniel N, Farinella R, Chatziioannou AC, Jenab M, Mayén AL, Rizzato C, et al. (2024). Publisher correction: Genetically predicted gut bacteria, circulating bacteria-associated metabolites and pancreatic ductal adenocarcinoma: a Mendelian randomisation study. Sci Rep. 14(1):30569. https://doi.org/10.1038/s41598-024-83618-7 PMID:39702435

Daniel N, Genua F, Jenab M, Mayén AL, Chrysovalantou Chatziioannou A, Keski-Rahkonen P, et al. (2024). The role of the gut microbiome in the development of hepatobiliary cancers. Hepatology. 80(5):1252–69. https://doi.org/10.1097/HEP.0000000000000406 PMID:37055022

Daniels RD, Bertke SJ, Kelly-Reif K, Richardson DB, Haylock R, Laurier D, et al. (2024). Updated findings on temporal variation in radiation-effects on cancer mortality in an international cohort of nuclear workers (INWORKS). Eur J Epidemiol. 39(11):1277–86. https://doi.org/10.1007/s10654-024-01178-6 PMID:39576361

Das S, Thakur S, Cahais V, Virard F, Claeys L, Renard C, et al. (2025). Molecular and cell phenotype programs in oral epithelial cells directed by co-exposure to arsenic and smokeless tobacco. Biofactors. 51(2):e70011. https://doi.org/10.1002/biof.70011 PMID:40056068

Davila-Batista V, Viallon V, Fontvieille E, Jansana A, Kohls M, Bondonno NP, et al. (2025). Associations between cardiometabolic comorbidities and mortality in adults with cancer: multinational cohort study. BMJ Med. 4(1):e000909. https://doi.org/10.1136/bmjmed-2024-000909 PMID:40151205

de Conti A, Madia F, Schubauer-Berigan MK, Benbrahim-Tallaa L (2025). Carcinogenicity of some metals evaluated by the *IARC Monographs*: a synopsis of the evaluations of arsenic, cadmium, cobalt, and antimony. Toxicol Appl Pharmacol. 504:117506. https://doi.org/10.1016/j.taap.2025.117506 PMID:40780533

de Heus E, Duijts SFA, van der Zwan JM, van Herpen CML, Merkx MAW, Rutherford MJ, et al. (2025). Measuring healthy life expectancy and determinants of poor perceived health: a population-based study among a subset of rare and common cancer survivors. Cancer Epidemiol. 94:102706. https://doi.org/10.1016/j.canep.2024.102706 PMID:39579642

de Oliveira THA, Anderson LA, Craig SG, Coleman HG, Gheit T, McKay-Chopin S, et al. (2025). Infectious agents and progression from Barrett's oesophagus to oesophageal adenocarcinoma: a nested case-control study. Br J Cancer. 132(11):1050–5. https://doi.org/10.1038/s41416-025-03003-7 PMID:40200065

de Oliveira THA, Anderson LA, Craig SG, Coleman HG, Gheit T, McKay-Chopin S, et al. (2025). Methodological considerations in assessing HPV prevalence in Barrett's oesophagus progression. Br J Cancer. 133(8):1072–3. https://doi.org/10.1038/s41416-025-03168-1 PMID:40973714

de Paula Silva N, Colombet M, Moreno F, Erdmann F, Dolya A, Piñeros M, et al.; IICC-3 contributors (2024). Incidence of childhood cancer in Latin America and the Caribbean: coverage, patterns, and time trends. Rev Panam Salud Publica. 48:e11. https://doi.org/10.26633/RPSP.2024.11 PMID:38410357

de Paula Silva N, Gini A, Dolya A, Colombet M, Soerjomataram I, Youlden D, et al.; CRICCS consortium (2024a). Prevalence of childhood cancer survivors in Europe: a scoping review. EJC Paediatr Oncol. 3. https://doi.org/10.1016/j.ejcped.2024.100155 PMID:38915419

de Souza JS, Kliemann N, Vieira FGK, Al Nahas A, Reitz LK, Aglago EK, et al. (2024). Development, content validity and usability of a self-assessment instrument for the lifestyle of breast cancer survivors in Brazil. Nutrients. 16(21):3707. https://doi.org/10.3390/nu16213707 PMID:39519541

de Vries E, Arias-Ortiz N, Piñeros M (2025). Commentary to Oliveros et al., Cancer Epidemiol 2025;96:102784. Cancer Epidemiol. 96:102813. https://doi.org/10.1016/j.canep.2025.102813 PMID:40184951

Debeaudrap P, Kabore FN, Setha L, Tegbe J, Doukoure B, Sotheara M, et al. (2025). Performance of visual inspection, partial genotyping, and their combination for the triage of women living with HIV who are screen positive for human papillomavirus: results from the AIMA-CC ANRS 12375 multicentric screening study. Int J Cancer. 156(3):598–607. https://doi.org/10.1002/ijc.35190 PMID:39319557

DeBono NL, Amar V, Hardy H, Schubauer-Berigan MK, Ruths D, King NB (2025). A large language model-based tool for identifying relationships to industry in research on the carcinogenicity of benzene, cobalt, and aspartame. Environ Health. 24(1):64. https://doi.org/10.1186/s12940-025-01223-1 PMID:40993649

Debras C, Cordova R, Mayén AL, Maasen K, Knaze V, Eussen SJPM, et al. (2024). Dietary intake of dicarbonyl compounds and changes in body weight over time in a large cohort of European adults. Br J Nutr. 131(11):1902–14. PMID:38383991

Dee EC, Laversanne M, Bhoo-Pathy N, Ho FDV, Feliciano EJG, Eala MAB, et al. (2025). Cancer incidence and mortality estimates in 2022 in southeast Asia: a comparative analysis. Lancet Oncol. 26(4):516–28. https://doi.org/10.1016/S1470-2045(25)00017-8 PMID:40024257

Deltour I, Guida F, Ribet C, Zins M, Goldberg M, Schüz J (2024). Use of mobile phones and radiofrequency-emitting devices in the COSMOS-France cohort. Int J Environ Res Public Health. 21(11):1514. https://doi.org/10.3390/ijerph21111514 PMID:39595781

DeMarini DM, Gwinn W, Watkins E, Reisfeld B, Chiu WA, Zeise L, et al. (2025). IARC workshop on the key characteristics of carcinogens: assessment of end points for evaluating mechanistic evidence of carcinogenic hazards. Environ Health Perspect. 133(2):25001. https://doi.org/10.1289/EHP15389 PMID:39899356

Desai TA, Hedman AK, Dimitriou M, Koprulu M, Figiel S, Yin W, et al.; PRACTICAL Consortium (2024). Identifying proteomic risk factors for overall, aggressive, and early onset prostate cancer using Mendelian randomisation and tumour spatial transcriptomics. EBioMedicine. 105:105168. https://doi.org/10.1016/j.ebiom.2024.105168 PMID:38878676

Deschasaux-Tanguy M, Huybrechts I, Julia C, Hercberg S, Sarda B, Fialon M, et al. (2024). Nutritional quality of diet characterized by the Nutri-Score profiling system and cardiovascular disease risk: a prospective study in 7 European countries. Lancet Reg Health Eur. 46:101006. https://doi.org/10.1016/j.lanepe.2024.101006 PMID:39529812

Deshmukh AA, Damgacioglu H, Sigel K, Palefsky JM, Clarke MA, Wentzensen N, et al. (2025). Screening for anal cancer among men who have sex with men with HIV: benefits, harms, and cost-effectiveness analyses. Ann Intern Med. 178(7):975–86. https://doi.org/10.7326/ANNALS-24-01426 PMID:40523287

Deslandes B, Wu X, Lee MA, Goudswaard LJ, Jones GW, Gsur A, et al. (2025). Transcriptome-wide Mendelian randomization exploring dynamic CD4+ T cell gene expression in colorectal cancer development. J Leukoc Biol. 117(10):qiaf131. https://doi.org/10.1093/jleuko/qiaf131 PMID:40974097

Díaz-Gay M, Dos Santos W, Moody S, Kazachkova M, Abbasi A, Steele CD, et al. (2025a). Geographic and age variations in mutational processes in colorectal cancer. Nature. 643(8070):230–40. https://doi.org/10.1038/s41586-025-09025-8 PMID:40267983

Díaz-Gay M, Zhang T, Hoang PH, Leduc C, Baine MK, Travis WD, et al. (2025b). The mutagenic forces shaping the genomes of lung cancer in never smokers. Nature. 644(8075):133–44. https://doi.org/10.1038/s41586-025-09219-0 PMID:40604281

Dicken SJ, Dahm CC, Ibsen DB, Olsen A, Tjønneland A, Louati-Hajji M, et al. (2024). Food consumption by degree of food processing and risk of type 2 diabetes mellitus: a prospective cohort analysis of the European Prospective Investigation into Cancer and Nutrition (EPIC). Lancet Reg Health Eur. 46:101043. https://doi.org/10.1016/j.lanepe.2024.101043 PMID:39529810

Dimopoulou O, Fuller H, Richmond RC, Bouras E, Hayes B, Dimou N, et al. (2025). Mendelian randomization study of sleep traits and risk of colorectal cancer. Sci Rep. 15(1):13478. https://doi.org/10.1038/s41598-024-83693-w PMID:40251235

Dobson AJ, Xu Z, Wilson LF, Chung HF, Sandin S, Van der Schouw YT, et al. (2024). Menopause age and type and dementia risk: a pooled analysis of 233 802 women. Age Ageing. 53(11):afae254. https://doi.org/10.1093/ageing/afae254 PMID:39562342

Dong M, Thakral A, Byrne KS, Bosse Y, Zhou H, Zhang Y, et al. (2025). Genome-wide association study of early-stage non-small cell lung cancer prognosis: a pooled analysis in the International Lung Cancer Consortium. Carcinogenesis. 46(2):bgaf031. https://doi.org/10.1093/carcin/bgaf031 PMID:40746155

Dossus L, Gunter MJ, Gonzalez-Gil EM, Lauby-Secretan B, Ahmadi N, Hursting S, et al. (2025). CUP Global Framework for the review of the biological pathways linking diet, nutrition, body weight, and physical activity with cancer incidence. Health Open Res. 7:3. https://doi.org/10.21955/healthopenres.1115016.1

Downham L, Jaafar I, Rol ML, Nyawira Nyaga V, Valls J, Baena A, et al. (2024a). Accuracy of HPV E6/E7 oncoprotein tests to detect high-grade cervical lesions: a systematic literature review and meta-analysis. Br J Cancer. 130(4):517–25. https://doi.org/10.1038/s41416-023-02490-w PMID:37973957

Downham L, Rol ML, Forestier M, Romero P, Mendoza L, Mongelós P, et al. (2024). Field experience with the 8-HPV-type oncoprotein test for cervical cancer screening among HPV-positive women living with and without HIV in LMICs. Int J Cancer. 155(5):816–27. https://doi.org/10.1002/ijc.34953 PMID:38602045

Drew DA, Kim AE, Lin Y, Qu C, Morrison J, Lewinger JP, et al. (2024). Two genome-wide interaction loci modify the association of nonsteroidal anti-inflammatory drugs with colorectal cancer. Sci Adv. 10(22):eadk3121. https://doi.org/10.1126/sciadv.adk3121 PMID:38809988

Drozdovitch V, Lipikhina A, Apsalikov K, Brait Y, Tokanov A, Yessilkanov G, et al. (2025). Assessment of radiation contamination of villages in northeastern Kazakhstan not covered by exposure rate measurements after atmospheric nuclear weapons tests conducted at the Semipalatinsk nuclear test site. J Environ Radioact. 288:107731. https://doi.org/10.1016/j.jenvrad.2025.107731 PMID:40499259

Du M, Xin J, Zheng R, Yuan Q, Wang Z, Liu H, et al. (2024). CYP2A6 activity and cigarette consumption interact in smoking-related lung cancer susceptibility. Cancer Res. 84(4):616–25. https://doi.org/10.1158/0008-5472.CAN-23-0900 PMID:38117513

Dube Mandishora RS, Galati L, Reich RR, Combes JD, McKay-Chopin S, Makunike-Mutasa R, et al. (2024). Epstein-Barr virus DNA is associated with conjunctival squamous cell carcinomas: a case-control study from Zimbabwe. Open Forum Infect Dis. 11(4):ofae165. https://doi.org/10.1093/ofid/ofae165 PMID:38623569

Dubner J, Neugut AI, Joffe M, O'Neil DS, Ayeni OA, Chen WC, et al. (2024). The association of HIV status with triple-negative breast cancer in patients with breast cancer in South Africa: a cross-sectional analysis of case-only data from a prospective cohort study. Lancet Glob Health. 12(12):e1993–2002. https://doi.org/10.1016/s2214-109x(24)00376-0 PMID:39577973

Ducreux B, Firmin J, Ferreux L, Patrat C, Clavel J, Ghantous A, et al. (2025). DNA methylation profiles and cancer in children conceived after assisted reproductive technology. Clin Epigenetics. 17(1):174. https://doi.org/10.1186/s13148-025-01982-1 PMID:41121288

Dunlop KLA, Singh N, Robbins HA, Zahed H, Johansson M, Rankin NM, et al. (2024). Implementation considerations for risk-tailored cancer screening in the population: a scoping review. Prev Med. 181:107897. https://doi.org/10.1016/j.ypmed.2024.107897 PMID:38378124

Dusingize JC, Murenzi G, Muhoza B, Businge L, Remera E, Uwinkindi F, et al. (2024). Cancer risk among people living with human immunodeficiency virus (HIV) in Rwanda from 2007 to 2018. Int J Cancer. 155(12): 2149–58. https://doi.org/10.1002/ijc.35091 PMID:39128948

Ebrahimi E, Sangphukieo A, Park HA, Gaborieau V, Ferreiro-Iglesias A, Diergaarde B, et al.; HEADSpAcE Consortium (2025). Cross-ancestral GWAS identifies 29 variants across head and neck cancer subsites. Nat Commun. 16(1):8787. https://doi.org/10.1038/s41467-025-63842-z PMID:41038832

Ecke TH, Le Calvez-Kelm F, van Poppel H (2025). Why we need more attention on bladder cancer: establishing policy recommendations for health care professionals and politicians. Eur Urol. 87(5):504–6. https://doi.org/10.1016/j.eururo.2025.02.005 PMID:39979171

Elattabi C, Lamchabbek N, Boutayeb S, Belyamani L, Huybrechts I, Faure E, et al. (2025). The impact of travel distance on cancer stage at diagnosis for cancer: a systematic review. Int J Environ Res Public Health. 22(4):518. https://doi.org/10.3390/ijerph22040518 PMID:40283744

Elkhwsky F, Allam A, Kozlakidis Z, Shaikhah A, Elhameed AA (2024). In response to "Establishing biobanking in medical curricula – the education program 'Precision Medicine International' (eduBRoTHER)" in Biopreservation and Biobanking, Published on November 11, 2022 by Seidler D., et al. Biopreserv Biobank. 22(3):187–8. https://doi.org/10.1089/bio.2023.0007 PMID:37676979

Eng L, Evans WK, Eisele M, Nishimura KK, Land SR, Rami-Porta R, et al.; Members of the IASLC Staging and Prognostic Factors Group and of the Advisory Boards, and Participating Institutions and the IASLC Tobacco Control and Smoking Cessation Committee (2025). The International Association for the Study of Lung Cancer staging project: the impact of smoking status on lung cancer staging in the ninth edition of the TNM classification. J Thorac Oncol. 20(10):1441–58. https://doi.org/10.1016/j.jtho.2025.07.002 PMID:40920143

Engels EA, Shiels MS, Barnabas RV, Bohlius J, Brennan P, Castilho J, et al. (2024). State of the science and future directions for research on HIV and cancer: summary of a joint workshop sponsored by IARC and NCI. Int J Cancer. 154(4):596–606. https://doi.org/10.1002/ijc.34727 PMID:37715370

Eslahi M, Pizzato M, Heikkinen S, Martinsen JI, Lynge E, Hansen J, et al. (2025). Socioeconomic position and risk of cervical cancer in the Nordic countries: results from the Nordic Occupational Cancer Study. Int J Cancer. 157(1):95–102. https://doi.org/10.1002/ijc.35349 PMID:40079673

Espina C, Feliu A, González Vingut A, Liddle T, Jimenez-Garcia C, Olaya-Caro I, et al. (2024). Population-based cancer prevention education intervention through mHealth: a randomized controlled trial. J Med Syst. 48(1):9. https://doi.org/10.1007/s10916-023-02026-y PMID:38194118

Espina C, Ritchie D, Feliu A, Canelo-Aybar C, D'Souza E, Mitrou PN, et al. (2025). Developing evidence-based cancer prevention recommendations: methodology of the World Code Against Cancer Framework to create region-specific codes. Int J Cancer. ijc.70068. https://doi.org/10.1002/ijc.70068 PMID:40741905

Etemadi A, Poustchi H, Chang CM, Calafat AM, Blount BC, Bhandari D, et al. (2024). Exposure to polycyclic aromatic hydrocarbons, volatile organic compounds, and tobacco-specific nitrosamines and incidence of esophageal cancer. J Natl Cancer Inst. 116(3):379–88. https://doi.org/10.1093/jnci/djad218 PMID:37856326

European Commission Initiative on Cervical Cancer (2025). European guidelines on cervical cancer screening and diagnosis. Ispra, Italy: European Commission Joint Research Centre. Available from: https://cancer-screening-and-care.jrc.ec.europa.eu/en/ec-cvc/european-cervical-cancer-guidelines.

Evans WK, Evison M, Sheikh M, Eng L, Ayo-Yusuf O, Shankar A, et al.; International Association for the Study of Lung Cancer Tobacco Control and Smoking Cessation Committee (2025). Cancer clinical trials should capture tobacco smoking status. Lancet Oncol. 26(8):990–3. https://doi.org/10.1016/S1470-2045(25)00364-X PMID:40744029

Fantin R, Sierra MS, Vaccarella S, Herrero R, Barboza-Solís C (2024). Social gradient and rural-urban disparities in cancer mortality in Costa Rica. Cancer Epidemiol. 91:102604. https://doi.org/10.1016/j.canep.2024.102604 PMID:38941875

Fedoriw Y, Silva O, Znaor A, Macintyre E (2025). Global view of haematolymphoid tumor classifications and their application in low- and middle-income countries. Histopathology. 86(1):6–16. https://doi.org/10.1111/his.15340 PMID:39420576

Feliu A, Barrera B, Drury A, Hâncean M-G, Geantă M, Koczkodaj P, et al. (2024). Perceptions towards the adoption of multi-risk factors cancer prevention educational tool among European Union citizens: a multi-country qualitative study protocol. Int J Qual Methods. 23:23. https://doi.org/10.1177/16094069241256276

Feng X, Alcala K, Guida F, Goldberg M, Zins M, Leleu O, et al. (2025). Eligibility criteria for lung cancer screening in France: a modelling study. Lancet Reg Health Eur. 51:101221. https://doi.org/10.1016/j.lanepe.2025.101221 PMID:39968190

Feng X, Goodley P, Alcala K, Guida F, Kaaks R, Vermeulen R, et al. (2024a). Evaluation of risk prediction models to select lung cancer screening participants in Europe: a prospective cohort consortium analysis. Lancet Digit Health. 6(9):e614–24. https://doi.org/10.1016/S2589-7500(24)00123-7 PMID:39179310

Feng X, Robbins HA, Mukeriya A, Foretova L, Holcatova I, Janout V, et al. (2024). Prognostic value of circulating proteins at diagnosis among patients with lung cancer: a comprehensive analysis by smoking status. Transl Lung Cancer Res. 13(9):2326–39. https://doi.org/10.21037/tlcr-24-242 PMID:39430322

Feng X, Zahed H, Onwuka J, Callister MEJ, Johansson M, Etzioni R, et al. (2024b). Cancer stage compared with mortality as end points in randomized clinical trials of cancer screening: a systematic review and meta-analysis. JAMA. 331(22):1910–7. https://doi.org/10.1001/jama.2024.5814 PMID:38583868

Fernandez-Cuesta L, Alcala N, Mathian E, Derks J, Thirlwell C, Dayton T, et al. (2025a). Basic science and translational implications of current knowledge on neuroendocrine tumors. J Clin Invest. 135(5):e186702. https://doi.org/10.1172/JCI186702 PMID:40026252

Fernandez-Cuesta L, Voegele C, Hemon B, Alcala K, Aune D, Caini S, et al. (2025b). The European Prospective Investigation into Cancer and Nutrition Cohort (EPIC): a gateway to rare cancer epidemiological research. ESMO Rare Cancers. 2. https://doi.org/10.1016/j.esmorc.2025.100014 PMID:40661340

Fertitta V, Escobar Marcillo DI, Privitera GF, Del Cornò M, Guglielmi V, Agnes A, et al. (2025). Oral viral DNA profiling in obesity, adenomatous polyposis, and colorectal cancer identifies human β-papillomavirus types as potentially sex-related and modifiable cancer risk indicators. Cancers (Basel). 17(18):3024. https://doi.org/10.3390/cancers17183024 PMID:41008866

Feychting M, Schüz J, Toledano MB, Vermeulen R, Auvinen A, Harbo Poulsen A, et al. (2024). Mobile phone use and brain tumour risk – COSMOS, a prospective cohort study. Environ Int. 185:108552. https://doi.org/10.1016/j.envint.2024.108552 PMID:38458118

Feychting M, Schüz J, Toledano MB, Vermeulen R, Auvinen A, Harbo Poulsen A, et al. (2024). Response to the letter to the editor regarding "Mobile phone use and brain tumour risk – COSMOS, a prospective cohort study". Environ Int. 189:108808. https://doi.org/10.1016/j.envint.2024.108808 PMID:38870580

Feychting M, Schüz J, Toledano MB, Vermeulen R, Auvinen A, Poulsen AH, et al. (2024). Response to the letter to the editor regarding "Mobile phone use and brain tumour risk – COSMOS, a prospective cohort study". Environ Int. 187:108664. https://doi.org/10.1016/j.envint.2024.108664 PMID:38663236

Filho AM, Laversanne M, Ferlay J, Colombet M, Piñeros M, Znaor A, et al. (2025a). The GLOBOCAN 2022 cancer estimates: data sources, methods, and a snapshot of the cancer burden worldwide. Int J Cancer. 156(7):1336–46. https://doi.org/10.1002/ijc.35278 PMID:39688499

Filho AM, Znaor A, Sunguc C, Zahwe M, Marcos-Gragera R, Figueroa JD, et al. (2025b). Cancers of the brain and central nervous system: global patterns and trends in incidence. J Neurooncol. 172(3):567–78. https://doi.org/10.1007/s11060-025-04944-y PMID:39883354

Fiolet T, Nicolas G, Casagrande C, Horvath Z, Frenoy P, Weiderpass E, et al. (2024). Dietary intakes of dioxins and polychlorobiphenyls (PCBs) and mortality: EPIC cohort study in 9 European countries. Int J Hyg Environ Health. 255:114287. https://doi.org/10.1016/j.ijheh.2023.114287 PMID:37989047

Fokom Domgue J, Dille I, Gnangnon F, Kapambwe S, Bouchard C, Mbatani N, et al. (2024). Utility of colposcopy for the screening and management of cervical cancer in Africa: a cross-sectional analysis of providers' training and practices. BMC Health Serv Res. 24(1):1619. https://doi.org/10.1186/s12913-024-11982-1 PMID:39695604

Fokom Domgue J, Dille I, Kapambwe S, Yu R, Gnangnon F, Chinula L, et al. (2024). HPV vaccination in Africa in the COVID-19 era: a cross-sectional survey of healthcare providers' knowledge, training, and recommendation practices. Front Public Health. 12:1343064. https://doi.org/10.3389/fpubh.2024.1343064 PMID:38299075

Fontvieille E, Jansana A, Peruchet-Noray L, Córdova R, Gan Q, Rinaldi S, et al. (2025). Body mass index and breast cancer risk among postmenopausal women with and without cardiometabolic diseases: findings from two prospective cohort studies in Europe. Cancer. 131(14):e35911. https://doi.org/10.1002/cncr.35911 PMID:40619910

Ford AC, Yuan Y, Park JY, Forman D, Moayyedi P (2025). Eradication therapy to prevent gastric cancer in *Helicobacter pylori*-positive individuals: systematic review and meta-analysis of randomized controlled trials and observational studies. Gastroenterology. 169(2):261–76. https://doi.org/10.1053/j.gastro.2024.12.033 PMID:39824392

Forjaz G, Kohler B, Coleman MP, Steliarova-Foucher E, Negoita S, Guidry Auvil JM, et al. (2025). Making the case for an International Childhood Cancer Data Partnership. J Natl Cancer Inst. 117(8):1539–46. https://doi.org/10.1093/jnci/djaf003 PMID:39799506

Francis DL, Pape Reddy SS, Rathi M, Chopra SS (2025). From periodontal inflammation to oral cancer: the impact of smokeless tobacco. Lancet Reg Health Southeast Asia. 36:100574. https://doi.org/10.1016/j.lansea.2025.100574 PMID:40241691

Francis DL, Reddy SSP, Chopra SS (2025). Oral health considerations in the management of monkeypox. Oral Dis. 31(3):1030–1. https://doi.org/10.1111/odi.15126 PMID:39226179

Freisling H, Córdova R, Aune D, Wagner KH (2024). Ultra processed foods and cancer – authors' reply. Lancet Reg Health Eur. 38:100865. https://doi.org/10.1016/j.lanepe.2024.100865 PMID:38375449

Fuady A, Kasempa C, Lucas E, Nyambe N, Rao DW, Tenet V, et al. (2025). Economic evaluation of thermal ablation compared to cryotherapy and loop diathermy in a screen-and-treat approach to cervical cancer, Zambia. Bull World Health Organ. 103(9):530–40. https://doi.org/10.2471/BLT.24.292792 PMID:40900929

Fuady A, Setiawan D, Man I, de Kok IMCM, Baussano I (2024). Toward a framework to assess the financial and economic burden of cervical cancer in low- and middle-income countries: a systematic review. JCO Glob Oncol. 10(10):e2400066.https://doi.org/10.1200/GO.24.00066 PMID:39116362

Furuta K, Vu H, Adamek D, Ahmadi A, Baudry J, Fachiroh J, et al. (2025). Experts Speak Forum: decarbonization for green biobanking – the current landscape and challenges for the future. Biopreserv Biobank. 23(2):71–8. PMID:40107768

Galati L, Di Bonito P, Marinaro M, Chiantore MV, Gheit T (2024). HPV16 phylogenetic variants in anogenital and head and neck cancers: state of the art and perspectives. Viruses. 16(6):15. https://doi.org/10.3390/v16060904 PMID:38932197

Galati L, Tagliabue M, Gheit T, De Berardinis R, Maffini F, McKay-Chopin S, et al. (2025). HPV biomarkers in oral and blood-derived body fluids in head and neck cancer patients. J Med Virol. 97(3):e70278. https://doi.org/10.1002/jmv.70278 PMID:40052199

Galicia Pacheco SI, Catena A, Sánchez MJ, Rueda MDM, Aljarilla Sánchez L, Costas L, et al. (2024). Socio-economic inequalities in beliefs about cancer and its causes: evidence from two population surveys. Psychooncology. 33(12):e70035. https://doi.org/10.1002/pon.70035 PMID:39625346

Gan Q, Freisling H, Peruchet-Noray L, Fontvieille E, Matta K, Zhai Y, et al. (2025). Adiposity, mortality, and disease risk: insights from bioimpedance analysis and magnetic resonance imaging. BMC Med. 23(1):550. https://doi.org/10.1186/s12916-025-04356-9 PMID:41074136

Gapstur S, Islami F, Lauby-Secretan B (2025). Alcohol. In: Jemal A, Sung H, Kelly K, Soerjomataram I, Bray F, editors. The cancer atlas. 4th ed. Atlanta (GA), USA: American Cancer Society; pp. 26–27.

Gapstur SM, Mariosa D, Neamtiu L, Nethan ST, Rehm J, Huckle T, et al. (2025). The IARC perspective on the effects of policies on reducing alcohol consumption. N Engl J Med. 392(17):1752–9. https://doi.org/10.1056/NEJMsr2413289 PMID:40305721

Garg A, Damgacioglu H, Sigel K, Nyitray AG, Clifford GM, Curran T, et al. (2024). Future patterns in burden and incidence of squamous cell carcinoma of the anus in the United States, 2001–2035. J Natl Cancer Inst. 116(9):1508–12. https://doi.org/10.1093/jnci/djae127 PMID:38837335

Garton EM, Allman G, Bae HS, Duncan K, Fadhil I, Hammad N, et al. (2025). A proposed framework for monitoring and evaluating progress at the intersection of women, power, and cancer. Lancet. 405(10490):1713–6. https://doi.org/10.1016/S0140-6736(25)00511-2 PMID:40250454

Gastaldon C, Whitesell Skrivankova V, Schoretsanitis G, Folb N, Taghavi K, Davies MA, et al. (2025). Diagnosis of postpartum depression and associated factors in South Africa: a cohort study of 47,697 women. Epidemiol Psychiatr Sci. 34:e41. https://doi.org/10.1017/S2045796025100103 PMID:40726088

GBD 2021 Nervous System Disorders Collaborators (2024). Global, regional, and national burden of disorders affecting the nervous system, 1990–2021: a systematic analysis for the Global Burden of Disease Study 2021. Lancet Neurol. 23(4):344–81. https://doi.org/10.1016/S1474-4422(24)00038-3 PMID:38493795

Gentile D, Chiummiento L, Santarsiere A, Funicello M, Lupattelli P, Rescifina A, et al. (2024). Targeting viral and cellular cysteine proteases for treatment of new variants of SARS-CoV-2. Viruses. 16(3):16. https://doi.org/10.3390/v16030338 PMID:38543704

George GS, Singh A, Moirangthem R, Patil A, Pullat GB, Sagare S, et al. (2025). Association of Decayed, Missing, Filled Teeth score with the risk for buccal mucosa cancer, stratified on tobacco and alcohol use: a multicenter case-control study from India. JCO Glob Oncol. 11(11):e2500119. https://doi.org/10.1200/GO-25-00119 PMID:40700664

Ghantous A, Nusslé SG, Nassar FJ, Spitz N, Novoloaca A, Krali O, et al. (2024). Epigenome-wide analysis across the development span of pediatric acute lymphoblastic leukemia: backtracking to birth. Mol Cancer. 23(1):238. https://doi.org/10.1186/s12943-024-02118-4 PMID:39443995

Ghasemi-Kebria F, Fazel A, Semnani S, Etemadi A, Naeimi-Tabiei M, Hasanpour-Heidari S, et al. (2024). Breast cancer incidence trends in Golestan, Iran: an age-period-cohort analysis by ethnic region, 2004–2018. Cancer Epidemiol. 89:102525. https://doi.org/10.1016/j.canep.2024.102525 PMID:38228040

Giesen C, Del Águila Mejía J, Armon S, Cierco Jimenez R, Myles N, Goldman-Lévy G, et al.; WCT EVI MAP (2024). Exploratory evidence maps for the WHO Classification of Tumours 5th edition for lung and thymus tumors. Virchows Arch. 485(5):869–78. https://doi.org/10.1007/s00428-024-03886-6 PMID:39448408

Giesen C, Goldman-Levy G, Cree IA, Cierco Jimenez R, Machado A, Lokuhetty D (2025). WHO Classification of Tumours: moving towards the sixth edition. Histopathology. 86(6):839–44. https://doi.org/10.1111/his.15325 PMID:39293942

Gil-Lespinard M, Almanza-Aguilera E, Castañeda J, Guiñón-Fort D, Eriksen AK, Tjønneland A, et al. (2024). Plasma concentration of 36 (poly)phenols and prospective body weight change in participants from the EPIC cohort. Ann Nutr Metab. 80(2):87–100. https://doi.org/10.1159/000535803 PMID:38272006

Gil Sánchez LX, Bauquier C, Bujon T, Préau M, Villain P (2025). General practitioners' recommendation of HPV vaccination to adolescents aged 11–14 may be gender-biased as suggested by a qualitative study in France. Sci Rep. 15(1):22642. https://doi.org/10.1038/s41598-025-05426-x PMID:40594568

Giulbudagian M, Battisini B, Bäumler W, Blass Rico AM, Bocca B, Brungs C, et al. (2024). Lessons learned in a decade: medical-toxicological view of tattooing. J Eur Acad Dermatol Venereol. 38(10):1926–38. https://doi.org/10.1111/jdv.20072 PMID:38709160

Gizaw M, Parkin DM, Stöter O, Bukirwa P, Seife E, Chesumbai G, et al. (2024). Ovarian cancer survival in sub-Saharan Africa by human development index and histological subtypes: a population-based registry study. Int J Cancer. 154(11):1911–9. https://doi.org/10.1002/ijc.34877 PMID:38339849

Goerdten J, Muli S, Rattner J, Merdas M, Achaintre D, Yuan L, et al. (2024). Identification and replication of urine metabolites associated with short-term and habitual intake of sweet and fatty snacks in European children and adolescents. J Nutr. 154(11):3274–85. https://doi.org/10.1016/j.tjnut.2024.09.026 PMID:39332769

Goessens T, Tesfamariam K, Njobeh PB, Matumba L, Jali-Meleke N, Gong YY, et al. (2025). Incidence and mortality of acute aflatoxicosis: a systematic review. Environ Int. 199:109461. https://doi.org/10.1016/j.envint.2025.109461 PMID:40252547

González-Gil EM, Matta M, Morales Berstein F, Cairat M, Nicolas G, Blanco J, et al. (2025). Associations between degree of food processing and all-cause and cause-specific mortality: a multicentre prospective cohort analysis in 9 European countries. Lancet Reg Health Eur. 50:101208. https://doi.org/10.1016/j.lanepe.2024.101208 PMID:39867840

González-Gil EM, Peruchet-Noray L, Sedlmeier AM, Christakoudi S, Biessy C, Navionis AS, et al. (2024). Association of body shape phenotypes and body fat distribution indexes with inflammatory biomarkers in the European Prospective Investigation into Cancer and Nutrition (EPIC) and UK Biobank. BMC Med. 22(1):334. https://doi.org/10.1186/s12916-024-03544-3 PMID:39148045

Goodley P, Balata H, Robbins HA, Booton R, Sperrin M, Crosbie PAJ (2024). Six-year performance of risk-based selection for lung cancer screening in the Manchester Lung Health Check cohort. BMJ Oncol. 3(1):e000560. https://doi.org/10.1136/bmjonc-2024-000560 PMID:40046247

Gorman BR, Ji SG, Francis M, Sendamarai AK, Shi Y, Devineni P, et al.; VA Million Veteran Program (2024). Multi-ancestry GWAS meta-analyses of lung cancer reveal susceptibility loci and elucidate smoking-independent genetic risk. Nat Commun. 15(1):8629. https://doi.org/10.1038/s41467-024-52129-4 PMID:39366959

Grassmann F, Mälarstig A, Dahl L, Bendes A, Dale M, Thomas CE, et al. (2024). The impact of circulating protein levels identified by affinity proteomics on short-term, overall breast cancer risk. Br J Cancer. 130(4):620–7. https://doi.org/10.1038/s41416-023-02541-2 PMID:38135714

Grenville ZS, Noor U, Rinaldi S, Gunter MJ, Ferrari P, Agnoli C, et al. (2025). Perturbations in the blood metabolome up to a decade before prostate cancer diagnosis in 4387 matched case-control sets from the European Prospective Investigation into Cancer and Nutrition. Int J Cancer. 156(5):943–52. https://doi.org/10.1002/ijc.35208 PMID:39378119

Gröninger M, Sabin J, Kaaks R, Amiano P, Aune D, Castro NC, et al. (2024). Associations of milk, dairy products, calcium and vitamin D intake with risk of developing Parkinson´s disease within the EPIC4ND cohort. Eur J Epidemiol. 39(11):1251–65. https://doi.org/10.1007/s10654-024-01183-9 PMID:39625618

Guerra G, Venturelli E, Polymeropoulos A, Segrado F, Morelli D, Rinaldi S, et al. (2025). Comprehensive assessment of matrix effects in metallomics: evaluating 27 metals in serum, heparine-plasma-, EDTA-plasma and citrate-plasma by ICP-MS analysis. J Trace Elem Med Biol. 89:127667. https://doi.org/10.1016/j.jtemb.2025.127667 PMID:40339194

Guigon L, Sánchez LXG, Petit AS, Bonniec AL, Basu P, Rodrigue CM, et al. (2024). Would shared decision-making be useful in breast cancer screening programmes? A qualitative study using focus group discussions to gather evidence from French women with different socioeconomic backgrounds. BMC Public Health. 24(1):404. https://doi.org/10.1186/s12889-024-17876-5 PMID:38326802

Guimarães Ribeiro A, Ferlay J, Vaccarella S, Dias de Oliveira Latorre MDR, Tavares Guerreiro Fregnani JH, Bray F (2024). Ethnic disparities in cancer mortality in the capital and northeast of the State of São Paulo, Brazil 2001–17. Cancer Causes Control. 35(3):523–9. https://doi.org/10.1007/s10552-023-01812-w PMID:37917366

Guo L, Wang L, Cai L, Zhang Y, Feng X, Zhu C, et al. (2025). Global distribution of colorectal cancer staging at diagnosis: an evidence synthesis. Clin Gastroenterol Hepatol. 23(12):2088–101. https://doi.org/10.1016/j.cgh.2024.11.019 PMID:39694204

Gupta P, Venuti A, Savoldy M, Harold A, Zito FA, Taverniti V, et al. (2024). Merkel cell polyomavirus targets SET/PP2A complex to promote cellular proliferation and migration. Virology. 597:110143. https://doi.org/10.1016/j.virol.2024.110143 PMID:38917692

Gustafsson S, Lampa E, Jensevik Eriksson K, Butterworth AS, Elmståhl S, Engström G, et al. (2024). Markers of imminent myocardial infarction. Nat Cardiovasc Res. 3(2):130–9. https://doi.org/10.1038/s44161-024-00422-2 PMID:39196201

Gustav M, van Treeck M, Reitsam NG, Carrero ZI, Loeffler CML, Rabasco Meneghetti A, et al. (2025). Assessing genotype–phenotype correlations in colorectal cancer with deep learning: a multicentre cohort study. Lancet Digit Health. 7(8):100891. https://doi.org/10.1016/j.landig.2025.100891 PMID:40829965

Guth M, Lefevre M, Coste A, Praud D, Perol O, Pilorget C, et al.; TESTIS Study Group (2025). Lifetime occupational and para-occupational exposure to organic solvents and testicular germ cell tumor risk: a French case-control study – TESTIS. Int J Epidemiol. 54(6):dyaf175. https://doi.org/10.1093/ije/dyaf175 PMID:41206641

Guth M, Pilorget C, Lefevre M, Coste A, Danjou A, Dananché B, et al.; TESTIS study group (2024). Occupational exposure to organic solvents and the risk of developing testicular germ cell tumors (TESTIS study): effect of combined exposure assessment on risk estimation. Scand J Work Environ Health. 50(5):359–71. https://doi.org/10.5271/sjweh.4161 PMID:38597023

Gutiérrez M, Zamora I, Iriarte R, Pajares MJ, Yang Q, Qian C, et al. (2025). ONECUT2 reprograms neuroendocrine fate and is an actionable therapeutic target in small cell lung cancer. Mol Med. 31(1):232. https://doi.org/10.1186/s10020-025-01267-6 PMID:40500731

Hadji M, Rashidian H, Marzban M, Rezaianzadeh A, Ansari-Moghaddam A, Bakhshi M, et al. (2024). Unveiling an association between waterpipe smoking and bladder cancer risk: a multicenter case-control study in Iran. Cancer Epidemiol Biomarkers Prev. 33(4):509–15. https://doi.org/10.1158/1055-9965.EPI-23-0773 PMID:38180357

Hagenimana M, Motlhale M, Parkin DM, Businge L, Bardot A, Liu B, et al. (2024). Stage at diagnosis and survival among adult patients with cancer in Rwanda: a population-based study. Int J Cancer. 155(6):988–95. https://doi.org/10.1002/ijc.34969 PMID:38888375

Hanley-Cook GT, Deygers J, Daly AJ, Berden J, Remans R, Termote C, et al. (2025). Dietary species richness provides a comparable marker for better nutrition and health across contexts. Nat Food. 6(6):577–86. https://doi.org/10.1038/s43016-025-01147-6 PMID:40128333

Harbron R, Berrington de González A, Griffin K, Al-Nabulsi I, Thierry-Chef I, Wilson L, et al. (2024). The International Society for Radiation Epidemiology and Dosimetry (ISoRED). J Radiol Prot. 44(3):6. https://doi.org/10.1088/1361-6498/ad746e PMID:39197466

Harbron RW (2024). Estimates of cardiovascular disease risk from CT scans may be premature. J Radiol Prot. 44(2):3. https://doi.org/10.1088/1361-6498/ad4b27 PMID:38770744

Harbron RW (2024). Review of IAEA Human Health Series report 42: establishing and improving interventional radiology. J Radiol Prot. 44(1):3. https://doi.org/10.1088/1361-6498/ad2469 PMID:40847768

Harewood R, Rothwell JA, Bešević J, Viallon V, Achaintre D, Gicquiau A, et al. (2024). Association between pre-diagnostic circulating lipid metabolites and colorectal cancer risk: a nested case-control study in the European Prospective Investigation into Cancer and Nutrition (EPIC). EBioMedicine. 101:105024. https://doi.org/10.1016/j.ebiom.2024.105024 PMID:38412638

Hasanpour-Heidari S, Semnani S, Fazel A, Naeimi-Tabiei M, Mehrjerdian M, Sedaghat S, et al. (2025). Risk of second primary neoplasms among cancer survivors: a population-based, cohort study in Golestan Province, Northern Iran, 2004–2019. Cancer Med. 14(10):e70926. https://doi.org/10.1002/cam4.70926 PMID:40391756

Hassanzadeh-Rangi N, Hosseini B, Akhtari Y, Farvaresh E, Khosravi Y (2025). Profile of occupational health services in Iran: a mixed-methods study focusing on service coverage and interventions. J Health Safe Work. 15(1):144–73.

Hassanzadeh-Rangi N, Hosseini B, Akhtari Y, Khosravi Y (2025). Development of national profile for occupational safety and health services in Iran (IRANOSH): a mixed-method study focusing on input and process indicators. BMC Public Health. 25(1):1393. https://doi.org/10.1186/s12889-025-22564-z PMID:40229830

Hassell LA, Forsythe ML, Bhalodia A, Lan T, Rashid T, Powers A, et al. (2025). Toward optimizing the impact of digital pathology and augmented intelligence on issues of diagnosis, grading, staging, and classification. Mod Pathol. 38(7):100765. https://doi.org/10.1016/j.modpat.2025.100765 PMID:40204094

Hauan M, Rylander C, Skeie G (2025). Sweet beverages and the risk of colorectal cancer: the Norwegian Women and Cancer Study. BMC Cancer. 25(1):592. https://doi.org/10.1186/s12885-025-13835-4 PMID:40169938

Hawwash NK, Sperrin M, Martin GP, Sinha R, Matthews CE, Ricceri F, et al. (2024). Excess weight by degree and duration and cancer risk (ABACus2 consortium): a cohort study and individual participant data meta-analysis. EClinicalMedicine. 78:102921. https://doi.org/10.1016/j.eclinm.2024.102921 PMID:39640936

Hazelwood E, Canson DM, Deslandes B, Wang X, Kho PF, Legge D, et al. (2025). Multi-tissue expression and splicing data prioritise anatomical subsite- and sex-specific colorectal cancer susceptibility genes. Nat Commun. 16(1):5043. https://doi.org/10.1038/s41467-025-60275-6 PMID:40447568

Hazelwood E, Lopez Manzano C, Vincent EE, Albanes D, Bishop DT, Le Marchand L, et al. (2024). Plasma ghrelin and risks of sex-specific, site-specific, and early-onset colorectal cancer: a Mendelian randomization analysis. Cancer Epidemiol Biomarkers Prev. 33(12):1727–32. https://doi.org/10.1158/1055-9965.EPI-24-0926 PMID:39361354

Hefteh N, Welch O, Sheikh M, La Caze A, Parat MO (2025). The organ-specific modulation of malignant processes by opioids: a systematic review of cell culture studies. Br J Cancer. 132(12):1091–9. https://doi.org/10.1038/s41416-025-03014-4 PMID:40217097

Hermansen M, Hjelmborg J, Thinggaard M, Znaor A, Skakkebæk NE, Lindahl-Jacobsen R (2025). Smoking and testicular cancer: a Danish nationwide cohort study. Cancer Epidemiol. 95:102746. https://doi.org/10.1016/j.canep.2025.102746 PMID:39813870

Hickey M, Basu P, Sassarini J, Stegmann ME, Weiderpass E, Nakawala Chilowa K, et al. (2024). Managing menopause after cancer. Lancet. 403(10430):984–96. https://doi.org/10.1016/S0140-6736(23)02802-7 PMID:38458217

His M, Fournier A, Truong T, Gelot A, Navionis AS, Biessy C, et al. (2025). Prospective evaluation of circulating plasma thyroid hormones concentrations and breast cancer risk in the EPIC cohort. EBioMedicine. 121:106011. https://doi.org/10.1016/j.ebiom.2025.106011 PMID:41187615

His M, Gunter MJ, Keski-Rahkonen P, Rinaldi S (2024). Application of metabolomics to epidemiologic studies of breast cancer: new perspectives for etiology and prevention. J Clin Oncol. 42(1):103–15. https://doi.org/10.1200/JCO.22.02754 PMID:37944067

Hoang TT, Herceg Z, Coulter DW, de Smith A, Arora M, Funk WE, et al. (2025). Environmental health disparities in pediatric cancer: a report from the Fourth Symposium on Childhood Cancer Health Disparities. Pediatr Hematol Oncol. 42(3):186–203. https://doi.org/10.1080/08880018.2025.2479479 PMID:40110606

Hodge JC, Netto GJ, Rekhi B, Cooper WA, Eden M, Field AS, et al. (2025). WHO Classification of Tumours: evolution of a global resource in the molecular era. Lancet Oncol. 26(4):410–3. https://doi.org/10.1016/S1470-2045(24)00709-5 PMID:40179904

Homann J, Korologou-Linden R, Viallon V, Morgan S, Dobricic V, Deecke L, et al. (2025). Redefining ALS: large-scale proteomic profiling reveals a prolonged pre-diagnostic phase with immune, muscular, metabolic, and brain involvement. Res Sq. https://doi.org/10.21203/rs.3.rs-7452736/v1

Hosseini B, McCarty R, Zins M, Goldberg M, Ribet C, Schreiver I, et al. (2025). Cohort profile: the Cancer Risk Attributable to the Body Art of Tattooing (CRABAT) study. Int J Epidemiol. 54(4):dyaf132. https://doi.org/10.1093/ije/dyaf132 PMID:40759413

Hovanec J, Kendzia B, Olsson A, Schüz J, Kromhout H, Vermeulen R, et al. (2025). Socioeconomic status, smoking, and lung cancer: mediation and bias analysis in the SYNERGY study. Epidemiology. 36(2):245–52. https://doi.org/10.1097/EDE.0000000000001807 PMID:39435907

Huang Y, Georges D, Rumgay H, Soerjomataram I, Clifford GM (2025). Global burden of cancer attributable to HIV: a worldwide incidence analysis. Lancet Glob Health. 13(9):e1525–32. https://doi.org/10.1016/S2214-109X(25)00264-5 PMID:40845879

Huybrechts I, Chimera B, Hanley-Cook GT, Biessy C, Deschasaux-Tanguy M, Touvier M, et al. (2024a). Food biodiversity and gastrointestinal cancer risk in nine European countries: analysis within a prospective cohort study. Eur J Cancer. 210:114258. https://doi.org/10.1016/j.ejca.2024.114258 PMID:39168001

Huybrechts I, Jacobs I, Biessy C, Aglago EK, Jenab M, Claeys L, et al. (2024). Associations between dietary mycotoxins exposures and risk of hepatocellular carcinoma in a European cohort. PLoS One. 19(12):e0315561. https://doi.org/10.1371/journal.pone.0315561 PMID:39680546

Huybrechts I, Nicolas G, Jacobs I, Skeie G, Gunter MJ, Ferrari P, et al. (2025). Dietary-related exposure assessments in the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort: an integrated multi-tiered approach using the FoodEx classification system. Food Addit Contam Part A Chem Anal Control Expo Risk Assess. 42(7):849–62. https://doi.org/10.1080/19440049.2025.2509239 PMID:40460259

Inoue-Choi M, Freedman ND, Etemadi A, Hashemian M, Brennan P, Roshandel G, et al. (2024). One-carbon metabolism biomarkers and upper gastrointestinal cancer in the Golestan Cohort Study. Int J Cancer. 155(11):1944–57. https://doi.org/10.1002/ijc.35115 PMID:39109892

Islami F, Marlow EC, Thomson B, McCullough ML, Rumgay H, Gapstur SM, et al. (2024). Proportion and number of cancer cases and deaths attributable to potentially modifiable risk factors in the United States, 2019. CA Cancer J Clin. 74(5):405–32. https://doi.org/10.3322/caac.21858 PMID:38990124

Jäger S, Kuxhaus O, Prada M, Huybrechts I, Tong TYN, Forouhi NG, et al. (2025). Nut consumption, linoleic and α-linolenic acid intakes, and genetics: how fatty acid desaturase 1 impacts plasma fatty acids and type 2 diabetes risk in EPIC-InterAct and PREDIMED studies. BMC Med. 23(1):344. https://doi.org/10.1186/s12916-025-04187-8 PMID:40484934

James ND, Tannock I, N'Dow J, Feng F, Gillessen S, Ali SA, et al. (2024). The *Lancet* Commission on prostate cancer: planning for the surge in cases. Lancet. 403(10437):1683–722. https://doi.org/10.1016/S0140-6736(24)00651-2 PMID:38583453

Jansana A, Auguste A, Kvaskoff M, Fournier A, Fontvieille E, Peruchet-Noray L, et al. (2024). Impact of pre-existing cardiometabolic diseases on metastatic cancer stage at diagnosis: a prospective multinational cohort study. Cancer Commun (Lond). 44(5):593–7. https://doi.org/10.1002/cac2.12526 PMID:38487965

Jenkins DJA, Willett WC, Yusuf S, Hu FB, Glenn AJ, Liu S, et al.; Clinical Nutrition & Risk Factor Modification Centre Collaborators (2024). Association of glycaemic index and glycaemic load with type 2 diabetes, cardiovascular disease, cancer, and all-cause mortality: a meta-analysis of mega cohorts of more than 100 000 participants. Lancet Diabetes Endocrinol. 12(2):107–18. https://doi.org/10.1016/S2213-8587(23)00344-3 PMID:38272606

Ji MF, He YQ, Tang MZ, Xue WQ, Yu X, Diao H, et al. (2025). Epstein Barr virus antibody and cancer risk in two prospective cohorts in Southern China. Nat Commun. 16(1):5940. https://doi.org/10.1038/s41467-025-60999-5 PMID:40592923

Jiang SJ, Thomas M, Rosenthal EA, Phipps AI, Sakoda LC, van Duijnhoven FJB, et al. (2025). Multiple polygenic score approach in colorectal cancer risk prediction. Sci Rep. 15(1):38006. https://doi.org/10.1038/s41598-025-21956-w PMID:41168411

Johansson H, Bellerba F, Macis D, Bertelsen BE, Guerrieri-Gonzaga A, Aristarco V, et al. (2024). Effect of metformin and lifestyle intervention on adipokines and hormones in breast cancer survivors: a pooled analysis from two randomized controlled trials. Breast Cancer Res Treat. 205(1):49–59. https://doi.org/10.1007/s10549-023-07241-2 PMID:38279016

Johansson M, Robbins HA (2024). Harnessing population-wide health data to predict cancer risk. Lancet Digit Health. 6(6):e377–8. https://doi.org/10.1016/S2589-7500(24)00093-1 PMID:38789137

Joko-Fru WY, Bardot A, Bukirwa P, Amidou S, N'da G, Woldetsadik E, et al. (2024). Cancer survival in sub-Saharan Africa (SURVCAN-3): a population-based study. Lancet Glob Health. 12(6):e947–59. https://doi.org/10.1016/S2214-109X(24)00130-X PMID:38762297

Joshi S, Muwonge R, Bhosale R, Chaudhari P, Kulkarni V, Mandolkar M, et al. (2025). A randomised controlled non-inferiority trial to compare the efficacy of 'HPV screen, triage and treat' with 'HPV screen and treat' approach for cervical cancer prevention among women living with HIV. Nat Commun. 16(1):1888. https://doi.org/10.1038/s41467-025-56926-3 PMID:39987163

Kamuyu G, Coelho da Silva F, Tenet V, Schussler J, Godi A, Herrero R, et al. (2024). Global evaluation of lineage-specific human papillomavirus capsid antigenicity using antibodies elicited by natural infection. Nat Commun. 15(1):1608. https://doi.org/10.1038/s41467-024-45807-w PMID:38383518

Kanellopoulou A, Bouras E, Chan AT, Marchand LL, Wolk A, Wu AH, et al. (2025). Investigating the association between anthropometry and colorectal cancer survival: a two-sample Mendelian randomization analysis. Int J Epidemiol. 54(6):dyaf193. https://doi.org/10.1093/ije/dyaf193 PMID:41237309

Karimi A, Mohebbi E, Mckay-Chopin S, Hadji M, Rashidian H, Marzban M, et al. (2024). Association of opium use and tobacco smoking with α-, β-, and γ-human papillomavirus oral infection. Int J Cancer. 155(9):1544–8. https://doi.org/10.1002/ijc.35086 PMID:39049799

Karra P, Hardikar S, Winn M, Anderson GL, Haaland B, Shadyab AH, et al. (2025). Metabolic phenotype and risk of obesity-related cancers in the Women's Health Initiative. Cancer Prev Res (Phila). 18(2):63–72. https://doi.org/10.1158/1940-6207.CAPR-24-0082 PMID:39540294

Kartsonaki C, Yao P, Butt J, Jeske R, de Martel C, Plummer M, et al. (2024). Infectious pathogens and risk of esophageal, gastric and duodenal cancers and ulcers in China: a case-cohort study. Int J Cancer. 154(8):1423–32. https://doi.org/10.1002/ijc.34814 PMID:38108203

Kataria I, Selmouni F, Duggan C, Sullivan R, Purushotham A, Sankaranarayanan R, et al. (2025). Application of implementation science methods and theories for cancer control planning in low-income and middle-income countries: a scoping review. BMJ Open. 15(10):e108755. https://doi.org/10.1136/bmjopen-2025-108755 PMID:41145253

Katzke VA, Dutta S, Rasokat A, Archibugi L, Capurso G, Peduzzi G, et al. (2025). Sex disparities and female reproductive and hormonal factors associated with risk of pancreatic cancer in the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort. Cancers (Basel). 17(14):2275. https://doi.org/10.3390/cancers17142275 PMID:40723159

Kaup S, Dsouza J, Shivalli S, Savur S, Hegde V (2025). Psychometric evaluation and derivation of the Kannada version of the modified (29-item model) Indian Vision Function Assessment Questionnaire. Indian J Ophthalmol. 73(3):429–36. https://doi.org/10.4103/IJO.IJO_1773_24 PMID:39728611

Kayamba V, Munshi H, Hankolwe MN, Kaluba Kavimba C, Chongwe G, Knaze V, et al. (2024). Nationwide survey of *Helicobacter pylori* seropositivity and gastric atrophy in Zambia. Helicobacter. 29(3):e13096. https://doi.org/10.1111/hel.13096 PMID:38790093

Kearney LE, Belancourt P, Katki HA, Tanner NT, Wiener RS, Robbins HA, et al. (2024). The development and performance of alternative criteria for lung cancer screening. Ann Intern Med. 177(9):1222–32. https://doi.org/10.7326/M23-3250 PMID:39159457

Keck MK, Tietze A, Bison B, Avula S, Engelhardt J, Faure-Conter C, et al. (2025). Comparative clinical and imaging-based evaluation of therapeutic modalities in CNS embryonal tumours with PLAGL amplification. Neuropathol Appl Neurobiol. 51(2):e70015. https://doi.org/10.1111/nan.70015 PMID:40196918

Kenessey I, Parrag P, Dobozi M, Szatmári I, Wéber A, Nagy P, et al. (2024). The epidemiology of lung cancer in Hungary based on the characteristics of patients diagnosed in 2018. Sci Rep. 14(1):20064. https://doi.org/10.1038/s41598-024-70143-w PMID:39209889

Khalis M, Elbadisy I, Bouaddi O, Luo A, Bendriouich A, Addahri B, et al. (2024). Cluster analysis of cancer knowledge, attitudes and behaviors in the Moroccan population. BMC Cancer. 24(1):669. https://doi.org/10.1186/s12885-024-12226-5 PMID:38824496

Khoshakhlagh AH, Ghobakhloo S, Ghantous A, Carlsen L (2025). A global systematic evaluation of the impact of air pollution on pediatric cancer development. Ecotoxicol Environ Saf. 305:119231. https://doi.org/10.1016/j.ecoenv.2025.119231 PMID:41115344

Kim J, Harper A, McCormack V, Sung H, Houssami N, Morgan E, et al. (2025). Global patterns and trends in breast cancer incidence and mortality across 185 countries. Nat Med. 31(4):1154–62. https://doi.org/10.1038/s41591-025-03502-3 PMID:39994475

Kim J, Macharia PM, McCormack V, Foerster M, Galukande M, Joffe M, et al. (2024). Geospatial disparities in survival of patients with breast cancer in sub-Saharan Africa from the African Breast Cancer-Disparities in Outcomes cohort (ABC-DO): a prospective cohort study. Lancet Glob Health. 12(7):e1111–9. https://doi.org/10.1016/S2214-109X(24)00138-4 PMID:38788756

Klont F, Nijdam FB, Bakker SJL, Keski-Rahkonen P, Hopfgartner G, Investigators T (2024). High-abundance peaks and peak clusters associate with pharmaceutical polymers and excipients in urinary untargeted clinical metabolomics data: exploration of their origin and possible impact on label-free quantification. Analyst. 149(4):1061–7. https://doi.org/10.1039/d3an01874a PMID:38251754

Koca D, Abedi-Ardekani B, LeMaoult J, Guyon L (2024). Peritumoral tissue (PTT): increasing need for naming convention. Br J Cancer. 131(7):1111–5. https://doi.org/10.1038/s41416-024-02828-y PMID:39223304

Kochs S, Schiewe S, Foerster M, Hillmann K, Blankenstein C, Meinke MC, et al. (2025). Tat_BioV: tattoo ink exposure and biokinetics of selected tracers in a short-term clinical study of 24 subjects. Arch Toxicol. 99(4):1341–54. https://doi.org/10.1007/s00204-025-03959-8 PMID:39888425

Koczkodaj P, Damianos M, Jagielska B, Weiderpass E, Schüz J (2025). In the framework of the EU Trio Presidency – supporting the European Code Against Cancer. Lancet Reg Health Eur. 57:101451. https://doi.org/10.1016/j.lanepe.2025.101451 PMID:40917995

Koestler AJ, Nelson CW, Yeager M, Chen Z, Mishra SK, Burdett L, et al. (2025). Whole-genome sequencing of 1,083 HPV45 cases and controls identifies genetic variants associated with glandular cervical lesions. Int J Cancer. 157(6):1130–41. https://doi.org/10.1002/ijc.35464 PMID:40323272

Koistinen V, Meuronen T, Keski-Rahkonen P, Salek R, Savolainen O, Ahmed H, et al. (2025). Harmonizing human plasma metabolite annotation with Plasma Benchmark. Nat Metab. 7(10):1955–7. https://doi.org/10.1038/s42255-025-01376-w PMID:40935890

Kolijn PM, Smith-Byrne K, Burk V, Viallon V, Lee MA, Papier K, et al. (2025). Multi-cohort high-dimensional proteomics reveals early risk markers for lymphoid cancer subtypes. Nat Commun. 16(1):9517. https://doi.org/10.1038/s41467-025-64534-4 PMID:41152224

Konieczna J, Chaplin A, Paz-Graniel I, Croker H, Becerra-Tomás N, Markozannes G, et al. (2025). Adulthood dietary and lifestyle patterns and risk of breast cancer: Global Cancer Update Programme (CUP Global) systematic literature review. Am J Clin Nutr. 121(1):14–31. https://doi.org/10.1016/j.ajcnut.2024.10.003 PMID:39489901

Koumarianou A, Filosso PL, Bodei L, Castano JP, Fernandez-Cuesta L, Deroose CM, et al. (2024). Clinical management of typical and atypical carcinoids/neuroendocrine tumors in ENETS centres of excellence (CoE): survey from the ENETS lung NET task force. J Neuroendocrinol. 36(8):e13412. https://doi.org/10.1111/jne.13412 PMID:38754956

Koyanagi YN, Nakatochi M, Namba S, Oze I, Charvat H, Narita A, et al.; BioBank Japan Project (2024). Genetic architecture of alcohol consumption identified by a genotype-stratified GWAS and impact on esophageal cancer risk in Japanese people. Sci Adv. 10(4):eade2780. https://doi.org/10.1126/sciadv.ade2780 PMID:38277453

Kozlakidis Z, Muradyan A, Sargsyan K, editors (2024). Digitalization of medicine in low- and middle-income countries: paradigm changes in healthcare and biomedical research. Sustainable Development Goals Series. Cham, Switzerland: Springer; https://link.springer.com/book/10.1007/978-3-031-62332-5

Kresovich JK, Guranich C, Houghton S, Qian J, Jones ME, Boutot ME, et al. (2024). Plasma prolactin and postmenopausal breast cancer risk: a pooled analysis of four prospective cohort studies. Breast Cancer Res. 26(1):169. https://doi.org/10.1186/s13058-024-01922-6 PMID:39593118

Kreuzer M, Sommer M, Deffner V, Bertke S, Demers PA, Kelly-Reif K, et al. (2024). Lifetime excess absolute risk for lung cancer due to exposure to radon: results of the pooled uranium miners cohort study PUMA. Radiat Environ Biophys. 63(1):7–16. https://doi.org/10.1007/s00411-023-01049-w PMID:38172372

Kusters JMA, Diergaarde B, Ness A, Schim van der Loeff MF, Heijne JCM, Schroeder L, et al. (2024). Diagnostic accuracy of HPV16 early antigen serology for HPV-driven oropharyngeal cancer is independent of age and sex. Int J Cancer. 154(2):389–402. https://doi.org/10.1002/ijc.34710 PMID:37694289

Lam ACL, Hueniken K, Pienkowski M, Lee JJW, Dong M, Diergaarde B, et al. (2025). Performance of 8 smoking metrics for modeling survival in head and neck squamous cell carcinoma. JAMA Otolaryngol Head Neck Surg. 151(4):360–70. https://doi.org/10.1001/jamaoto.2024.5392 PMID:39976935

Lam S, Bai C, Baldwin DR, Chen Y, Connolly C, de Koning H, et al. (2024). Current and future perspectives on computed tomography screening for lung cancer: a roadmap from 2023 to 2027 from the International Association for the Study of Lung Cancer. J Thorac Oncol. 19(1):36–51. https://doi.org/10.1016/j.jtho.2023.07.019 PMID:37487906

Lamchabbek N, Elattabi C, Bour A, Chimera B, Boutayeb S, Belyamani L, et al. (2025). Associations between dietary factors and breast cancer risk: a systematic review of evidence from the MENA region. Nutrients. 17(3):394. https://doi.org/10.3390/nu17030394 PMID:39940252

Landberg R, Karra P, Hoobler R, Loftfield E, Huybrechts I, Rattner JI, et al. (2024). Dietary biomarkers – an update on their validity and applicability in epidemiological studies. Nutr Rev. 82(9):1260–80. https://doi.org/10.1093/nutrit/nuad119 PMID:37791499

Langselius O, Rumgay H, de Vries E, Whiteman DC, Jemal A, Parkin DM, et al. (2025). Global burden of cutaneous melanoma incidence attributable to ultraviolet radiation in 2022. Int J Cancer. 157(6):1110–9. https://doi.org/10.1002/ijc.35463 PMID:40421619

Laplanche A, Guida F, Moissonnier M, Launay L, Beranger R, Lagroye I, et al. (2025). Associations between individual and geospatial characteristics and power of 4G signals received by mobile phones. Environ Res. 286(Pt 3):123030. https://doi.org/10.1016/j.envres.2025.123030 PMID:41061881

Larcher A, Campi R, Bex A, Bray F, Bukavina L, Jonasch E, et al. (2025). Epidemiology of renal cancer: incidence, mortality, survival, genetic predisposition, and risk factors. Eur Urol. 88(4):341–58. https://doi.org/10.1016/j.eururo.2025.06.005 PMID:40750496

Laskar RS, Qu C, Huyghe JR, Harrison T, Hayes RB, Cao Y, et al.; Colorectal Transdisciplinary (CORECT) Study, the Colon Cancer Family Registry (CCFR), Genetics and Epidemiology of Colorectal Cancer Consortium (GECCO) (2024). Genome-wide association studies and Mendelian randomization analyses provide insights into the causes of early-onset colorectal cancer. Ann Oncol. 35(6):523–36. https://doi.org/10.1016/j.annonc.2024.02.008 PMID:38408508

Lauby-Secretan B (2025). Response to the current perspective: evaluation of screening mammography effectiveness: the IARC recommendations of 2015 need revision. Eur J Cancer. 226:115658. https://doi.org/10.1016/j.ejca.2025.115658 PMID:40729841

Law CCY, Zhang L, Carvalho AL, Rabeneck L, Barkun AN, Nied-Kutterer A, et al. (2024). Canadian colorectal cancer screening programs: how do they measure up using the International Agency for Research on Cancer criteria for organized screening? J Can Assoc Gastroenterol. 7(4):312–8. https://doi.org/10.1093/jcag/gwae015 PMID:39139223

Le Bonniec A, Sauvaget C, Lucas E, Nassiri A, Selmouni F (2025). Design and validation of a chatbot-based cervical cancer screening decision aid for women experiencing socioeconomic disadvantage: user-centered approach study. JMIR Cancer. 11:e70251. https://doi.org/10.2196/70251 PMID:40705442

Le Cornet C, Jung AY, Behrens S, Middha P, Truong T, Jernström H, et al. (2025). Exogenous hormones, tumor intrinsic subtypes, and breast cancer. JAMA Netw Open. 8(7):e2519236. https://doi.org/10.1001/jamanetworkopen.2025.19236 PMID:40622713

Lee MA, Burley KL, Hazelwood EL, Moore S, Lewis SJ, Goudswaard LJ (2025). Exploring the role of circulating proteins in multiple myeloma risk: a Mendelian randomization study. Sci Rep. 15(1):3752. https://doi.org/10.1038/s41598-025-86222-5 PMID:39885253

Lee MA, Hatcher CA, Hazelwood E, Goudswaard LJ, Tsilidis KK, Vincent EE, et al. (2024). A proteogenomic analysis of the adiposity colorectal cancer relationship identifies GREM1 as a probable mediator. Int J Epidemiol. 54(1):13. https://doi.org/10.1093/ije/dyae175 PMID:39846783

Lee MA, Tan VY, Pournaras DJ, Wang S, Dossus L, Gunter MJ, et al. (2025). Adiposity, metabolites and endometrial cancer risk: inference from combinations of Mendelian randomization and observational analyses. BMC Cancer. 25(1):1619. https://doi.org/10.1186/s12885-025-14756-y PMID:41121051

Leenen RCA, Venderbos LDF, Helleman J, Gómez Rivas J, Vynckier P, Annemans L, et al.; PRAISE-U Consortium (2025). Prostate cancer early detection in the European Union and UK. Eur Urol. 87(3):326–39. https://doi.org/10.1016/j.eururo.2024.07.019 PMID:39183092

Lehtinen M, Bruni L, Elfström M, Gray P, Logel M, Mariz FC, et al. (2024). Scientific approaches toward improving cervical cancer elimination strategies. Int J Cancer. 154(9):1537–48. https://doi.org/10.1002/ijc.34839 PMID:38196123

Leitzmann MF, Stein MJ, Baurecht H, Freisling H (2025). Excess adiposity and cancer: evaluating a preclinical-clinical obesity framework for risk stratification. EClinicalMedicine. 83:103247. https://doi.org/10.1016/j.eclinm.2025.103247 PMID:40475001

Leitzmann MF, Stein MJ, Baurecht H, Freisling H (2025). Response to the letter regarding our article: "Excess adiposity and cancer: evaluating a preclinical-clinical obesity framework for risk stratification". EClinicalMedicine. 88:103471. https://doi.org/10.1016/j.eclinm.2025.103471 PMID:40932852

Leunissen DJG, Moonen L, Alcala N, Speel EM, Derks JL (2025). A response to the letter to the editor: "Linear versus non-linear: debunking critiques on PCA use in molecular subgrouping of pulmonary carcinoids". J Thorac Oncol. 20(4): e55–e56. https://doi.org/10.1016/j.jtho.2025.01.012 PMID:40204399

Leunissen DJG, Moonen L, von der Thüsen JH, den Bakker MA, Hillen LM, van Weert TJJ, et al.; PALGA group (2025a). Identification of defined molecular subgroups on the basis of immunohistochemical analyses and potential therapeutic vulnerabilities of pulmonary carcinoids. J Thorac Oncol. 20(4):451–64. https://doi.org/10.1016/j.jtho.2024.11.018 PMID:39581377

Leuraud K, Laurier D, Gillies M, Haylock R, Kelly-Reif K, Bertke S, et al. (2024). Leukaemia, lymphoma, and multiple myeloma mortality after low-level exposure to ionising radiation in nuclear workers (INWORKS): updated findings from an international cohort study. Lancet Haematol. 11(10):e761–9. https://doi.org/10.1016/S2352-3026(24)00240-0 PMID:39222647

Li J, Roshelli Baker J, Aglago EK, Zhao Z, Jiao L, Freisling H, et al. (2024). Pre-diagnostic plasma advanced glycation end-products and soluble receptor for advanced glycation end-products and mortality in colorectal cancer patients. Int J Cancer. 155(11):1982–95. https://doi.org/10.1002/ijc.35114 PMID:39057841

Li M, Cao SM, Dimou N, Wu L, Li JB, Yang J (2024). Association of metabolic syndrome with risk of lung cancer: a population-based prospective cohort study. Chest. 165(1):213–23. https://doi.org/10.1016/j.chest.2023.08.003 PMID:37572975

Li M, Dal Maso L, Pizzato M, Vaccarella S (2024a). Evolving epidemiological patterns of thyroid cancer and estimates of overdiagnosis in 2013–17 in 63 countries worldwide: a population-based study. Lancet Diabetes Endocrinol. 12(11):824–36. https://doi.org/10.1016/S2213-8587(24)00223-7 PMID:39389067

Li S, Spitz N, Ghantous A, Abrishamcar S, Reimann B, Marques I, et al. (2024). A Pregnancy and Childhood Epigenetics Consortium (PACE) meta-analysis highlights potential relationships between birth order and neonatal blood DNA methylation. Commun Biol. 7(1):66. https://doi.org/10.1038/s42003-023-05698-x PMID:38195839

Li Y, Tian J, You Y, Ru C, Zheng R, Wang S, et al. (2025). Global variations and socioeconomic inequalities in lifetime risk of lip, oral cavity, and pharyngeal cancer: a population-based systematic analysis of GLOBOCAN 2022. Int J Surg. 111(6):3698–709. https://doi.org/10.1097/JS9.0000000000002408 PMID:40277389

Li Y, Xiao X, Li J, Han Y, Cheng C, Fernandes GF, et al. (2024). Lung cancer in ever- and never-smokers: findings from multi-population GWAS studies. Cancer Epidemiol Biomarkers Prev. 33(3):389–99. https://doi.org/10.1158/1055-9965.EPI-23-0613 PMID:38180474

Liang C, Chung HF, Dobson A, Sandin S, Weiderpass E, Mishra GD (2024). Female reproductive histories and the risk of chronic obstructive pulmonary disease. Thorax. 79(6):508–14. https://doi.org/10.1136/thorax-2023-220388 PMID:38350732

Liang C, Dobson AJ, Chung HF, van der Schouw YT, Sandin S, Weiderpass E, et al. (2024). Association of infertility and recurrent pregnancy loss with the risk of dementia. Eur J Epidemiol. 39(7):785–93. https://doi.org/10.1007/s10654-024-01135-3 PMID:38888679

Lim JH, Poļaka I, Ražuka-Ebela D, Bogdanova I, Parshutin S, Leja M, et al. (2025). Positive association between anti-*Helicobacter pylori* IgG antibody titers and atrophic gastritis in a Latvian cohort. Gastric Cancer. 28(5):749–59. https://doi.org/10.1007/s10120-025-01629-3 PMID:40522550

Lin CQ, Liu ZQ, Wei FX, de Martel C, Chen WQ, Clifford GM (2025). Variation in attributable fraction of hepatitis B virus and hepatitis C virus among primary liver cancer cases across mainland China: a systematic literature review and meta-analysis. Hepatoma Res. 11:12. https://doi.org/10.20517/2394-5079.2024.84

Lipikhina A, Harbron R, Apsalikov K, Brait Y, Yessilkanov G, Drozdovitch V, et al. (2025). Radioactive contamination of southeast Abai oblast, Kazakhstan, from the Chinese nuclear weapons testing program at Lop Nor: an analytical review. J Radiat Res. 66(1):24–30. https://doi.org/10.1093/jrr/rrae101 PMID:39812315

Llaha F, Licaj I, Sharashova E, Ferrari P, Lukic M, Benjaminsen Borch K (2025). Light to moderate alcohol consumption and cancer incidence: the Norwegian Women and Health cohort study. Clin Epidemiol. 17:807–21. https://doi.org/10.2147/CLEP.S531643 PMID:41098845

Loeb AM, Gravitt P, Frank A, Puricelli Perin DM, Duncan K, Eckert L, et al. (2025). Assessing the global implications of the COVID-19 pandemic on the cervical cancer elimination initiative. PLOS Glob Public Health. 5(4):e0004419. https://doi.org/10.1371/journal.pgph.0004419 PMID:40293983

López-Jiménez T, Plana-Ripoll O, Duarte-Salles T, Recalde M, Bennett M, Xavier-Cos F, et al. (2024). Exploring the association between metabolic syndrome, its components and subsequent cancer incidence: a cohort study in Catalonia. Cancer Med. 13(16):e7400. https://doi.org/10.1002/cam4.7400 PMID:39149842

Lu Y, Clifford GM, Fairley CK, Grulich AE, Garland SM, Xiao F, et al. (2024). Human papillomavirus and $p16^{INK4a}$ in oropharyngeal squamous cell carcinomas: a systematic review and meta-analysis. Int J Cancer. 154(5):830–41. https://doi.org/10.1002/ijc.34763 PMID:37861207

Lu Y, Li G, Viallon V, Ferrari P, Freisling H, Qiao Y, et al. (2025). A large study of metabolomics reveals common and distinct metabolic biomarkers for type 2 diabetes, coronary heart disease, and stroke. Am J Epidemiol. 194(6):1650–60. https://doi.org/10.1093/aje/kwae167 PMID:38944759

Lucas E, Dimitrova N, Tomatis M, Sheridan B, Arbyn M, Heijnsdijk E, et al. (2025). Creating a data processing warehouse to support performance monitoring of cancer screening programmes in Europe using a common set of indicators. Eur J Public Health. 35(5): 977–83. https://doi.org/10.1093/eurpub/ckaf119 PMID:40633063

Luizaga CTM, Câmara AB, Cury LCPB, Lopez RVM, Contreras CAH, Basu P, et al. (2025). Barriers and attitudes toward cervical cancer screening among eligible women. Cancer Causes Control. 36(12):1763–74. https://doi.org/10.1007/s10552-025-02058-4 PMID:40864370

Luo G, Zhang Y, Rumgay H, Morgan E, Langselius O, Vignat J, et al. (2025). Estimated worldwide variation and trends in incidence of lung cancer by histological subtype in 2022 and over time: a population-based study. Lancet Respir Med. 13(4):348–63. https://doi.org/10.1016/S2213-2600(24)00428-4 PMID:39914442

Lupo PJ, Chambers TM, Mueller BA, Clavel J, Dockerty JD, Doody DR, et al. (2024). Nonchromosomal birth defects and risk of childhood acute leukemia: an assessment in 15000 leukemia cases and 46000 controls from the Childhood Cancer and Leukemia International Consortium. Int J Cancer. 154(3):434–47. https://doi.org/10.1002/ijc.34720 PMID:37694915

Macciotta A, Sacerdote C, Giachino C, Di Girolamo C, Franco M, van der Schouw YT, et al. (2025). Examining causal relationships between educational attainment and type 2 diabetes using genetic analysis: findings from the EPIC-InterAct study through Mendelian randomisation. J Epidemiol Community Health. 79(5):373–9. https://doi.org/10.1136/jech-2024-222734 PMID:39658133

Mafra A, Laversanne M, Marcos-Gragera R, Chaves HVS, Mcshane C, Bray F, et al. (2025). The global multiple myeloma incidence and mortality burden in 2022 and predictions for 2045. J Natl Cancer Inst. 117(5):907–14. https://doi.org/10.1093/jnci/djae321 PMID:39658225

Mahamat-Saleh Y, Aune D, Freisling H, Hardikar S, Jaafar R, Rinaldi S, et al. (2024). Association of metabolic obesity phenotypes with risk of overall and site-specific cancers: a systematic review and meta-analysis of cohort studies. Br J Cancer. 131(9):1480–95. https://doi.org/10.1038/s41416-024-02857-7 PMID:39317703

Mahamat-Saleh Y, Merdas M, Viallon V, Robinot N, Biessy C, Jacobs I, et al. (2025). Association of serum metabolites and breast cancer risk: a population-based case-control study in black urban South African women. Int J Cancer. 157(8):1543–56. https://doi.org/10.1002/ijc.35503 PMID:40528579

Majidi A, Rinaldi S, Biessy C, Vozar B, Truong T, Turzanski Fortner R, et al. (2025). Thyroid hormones and epithelial ovarian cancer risk and survival: results from the European Prospective Investigation into Cancer and Nutrition study. J Natl Cancer Inst. 117(11):2343–51. https://doi.org/10.1093/jnci/djaf222 PMID:40811636

Malagón T, Franco EL, Tejada R, Vaccarella S (2024). Epidemiology of HPV-associated cancers past, present and future: towards prevention and elimination. Nat Rev Clin Oncol. 21(7):522–38. https://doi.org/10.1038/s41571-024-00904-z PMID:38760499

Mallafré-Larrosa M, Chandran A, Oswal K, Kataria I, Purushotham A, Sankaranarayanan R, et al.; ACCI Consortium (2024). Improving access to cancer care among rural populations in India: development of a validated tool for health system capacity assessment. Cancer Med. 13(14):e7343. https://doi.org/10.1002/cam4.7343 PMID:39039809

Mallon B, Dial C, Akonde FB, Ahouidi MJD, Diouf N, Anne M, et al. (2025). The path towards a population-based childhood cancer registry in the region of Dakar in Senegal: a feasibility study of the Franco-African Paediatric Oncology Group (GFAOP). EJC Paediatr Oncol. 6:100420. https://doi.org/10.1016/j.ejcped.2025.100420

Malvi SG, Esmy PO, Muwonge R, Joshi S, Poli URR, Lucas E, et al. (2024). A prospective cohort study comparing efficacy of 1 dose of quadrivalent human papillomavirus vaccine to 2 and 3 doses at an average follow up of 12 years postvaccination. J Natl Cancer Inst Monogr. 2024(67): 317–28. https://doi.org/10.1093/jncimonographs/lgae042 PMID:39529521

Man I, Georges D, Basu P, Baussano I (2024). Leveraging single-dose human papillomavirus vaccination dose-efficiency to attain cervical cancer elimination in resource-constrained settings. J Natl Cancer Inst Monogr. 2024(67): 400–9. https://doi.org/10.1093/jncimonographs/lgae035 PMID:39529528

Mandle HB, Jenab M, Gunter MJ, Tjønneland A, Olsen A, Dahm CC, et al. (2025). Inflammation and gut barrier function-related genes and colorectal cancer risk in western European populations. Mutagenesis. 40(1):48–60. https://doi.org/10.1093/mutage/geae008 PMID:38441165

Mane N, Fouqani A, Mrah S, Omari M, Bouaddi O, Faure E, et al. (2025). Obesity and risk of pre- and postmenopausal breast cancer in Africa: a systematic review. Curr Oncol. 32(3):167. https://doi.org/10.3390/curroncol32030167 PMID:40136371

Mane N, Lamchabbek N, Mrah S, Saidi M, Elattabi C, Faure E, et al. (2025). Anthropometry and the risk of breast cancer in Moroccan women: a large multicentric case-control study. Curr Oncol. 32(8):434. https://doi.org/10.3390/curroncol32080434 PMID:40862803

Manfredi L, Sodano B, Raganato C, Buscema F, Milani L, Catalano A, et al. (2024). A longitudinal analysis of the association between socioeconomic position and multimorbidity in the European Prospective Investigation into Cancer and Nutrition study. Aging Dis. 16(6): 3625–37. https://doi.org/10.14336/AD.2024.1166 PMID:39965252

Marembo T, Fitzpatrick MB, Dube Mandishora RS (2024). Human papillomavirus genotype distribution patterns in Zimbabwe; is the bivalent vaccine sufficient? Intervirology. 67(1):55–63. https://doi.org/10.1159/000531347 PMID:38574482

Mariosa D, Ponzano M, Grotta A, Lagerros YT, Hantikainen E, Adami HO, et al. (2025). Dietary non-enzymatic antioxidant capacity and risk of breast cancer: the Swedish National March Cohort. BMC Cancer. 25(1):1310. https://doi.org/10.1186/s12885-025-14658-z PMID:40797303

Markozannes G, Becerra-Tomás N, Cariolou M, Balducci K, Vieira R, Kiss S, et al. (2024). Post-diagnosis physical activity and sedentary behaviour and colorectal cancer prognosis: a Global Cancer Update Programme (CUP Global) systematic literature review and meta-analysis. Int J Cancer. 155(3):426–44. https://doi.org/10.1002/ijc.34903 PMID:38692650

Maroui MA, Odongo GA, Mundo L, Manara F, Mure F, Fusil F, et al. (2024). Aflatoxin B1 and Epstein-Barr virus-induced CCL22 expression stimulates B cell infection. Proc Natl Acad Sci U S A. 121(16):e2314426121. https://doi.org/10.1073/pnas.2314426121 PMID:38574017

Martínez-Ramírez J, Saldivia-Siracusa C, González-Pérez LV, Cuadra Zelaya FJM, Gerber-Mora R, Cabrera OFG, et al. (2024). Barriers to early diagnosis and management of oral cancer in Latin America and the Caribbean. Oral Dis. 30(7):4174–84. https://doi.org/10.1111/odi.14903 PMID:38380784

Masuku SD, Mandrik O, Mdege ND, Mishra G, Muwonge R, Meyer-Rath G, et al. (2025). Breast cancer screening using clinical breast examination: a cost-effectiveness analysis for South Africa. Value Health Reg Issues. 49:101127. https://doi.org/10.1016/j.vhri.2025.101127 PMID:40435867

Mathian É, Drouet Y, Sexton-Oates A, Papotti MG, Pelosi G, Vignaud JM, et al. (2024). Assessment of the current and emerging criteria for the histopathological classification of lung neuroendocrine tumours in the lungNENomics project. ESMO Open. 9(6):103591. https://doi.org/10.1016/j.esmoop.2024.103591 PMID:38878324

Matos LL, Kowalski LP, Chaves ALF, de Oliveira TB, Marta GN, Curado MP, et al.; HEADSpAcE Consortium (2024). Latin American consensus on the treatment of head and neck cancer. JCO Glob Oncol. 10(10):e2300343. https://doi.org/10.1200/GO.23.00343 PMID:38603656

Matray C, Debras C, Chatziioannou AC, Perlemuter G, Jenab M, Voican CSD (2025). Diet habits and hepatocellular carcinoma – potential implication for clinical practice. Nutr Rev. 83(12):2372–88. https://doi.org/10.1093/nutrit/nuaf129 PMID:40679550

Matta K, Viallon V, Botteri E, Peveri G, Dahm C, Nannsen AØ, et al. (2024). Healthy lifestyle change and all-cause and cancer mortality in the European Prospective Investigation into Cancer and Nutrition cohort. BMC Med. 22(1):210. https://doi.org/10.1186/s12916-024-03362-7 PMID:38807179

Matta K, Viallon V, Chatziioannou AC, Robinot N, Wedekind R, Dahm CC, et al. (2025). Can serum metabolic signatures inform on the relationship between healthy lifestyle and colon cancer risk? Cancer Metab. 13(1):30. https://doi.org/10.1186/s40170-025-00388-0 PMID:40524238

Mayén AL, Maasen K, Hana C, Knaze V, Scheijen J, Eussen SJPM, et al. (2025). Higher intakes of dietary dicarbonyl compounds are associated with lower risk of cardiovascular disease. Eur J Prev Cardiol. 32(16):1588–600. https://doi.org/10.1093/eurjpc/zwaf060 PMID:40036164

Mayén AL, Sabra M, Aglago EK, Perlemuter G, Voican C, Ramos I, et al. (2024). Hepatic steatosis, metabolic dysfunction and risk of mortality: findings from a multinational prospective cohort study. BMC Med. 22(1):221. https://doi.org/10.1186/s12916-024-03366-3 PMID:38825687

Medina PB, Armon S, Bin Abdul Aziz MF, Cheong IH, de Leon MP, Drobysz S, et al. (2025). A review of regulatory frameworks for biobanking in Southeast Asia. Biopreserv Biobank. 23(3):165–76. https://doi.org/10.1089/bio.2024.0044 PMID:39248001

Mehrotra R, Lauby-Secretan B (2025). Smokeless tobacco is a major risk factor for oral cancer in South and Southeast Asia. Oral Dis. 31(5):1473–8. https://doi.org/10.1111/odi.15241 PMID:39928051

Mei L, Song Y, Liu X, Li K, Guo X, Liu L, et al. (2024). Characterization and implications of IncP-2A Plasmid pMAS152 harboring multidrug resistance genes in extensively drug-resistant *Pseudomonas aeruginosa*. Microorganisms. 12(3):13. https://doi.org/10.3390/microorganisms12030562 PMID:38543613

Mendes-Santos C, Nóbrega C, Quinta-Gomes AL, Weiderpass E, Santana R, Andersson G (2024). Validation of the Portuguese version of the supportive care needs survey short-form questionnaire (SCNS-SF34-Pt) and the breast cancer supplementary module (SCNS-BR8-Pt). J Psychosoc Oncol. 42(4):486–505. https://doi.org/10.1080/07347332.2023.2282015 PMID:37975563

Meng W, Leung JW, Wang Z, Li Q, Zhang L, Zhang K, et al. (2024). Safety of high-carbohydrate fluid diet 2 h versus overnight fasting before non-emergency endoscopic retrograde cholangiopancreatography: a single-blind, multicenter, randomized controlled trial. Chin Med J (Engl). 137(12):1437–46. https://doi.org/10.1097/CM9.0000000000002820 PMID:37620294

Mensah K, Mosquera I, Tisler A, Uusküla A, Firmino-Machado J, Lunet N, et al.; CBIG-SCREEN Consortium (2024). Correction: Development and pilot implementation of a novel protocol to assess capacity and readiness of health systems to adopt HPV detection-based cervical cancer screening in Europe. Health Res Policy Syst. 22(1):130. https://doi.org/10.1186/s12961-024-01215-6 PMID:39304883

Mensah K, Mosquera I, Tisler A, Uusküla A, Firmino-Machado J, Lunet N, et al.; CBIG-SCREEN Consortium (2024a). Development and pilot implementation of a novel protocol to assess capacity and readiness of health systems to adopt HPV detection-based cervical cancer screening in Europe. Health Res Policy Syst. 22(1):102. https://doi.org/10.1186/s12961-024-01190-y PMID:39135116

Menya D, Bouaoun L, Chepkomoi T, Simba H, Anabwani AA, Anabwani E, et al. (2024). Hot beverage consumption in the African Esophageal Cancer Corridor: a community-based thermal exposure measurement study across the lifespan. Cancer Epidemiol. 92:102614. https://doi.org/10.1016/j.canep.2024.102614 PMID:38986356

Meyer A, Dong C, Chan SSM, Touvier M, Julia C, Huybrechts I, et al. (2024). Dietary index based on the Food Standards Agency nutrient profiling system and risk of Crohn's disease and ulcerative colitis. Aliment Pharmacol Ther. 59(4):558–68. https://doi.org/10.1111/apt.17835 PMID:38100159

Michailidis TM, Corveleyn L, Almey R, Bader Y, Odongo GA, Herceg Z, et al. (2025). Aflatoxin B1 induces subtle but coordinated histone modifications in Epstein-Barr virus infected and non-infected Burkitt lymphoma cells. Environ Int. 204:109813. https://doi.org/10.1016/j.envint.2025.109813 PMID:41016387

Middleton DRS, Wedekind R, Hall AL, Suonio E, DeBono N, Vermeulen R, et al. (2024). Critical reviews of exposure assessment in carcinogenic hazard identification: the *IARC Monographs* experience. Occup Environ Med. 81(7):366–72. https://doi.org/10.1136/oemed-2023-109277 PMID:39033030

Mo T, Joffe M, Cubasch H, Galukande M, Parham G, Pinder L, et al. (2025a). Breast cancer overall survival, annual risks of death, and survival gap apportionment in sub-Saharan Africa (ABC-DO): 7-year follow-up of a prospective cohort study. Lancet Glob Health. 13(10):e1681–90. https://doi.org/10.1016/S2214-109X(25)00273-6 PMID:40975077

Mo T, Partridge A, Joffe M, Cubasch H, Galukande M, Parham G, et al. (2025b). Survival deficits in young women with breast cancer in sub-Saharan Africa: the African Breast Cancer–Disparities in Outcomes cohort. J Natl Cancer Inst. 117(11):2298–307. https://doi.org/10.1093/jnci/djaf213 PMID:40795175

Moen CA, Falkenthal TE, Thorkelsen TK, Hopland A, Rio OE, Honoré A, et al. (2024). Penile cancers attributed to human papillomavirus are associated with improved survival for node-positive patients. Findings from a Norwegian cohort study spanning 50 years. Eur Urol Oncol. 7(4):778–85. https://doi.org/10.1016/j.euo.2023.10.013 PMID:37949729

Moen L, Liu B, Bukirwa P, Chingonzoh T, Chokunonga E, Finesse A, et al. (2024). Trends in the incidence of colorectal cancer in sub-Saharan Africa: a population-based registry study. Int J Cancer. 155(4):675–82. https://doi.org/10.1002/ijc.34942 PMID:38568397

Mohammadzadeh A, Farjaminejad S, Patel P, Nanyonga S, Ahmad R, Stavropoulou C, et al. (2025). Biobanking in sub-Saharan Africa: a review of data protection frameworks. Biopreserv Biobank. 23(3):177–85. https://doi.org/10.1089/bio.2024.0086 PMID:40130354

Moirangthem R, Hosseini B, Patil A, George GS, Manjrekar A, Doibale P, et al. (2024). Occupations and the risk of buccal mucosa cancer in Indian men: a multi-centre case-control study. Cancer Epidemiol. 92:102644. https://doi.org/10.1016/j.canep.2024.102644 PMID:39153274

Mols R, Huybrechts I, Skeie G (2025). High consumption of ultra-processed food and risk of colorectal cancer: the Norwegian Women and Cancer cohort study. Br J Nutr. 134(6):497–506. https://doi.org/10.1017/S0007114525105114 PMID:40954564

Morales-Berstein F, Biessy C, Viallon V, Goncalves-Soares A, Casagrande C, Hémon B, et al.; EPIC Network (2024). Ultra-processed foods, adiposity and risk of head and neck cancer and oesophageal adenocarcinoma in the European Prospective Investigation into Cancer and Nutrition study: a mediation analysis. Eur J Nutr. 63(2):377–96. https://doi.org/10.1007/s00394-023-03270-1 PMID:37989797

Morales Berstein F, Khouja J, Gormley M, Ebrahimi E, Virani S, McKay JD, et al. (2025). Reassessing the link between adiposity and head and neck cancer: a Mendelian randomization study. Elife. 14:RP106075. https://doi.org/10.7554/eLife.106075.3 PMID:41065334

Moreira DC, Znaor A, Santana VM, Dolya A, Fox Irwin L, Bhakta N, et al. (2024). Expanding the global capacity for childhood cancer registration: the ChildGICR Masterclass. JCO Glob Oncol. 10(10):e2300334. https://doi.org/10.1200/GO.23.00334 PMID:38905577

Morgan E, O'Neill C, Bardot A, Walsh P, Woods RR, Gonsalves L, et al. (2024). Collecting long-term outcomes in population-based cancer registry data: the case of breast cancer recurrence. JCO Glob Oncol. 10(10):e2400249. https://doi.org/10.1200/GO-24-00249 PMID:39481072

Morgan E, O'Neill C, Shah R, Langselius O, Su Y, Frick C, et al. (2024a). Metastatic recurrence in women diagnosed with non-metastatic breast cancer: a systematic review and meta-analysis. Breast Cancer Res. 26(1):171. https://doi.org/10.1186/s13058-024-01881-y PMID:39605105

Mori N, Murphy N, Sawada N, Achaintre D, Yamaji T, Scalbert A, et al. (2024). Reproducibility and dietary correlates of plasma polyphenols in the JPHC-NEXT Protocol Area study. Eur J Clin Nutr. 78(1):34–42. https://doi.org/10.1038/s41430-023-01349-w PMID:37891229

Mosquera I, Barajas CB, Theriault H, Benitez Majano S, Zhang L, Maza M, et al. (2024). Assessment of barriers to cancer screening and interventions implemented to overcome these barriers in 27 Latin American and Caribbean countries. Int J Cancer. 155(4):719–30. https://doi.org/10.1002/ijc.34950 PMID:38648380

Mosquera I, Theriault H, Meunier D, Basu P, Carvalho AL (2025). Development and pilot testing of INTERVENER, a web-based tool to match barriers to the cancer continuum organization to evidence-based interventions. BMC Health Serv Res. 25(1):47. https://doi.org/10.1186/s12913-024-12171-w PMID:39789584

Motlhale M, Sitas F, de Villiers CB, Simba H, Feliu A, Chen WC, et al. (2025). Smokeless tobacco (snuff) and site-specific cancer risks in adult Black South African women: findings from the Johannesburg Cancer Study. Int J Cancer. 156(10):1916–25. https://doi.org/10.1002/ijc.35293 PMID:39679969

Mouchtaris Michailidis T, De Saeger S, Khoueiry R, Odongo GA, Bader Y, Dhaenens M, et al. (2025). The interplay of dietary mycotoxins and oncogenic viruses toward human carcinogenesis: a scoping review. Crit Rev Food Sci Nutr. 65(25):5008–26. https://doi.org/10.1080/10408398.2024.2414828 PMID:39422902

Mrabti H, Sauvaget C, Bendahhou K, Selmouni F, Muwonge R, Lucas E, et al. (2024). Breast cancer treatment and its impact on survival in Morocco: a study over a decade. BMC Cancer. 24(1):786. https://doi.org/10.1186/s12885-024-12570-6 PMID:38956536

Muli S, Blumenthal A, Conzen CA, Benz ME, Alexy U, Schmid M, et al. (2024). Association of ultraprocessed foods intake with untargeted metabolomics profiles in adolescents and young adults in the DONALD cohort study. J Nutr. 154(11):3255–65. https://doi.org/10.1016/j.tjnut.2024.09.023 PMID:39332770

Muli S, Schnermann ME, Merdas M, Rattner J, Achaintre D, Perrar I, et al. (2024). Metabolomics signatures of sweetened beverages and added sugar are related to anthropometric measures of adiposity in young individuals: results from a cohort study. Am J Clin Nutr. 120(4):879–90. https://doi.org/10.1016/j.ajcnut.2024.07.021 PMID:39059709

Mulisa G, Abebe T, Gutema B, Mahmuda J, Khan MAA, Gheit T, et al. (2024). Exploring oesophageal cancer in Ethiopia: elevated incidence in females and younger cases. Cancer Rep (Hoboken). 7(12):e70048. https://doi.org/10.1002/cnr2.70048 PMID:39665274

Mulisa G, Pero-Gascon R, McCormack V, Bisanz JE, Talukdar FR, Abebe T, et al. (2025). Multiple mycotoxin exposure assessment through human biomonitoring in an esophageal cancer case-control study in the Arsi-Bale districts of Oromia region of Ethiopia. Int J Hyg Environ Health. 263:114466. https://doi.org/10.1016/j.ijheh.2024.114466 PMID:39306897

Murthy SS, Trapani D, Cao B, Bray F, Murthy S, Kingham TP, et al. (2024). Premature mortality trends in 183 countries by cancer type, sex, WHO region, and World Bank income level in 2000–19: a retrospective, cross-sectional, population-based study. Lancet Oncol. 25(8):969–78. https://doi.org/10.1016/S1470-2045(24)00274-2 PMID:38964357

Muwonge R, Basu P; IARC-India HPV vaccine study consortium (2025). Re: Using observational data to explore the hypothesis that a single dose of current HPV vaccines can provide durable protection: reply to the commentary written by Christine Velicer, Alain Luxembourg, Ya-Ting Chen, Melvin Kohn, and Alfred Saah, Merck & Co., Inc., Kenilworth, NJ, USA on the IARC-India HPV vaccine study. Vaccine. 44:125062. https://doi.org/10.1016/j.vaccine.2023.06.030 PMID:37328351

Nalini M, Poustchi H, Bhandari D, Blount BC, Kenwood BM, Chang CM, et al. (2025). Exposure to volatile organic compounds and chronic respiratory disease mortality, a case-cohort study. Respir Res. 26(1):88. https://doi.org/10.1186/s12931-025-03165-1 PMID:40045272

Nalini M, Poustchi H, Bhandari D, Chang CM, Blount BC, Wang L, et al. (2024). Volatile organic compounds and mortality from ischemic heart disease: a case-cohort study. Am J Prev Cardiol. 19:100700. https://doi.org/10.1016/j.ajpc.2024.100700 PMID:39100747

Narh CT, Afetor M, Baiden FE, Agbeko A, Commeh ME, Aziato L, et al.; ABC-DO Ghana team (2025). Barriers to breast cancer care for women presenting at district and regional-level hospitals in Ghana: findings from the African Breast Cancer-Disparities in Outcomes Ghana Study. JCO Glob Oncol. 11(11):e2500275. https://doi.org/10.1200/GO-25-00275 PMID:41160780

Naudin S, Wang M, Dimou N, Ebrahimi E, Genkinger J, Adami H-O, et al. (2025). Alcohol intake and pancreatic cancer risk: an analysis from 30 prospective studies across Asia, Australia, Europe, and North America. PLoS Med. 22(5):e1004590. https://doi.org/10.1371/journal.pmed.1004590 PMID:40392909

Nazarzadeh M, Copland E, Smith Byrne K, Canoy D, Bidel Z, Woodward M, et al.; Blood Pressure Lowering Treatment Trialists' Collaboration (2025). Blood pressure lowering and risk of cancer: individual participant-level data meta-analysis and Mendelian randomization studies. JACC CardioOncol. 7(5):609–23. https://doi.org/10.1016/j.jaccao.2025.03.005 PMID:40366326

Negroni L, Taverniti V, Tommasino M, Zanier K (2025). Interactome of the oncogenic ΔNp73α isoform in human papillomavirus 38 E6/E7-transformed keratinocytes. Microbiol Resour Announc. 14(4):e0107124. https://doi.org/10.1128/mra.01071-24 PMID:40135863

Nemati S, Dardashti AR, Mohebbi E, Kamangar F, Malekzadeh R, Zendehdel K, et al. (2024). Potential impact of controlling opium use prevalence on future cancer incidence in Iran. EClinicalMedicine. 73:102650. https://doi.org/10.1016/j.eclinm.2024.102650 PMID:38881571

Nemati S, Islami F, Kamangar F, Poustchi H, Roshandel G, Shakeri R, et al. (2024). Improvement of esophageal cancer survival in Northeast Iran: a two-decade journey in a high-risk, low-resource region. PLoS One. 19(9):e0310842. https://doi.org/10.1371/journal.pone.0310842 PMID:39321196

Nessa A, Uddin SMN, Lucas E, Nag P, Palaniraja S, Rol M, et al. (2025). Implementation of an electronic health information system using DHIS2 tracker to manage and evaluate the national cervical screening programme in Bangladesh. BMC Public Health. 25(1):1649. https://doi.org/10.1186/s12889-025-22668-6 PMID:40325476

Ni Z, Kundu P, McKean DF, Wheeler W, Albanes D, Andreotti G, et al. (2024). Genome-wide analysis to assess if heavy alcohol consumption modifies the association between SNPs and pancreatic cancer risk. Cancer Epidemiol Biomarkers Prev. 33(9):1229–39. https://doi.org/10.1158/1055-9965.EPI-24-0096 PMID:38869494

Noh H, Anota A, Mongondry R, Meyrand R, Dupuis C, Schiffler C, et al. (2024). Impact of a one-year supervised physical activity program on long-term cancer-related fatigue and mediating effects of the gut microbiota in metastatic testicular cancer patients: protocol of the prospective multicentre, randomized controlled phase-III STARTER trial. BMC Cancer. 24(1):84. https://doi.org/10.1186/s12885-024-11824-7 PMID:38225551

Noh H, Lee J, Seyed Khoei N, Peruchet-Noray L, Kang D, Fervers B, et al. (2024). Serum bilirubin levels and risk of colorectal cancer in Korean adults: results from the Korean Genome and Epidemiology Study-Health Examinee (KoGES-HEXA) Cohort Study. Br J Cancer. 131(10):1635–43. https://doi.org/10.1038/s41416-024-02847-9 PMID:39379570

O'Connell KS, Koromina M, van der Veen T, Boltz T, David FS, Yang JMK, et al.; 23andMe Research Team; Bipolar Disorder Working Group of the Psychiatric Genomics Consortium (2025). Genomics yields biological and phenotypic insights into bipolar disorder. Nature. 639(8056):968–75. https://doi.org/10.1038/s41586-024-08468-9 PMID:39843750

O'Driscoll J, Burton A, Maskarinec G, Perez-Gomez B, Vachon C, Miao H, et al. (2024). Reproductive factors and mammographic density within the International Consortium of Mammographic Density: a cross-sectional study. Breast Cancer Res. 26(1):139. https://doi.org/10.1186/s13058-024-01890-x PMID:39350230

O'Grady TJ, Rinaldi S, Michels KA, Adami HO, Buring JE, Chen Y, et al. (2024). Association of hormonal and reproductive factors with differentiated thyroid cancer risk in women: a pooled prospective cohort analysis. Int J Epidemiol. 53(1):dyad172. https://doi.org/10.1093/ije/dyad172 PMID:38110618

Oană I, Hâncean MG, Perc M, Lerner J, Mihăilă BE, Geantă M, et al. (2024). Online media use and COVID-19 vaccination in real-world personal networks: quantitative study. J Med Internet Res. 26:e58257. https://doi.org/10.2196/58257 PMID:39454189

Ohlander J, Kromhout H, Vermeulen R, Portengen L, Kendzia B, Savary B, et al. (2024). Respirable crystalline silica and lung cancer in community-based studies: impact of job-exposure matrix specifications on exposure-response relationships. Scand J Work Environ Health. 50(3):178–86. https://doi.org/10.5271/sjweh.4140 PMID:38264956

Olsson A, Bouaoun L, Schüz J, Vermeulen R, Behrens T, Ge C, et al. (2024). Lung cancer risks associated with occupational exposure to pairs of five lung carcinogens: results from a pooled analysis of case-control studies (SYNERGY). Environ Health Perspect. 132(1):17005. https://doi.org/10.1289/EHP13380 PMID:38236172

Olsson A, Schüz J, Bukhtiyarov I, Moissonnier M, Ostroumova E, Ferro G, et al. (2025). Cause-specific mortality among workers in asbestos mining and enrichment factories (Asbest Chrysotile Cohort Study) compared with the general population of Sverdlovsk Oblast, Russian Federation. J Occup Med Toxicol. 20(1):37. https://doi.org/10.1186/s12995-025-00484-3 PMID:41199374

Ong SK, Abe SK, Gek Phua GL, Jayasekara H, Togawa K, Gatellier L, et al. (2024). Mapping recommendations towards an Asian Code Against Cancer (ACAC) as part of the World Code Against Cancer Framework: an Asian National Cancer Centers Alliance (ANCCA) initiative. Lancet Reg Health Southeast Asia. 24:100316. https://doi.org/10.1016/j.lansea.2023.100316 PMID:38756166

Onwuka JU, Guida F, Langdon R, Johansson M, Severi G, Milne RL, et al. (2024). Blood-based DNA methylation markers for lung cancer prediction. BMJ Oncol. 3(1):e000334. https://doi.org/10.1136/bmjonc-2024-000334 PMID:39886123

Onwuka JU, Wuraola FO, Owoade IA, Ogunyemi YF, Di Bernardo M, Dare AJ, et al. (2024). Delays in presentation, diagnosis, and treatment among patients with GI cancer in southwest Nigeria. JCO Glob Oncol. 10(10):e2400060. https://doi.org/10.1200/GO.24.00060 PMID:39418630

Onwuka JU, Zahed H, Feng X, Alcala K, Erhunmwunsee L, Williams RM, et al. (2025). Association between socioeconomic position and lung cancer incidence in 16 countries: a prospective cohort consortium study. EClinicalMedicine. 82:103152. https://doi.org/10.1016/j.eclinm.2025.103152 PMID:40212049

Onyije FM, Dolatkhah R, Olsson A, Bouaoun L, Deltour I, Erdmann F, et al. (2024). Risk factors for childhood brain tumours: a systematic review and meta-analysis of observational studies from 1976 to 2022. Cancer Epidemiol. 88:102510. https://doi.org/10.1016/j.canep.2023.102510 PMID:38056243

Onyije FM, Dolatkhah R, Olsson A, Bouaoun L, Deltour I, Erdmann F, et al. (2024). Response to comments on: "Maternal smoking and the risk of childhood brain tumors". Cancer Epidemiol. 90:102546. https://doi.org/10.1016/j.canep.2024.102546 PMID:38383210

Onyije FM, Dolatkhah R, Olsson A, Bouaoun L, Schüz J (2024). Environmental risk factors of Wilms tumour: a systematic review and meta-analysis. EJC Paediatr Oncol. 4:100178. https://doi.org/10.1016/j.ejcped.2024.100178 PMID:39678930

Onyije FM, Dolatkhah R, Olsson A, Bouaoun L, Schüz J (2025). Risk factors of neuroblastoma: a systematic review and meta-analysis. Front Public Health. 13:1576101. https://doi.org/10.3389/fpubh.2025.1576101 PMID:40636854

Oommen AM, Ashfaq M, Cherian AG, Colling AM, Ramirez AT, Saunders T, et al. (2024). Strategies and implementation outcomes of HPV-based cervical screening studies to prevent cervical cancer in India: a systematic review. J Cancer Policy. 42:100513. https://doi.org/10.1016/j.jcpo.2024.100513 PMID:39510380

Orive D, Echepare M, Bernasconi-Bisio F, Sanmamed MF, Pineda-Lucena A, de la Calle-Arroyo C, et al. (2024). Protein biomarkers in lung cancer screening: technical considerations and feasibility assessment. Arch Bronconeumol. 60(Suppl 2):S67–76. https://doi.org/10.1016/j.arbres.2024.07.007 PMID:39079848

Osorio JC, Andrade-Madrigal C, Gheit T, Corvalán AH, Aguayo F (2024). SLC7A11 expression is up-regulated in HPV- and tobacco-associated lung cancer. Int J Mol Sci. 25(24):13248. https://doi.org/10.3390/ijms252413248 PMID:39769017

Oswal K, Gaurav K, Pradhan A, Ramachandran V, Sebastian P, Basu P (2025). Current status of implementation of cancer screening programme in India: a review of policies and practice. Asian Pac J Cancer Prev. 26(4):1117–28. https://doi.org/10.31557/APJCP.2025.26.4.1117 PMID:40302063

Oyelere AM, Kok DE, Bos D, Gunter MJ, Ferrari P, Keski-Rahkonen P, et al. (2024). Coffee consumption is associated with a reduced risk of colorectal cancer recurrence and all-cause mortality. Int J Cancer. 154(12):2054–63. https://doi.org/10.1002/ijc.34879 PMID:38346920

Oyelere AM, Verstraete FF, Kok DE, Bos D, Gunter MJ, de Wilt JHW, et al. (2025). Coffee consumption and mortality in colorectal cancer patients: does the co-existence of cardiometabolic disease matter? Clin Nutr ESPEN. 67:62–70. https://doi.org/10.1016/j.clnesp.2025.02.025 PMID:40057276

Pagano I, Zhang Z, Luu M, Tikhonenkov S, Le Calvez-Kelm F, Goodison S, et al. (2025). Performance of the Oncuria-Detect bladder cancer test for evaluating patients presenting with haematuria: results from a real-world clinical setting. J Transl Med. 23(1):680. https://doi.org/10.1186/s12967-025-06749-z PMID:40533776

Palaniraja S, Taghavi K, Kataria I, Oswal K, Vani NV, Liji AA, et al. (2025). Barriers and contributions of rural community health workers in enabling cancer early detection and subsequent care in India: a qualitative study. BMC Public Health. 25(1):1527. https://doi.org/10.1186/s12889-025-22735-y PMID:40275281

Papadimitriou N, Kazmi N, Dimou N, Tsilidis KK, Martin RM, Lewis SJ, et al. (2024). Leisure time television watching, computer use and risks of breast, colorectal and prostate cancer: a Mendelian randomisation analysis. Cancer Med. 13(1):e6732. https://doi.org/10.1002/cam4.6732 PMID:38155458

Papadimitriou N, Kazmi N, Tsilidis KK, Richmond RC, Lynch BM, Bendinelli B, et al. (2025). Identifying metabolomic mediators of the physical activity and colorectal cancer relationship. Cancer Epidemiol Biomarkers Prev. 34(4):578–87. https://doi.org/10.1158/1055-9965.EPI-24-1390 PMID:39883068

Papadimitriou N, Kim A, Kawaguchi ES, Morrison J, Diez-Obrero V, Albanes D, et al. (2024). Genome-wide interaction study of dietary intake of fibre, fruits, and vegetables with risk of colorectal cancer. EBioMedicine. 104:105146. https://doi.org/10.1016/j.ebiom.2024.105146 PMID:38749303

Papadimitriou N, Murphy N, Jenab M, Chen Z, Brenner H, Kweon SS, et al. (2025). Body mass index at birth and early life and colorectal cancer: a two-sample Mendelian randomization analysis in European and East Asian genetic similarity populations. Pediatr Obes. 20(1):e13186. https://doi.org/10.1111/ijpo.13186 PMID:39587448

Papadimitriou N, Qu C, Harrison TA, Bever AM, Martin RM, Tsilidis KK, et al. (2024). Body size and risk of colorectal cancer molecular defined subtypes and pathways: Mendelian randomization analyses. EBioMedicine. 101: 105010. https://doi.org/10.1016/j.ebiom.2024.105010 PMID:38350331

Papagiannopoulos CK, Markozannes G, Chalitsios CV, Christakoudi S, Gunter MJ, Dossus L, et al. (2025). Sex-stratified metabolic signatures of adiposity indices and their associations with clinical biomarkers in the UK Biobank. EBioMedicine. 119:105868. https://doi.org/10.1016/j.ebiom.2025.105868 PMID:40768833

Papier K, Bradbury KE, Balkwill A, Barnes I, Smith-Byrne K, Gunter MJ, et al. (2025). Diet-wide analyses for risk of colorectal cancer: prospective study of 12,251 incident cases among 542,778 women in the UK. Nat Commun. 16(1):375. https://doi.org/10.1038/s41467-024-55219-5 PMID:39779669

Park JY, Georges D, Alberts CJ, Bray F, Clifford G, Baussano I (2025a). Global lifetime estimates of expected and preventable gastric cancers across 185 countries. Nat Med. https://doi.org/10.1038/s41591-025-03793-6 PMID:40624406

Park JY, Van Puyvelde H, Regazzetti L, Clasen JL, Heath AK, Eussen S, et al. (2025). Association between dietary intake and blood concentrations of one-carbon-metabolism-related nutrients in European Prospective Investigation into Cancer and Nutrition. Nutrients. 17(12):19. https://doi.org/10.3390/nu17121970 PMID:40573081

Park SH, Sugier PE, Asgari Y, Karimi M, Kaaks R, Fortner RT, et al. (2025). Reproductive factors, sex hormone levels, and differentiated thyroid cancer risk: a Mendelian randomization study. Thyroid. 35(4):433–43. https://doi.org/10.1089/thy.2024.0548 PMID:40137860

Patte C, Pommier RM, Ferrari A, Fei-Lei Chung F, Ouzounova M, Moullé P, et al. (2025). Comprehensive molecular portrait reveals genetic diversity and distinct molecular subtypes of small intestinal neuroendocrine tumors. Nat Commun. 16(1):2197. https://doi.org/10.1038/s41467-025-57305-8 PMID:40038310

Payen de la Garanderie M, Hasenbohler A, Dechamp N, Javaux G, Szabo de Edelenyi F, Agaësse C, et al. (2025). Food additive mixtures and type 2 diabetes incidence: results from the NutriNet-Santé prospective cohort. PLoS Med. 22(4):e1004570. https://doi.org/10.1371/journal.pmed.1004570 PMID:40198579

Peltonen J, Nikkilä R, Al-Samadi A, Mäkitie A, Martinsen JI, Kjaerheim K, et al. (2024). Occupation and tongue cancer in Nordic countries. BMC Oral Health. 24(1):506. https://doi.org/10.1186/s12903-024-04172-2 PMID:38685000

Peña-Torres E, de Vries E, de Camargo Cancela M, Piñeros-Petersen M (2025). Use of population-based cancer registries for cancer surveillance and control in Latin America. Cancer Epidemiol. 99:102914. https://doi.org/10.1016/j.canep.2025.102914 PMID:40934652

Pennisi R, Trischitta P, Costa M, Venuti A, Tamburello MP, Sciortino MT (2024). Update of natural products and their derivatives targeting Epstein–Barr infection. Viruses. 16(1):20. https://doi.org/10.3390/v16010124 PMID:38257824

Peoples AR, Obon-Santacana M, Kim AE, Kawaguchi ES, Fu Y, Qu C, et al. (2025). Genetic risk factors modulate the association between physical activity and colorectal cancer. Res Sq. https://doi.org/10.21203/rs.3.rs-7350654/v1

Perdomo S, Abedi-Ardekani B, de Carvalho AC, Ferreiro-Iglesias A, Gaborieau V, Cattiaux T, et al. (2024). The Mutographs biorepository: a unique genomic resource to study cancer around the world. Cell Genom. 4(3):100500. https://doi.org/10.1016/j.xgen.2024.100500 PMID:38325367

Perganti F, Huybrechts I, Balduzzi AC, Barr R, Biondi A, Bladé AL, et al. (2025). Southern European Prospective Investigation into Childhood Cancer and Nutrition (EPIC*kids*): study design and protocol. PLoS One. 20(9):e0319110. https://doi.org/10.1371/journal.pone.0319110 PMID:40911561

Perrier F, Ahimbisibwe A, Ghiasvand R, Rueegg CS, Green AC, Borch KB, et al. (2025). Physical activity and mortality in melanoma patients within the Norwegian Women and Cancer study (NOWAC). Int J Cancer. 157(5):846–57. https://doi.org/10.1002/ijc.35430 PMID:40181554

Peruchet-Noray L, Dimou N, Cordova R, Fontvieille E, Jansana A, Gan Q, et al. (2025). Nature or nurture: genetic and environmental predictors of adiposity gain in adults. EBioMedicine. 111:105510. https://doi.org/10.1016/j.ebiom.2024.105510 PMID:39689375

Peruchet-Noray L, Sedlmeier AM, Dimou N, Baurecht H, Fervers B, Fontvieille E, et al. (2024). Tissue-specific genetic variation suggests distinct molecular pathways between body shape phenotypes and colorectal cancer. Sci Adv. 10(16):eadj1987. https://doi.org/10.1126/sciadv.adj1987 PMID:38640244

Pham TT, Nimptsch K, Aleksandrova K, Jenab M, Fedirko V, Wu K, et al. (2024). Pre-diagnostic circulating resistin concentrations and mortality among individuals with colorectal cancer: results from the European Prospective Investigation into Cancer and Nutrition study. Int J Cancer. 154(9):1596–606. https://doi.org/10.1002/ijc.34830 PMID:38200695

Piedvache A, Rashed WM, Petridou ET, Mueller BA, Bonaventure A, Clavel J, et al. (2025). Maternal prenatal infection and childhood leukaemia: a Childhood Cancer and Leukemia International Consortium (CLIC) meta-analysis. Int J Epidemiol. 54(5):dyaf167. https://doi.org/10.1093/ije/dyaf167

Pinder LF, Bertrand P, Fertitta V, Cahais V, Mwanahamuntu M, Nyambe N, et al. (2025). Vaginal microbiome composition in women with HIV undergoing treatment of cervical transformation zone in a screen and treat program in Zambia. AIDS. 39(9):1303–6. https://doi.org/10.1097/QAD.0000000000004187 PMID:40568741

Piñeros M, Morgan E, Brierley J (2025). Reporting stage at diagnosis: opportunities for improvement. Cancer Epidemiol. 97:102819. https://doi.org/10.1016/j.canep.2025.102819 PMID:40252288

Piñeros M, Vignat J, Colombet M, Laversanne M, Ferreccio C, Heise K, et al. (2025a). Global variations in gallbladder cancer incidence: what do recorded data and national estimates tell us? Int J Cancer. 156(7):1358–68. https://doi.org/10.1002/ijc.35232 PMID:39580808

Pittavino M, Plummer M, Johansson M, Riboli E, Ferrari P (2025). A Bayesian hierarchical framework to integrate dietary exposure and biomarker measurements into aetiological models. Appl Stat. 74(5):1427–43. https://doi.org/10.1093/jrsssc/qlaf029

Pizzato M, McCormack V, Dossus L, Al-Alem U, Delpierre C, Lamy S, et al. (2025). Education level and risk of breast cancer by tumor subtype in the EPIC cohort. Int J Cancer. 157(4):672–86. https://doi.org/10.1002/ijc.35413 PMID:40170258

Porta M, Pumarega J, Giménez À, Tjønneland A, Chirlaque MD, Sacerdote C, et al. (2025). Factors influencing the diagnostic basis in pancreatic cancer. A study within the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort. Cancer Treat Res Commun. 45:101009. https://doi.org/10.1016/j.ctarc.2025.101009 PMID:41045727

Poudel KK, Singh D, Sims DJ (2024). Gastric cancer survival and its predictors in Nepal. Asian Pac J Cancer Prev. 25(10):3635–42. https://doi.org/10.31557/APJCP.2024.25.10.3635 PMID:39471031

Praud D, Amadou A, Coudon T, Duboeuf M, Mercoeur B, Faure E, et al. (2025). Association between chronic long-term exposure to airborne dioxins and breast cancer. Int J Hyg Environ Health. 263:114489. https://doi.org/10.1016/j.ijheh.2024.114489 PMID:39579601

Purdue MP, Dutta D, Machiela MJ, Gorman BR, Winter T, Okuhara D, et al.; BioBank Japan Project; FinnGen (2024). Multi-ancestry genome-wide association study of kidney cancer identifies 63 susceptibility regions. Nat Genet. 56(5):809–18. https://doi.org/10.1038/s41588-024-01725-7 PMID:38671320

Quiambao A, Malekpour MR, Golestani A, Heidari-Foroozan M, Ghamari SH, Abbasi-Kangevari M, et al. (2025). World Health Organization's guidance for tracking non-communicable diseases towards Sustainable Development Goals 3.4: an initiative for facility-based monitoring. EClinicalMedicine. 85:103304. https://doi.org/10.1016/j.eclinm.2025.103304 PMID:40678696

Rabe F, Getachew S, Stroetmann CY, Mezger NCS, Gebremariam TY, Berhane B, et al. (2025). Time to pathologic diagnosis of suspicious breast lesions: an institution-based study in five Ethiopian hospitals. Int J Cancer. 157(5):876–89. https://doi.org/10.1002/ijc.35436 PMID:40207740

Rabien A, Rong D, Rabenhorst S, Schlomm T, Labonté F, Hofbauer S, et al. (2024). Diagnostic performance of Uromonitor and TERTpm ddPCR urine tests for the non-invasive detection of bladder cancer. Sci Rep. 14(1):30617. https://doi.org/10.1038/s41598-024-83976-2 PMID:39715826

Radhakrishnan V, Jothi A, Mary R, Veeraiah S, Sudhakar R, Selvam P, et al. (2025). Assessment of barriers and enablers for implementing a population-based childhood cancer registry in Chennai, India. Pediatr Blood Cancer. 72(3):e31500. https://doi.org/10.1002/pbc.31500 PMID:39739444

Rahman MS, Rahman MM, Acharya K, Haruyama R, Shah R, Matsuda T, et al. (2024). Disparities and determinants of testing for early detection of cervical cancer among Nepalese women: evidence from a population-based survey. Cancer Epidemiol Biomarkers Prev. 33(8):1046–56. https://doi.org/10.1158/1055-9965.EPI-24-0037 PMID:38820125

Rajabpour MV, Seyyedsalehi MS, Nahvijou A, Nemati S, Javanmard SH, Manteghinejad A, et al. (2025). Evaluating the breast cancer quality of care indicators in Iran; multicenter study. BMC Cancer. 25(1):925. https://doi.org/10.1186/s12885-025-14260-3 PMID:40410690

Ramadan F, Saab R, Ghamloush F, Khoueiry R, Herceg Z, Gomez L, et al. (2024). Exosome-mediated paracrine signaling unveils miR-1246 as a driver of aggressiveness in fusion-negative rhabdomyosarcoma. Cancers (Basel). 16(9):1652. https://doi.org/10.3390/cancers16091652 PMID:38730605

Ramasamy D, Thippannah M, Maharajan HRP, Balaiah M, Seshadri RA, Kodous AS, et al. (2024). Transcriptome-wide profiling identifies colon cancer-associated m6A transcripts and potential RNA methyl modifiers. Mol Biol Rep. 51(1):299. https://doi.org/10.1007/s11033-024-09217-x PMID:38345740

Ramírez AT, Clifford GM, Dillner J, Kuhn L, Arbyn M, Bhatla N, et al. (2025a). Reflections regarding validation of new HPV tests with reduced HPV genotypes: report from an IARC expert consultation. J Med Virol. 97(3):e70310. https://doi.org/10.1002/jmv.70310 PMID:40109087

Ramírez AT, Mesher D, Baena A, Salgado Y, Kasamatsu E, Cristaldo C, et al.; ESTAMPA Study Group (2025). Impact of knowledge of human papillomavirus positivity on cervical cytology performance in Latin America. J Natl Cancer Inst. 117(4):644–52. https://doi.org/10.1093/jnci/djae283 PMID:39531343

Rashidian H, Hadji M, Ansari-Moghaddam A, Bakhshi M, Nejatizadeh A, Marzban M, et al. (2024). Association between waterpipe smoking and lung cancer: a multicentre case-control study in Iran. Public Health. 231:166–72. https://doi.org/10.1016/j.puhe.2024.03.008 PMID:38701659

Rauber F, Laura da Costa Louzada M, Chang K, Huybrechts I, Gunter MJ, Monteiro CA, et al. (2024). Implications of food ultra-processing on cardiovascular risk considering plant origin foods: an analysis of the UK Biobank cohort. Lancet Reg Health Eur. 43:100948. https://doi.org/10.1016/j.lanepe.2024.100948 PMID:39210945

Reddy SSP, Francis DL, Harish R, Raja K, Chopra SS (2025). "Liver clots" in periodontology: a 10-year clinical experience. Oral Dis. 31(4):1268–76. https://doi.org/10.1111/odi.15190 PMID:39530339

Reddy SSP, Francis DL, Kulkarni V, Chopra SS (2024). Letter to editor on 'Isolation and characterization of human Wharton's jelly mesenchymal stem cell-derived extracellular vesicles'. J Cell Mol Med. 28(20):e70168. https://doi.org/10.1111/jcmm.70168 PMID:39438269

Reddy SSP, Singh H, Francis DL, Harish R, Rathi M, Karmakar S, et al. (2025). Laser patterned microcoagulation (LPM) in the management of desquamative gingivitis secondary to oral lichen planus: a randomized controlled pilot clinical trial (LPM TRIAL). Lasers Med Sci. 40(1):188. https://doi.org/10.1007/s10103-025-04454-3 PMID:40214823

Reedijk M, Portengen L, Auvinen A, Kojo K, Heinävaara S, Feychting M, et al.; COSMOS Study Group (2024). Regression calibration of self-reported mobile phone use to optimize quantitative risk estimation in the COSMOS study. Am J Epidemiol. 193(10):1482–93. https://doi.org/10.1093/aje/kwae039 PMID:38751312

Reichmann R, Nimptsch K, Pischon T, Gunter MJ, Jenab M, Eriksen AK, et al. (2025). Sex- and site-specific associations of circulating lipocalin 2 and incident colorectal cancer: results from the EPIC cohort. Int J Cancer. 156(5):930–42. https://doi.org/10.1002/ijc.35205 PMID:39511728

Reid F, Adams T, Adel RS, Andrade CE, Bajwa A, Bambury IG, et al. (2024). The Every Woman Study™ low- and middle-income countries edition protocol: a multi-country observational study to assess opportunities and challenges to improving survival and quality of life for women with ovarian cancer. PLoS One. 19(5):e0298154. https://doi.org/10.1371/journal.pone.0298154 PMID:38809901

Ren X, Nicolas G, Frenoy P, Papier K, Moreno-Iribas C, Masala G, et al. (2024). Non-dioxin-like polychlorinated biphenyls (NDL-PCBs) dietary exposure is associated with an increased risk of type 2 diabetes in the European Prospective Investigation into Cancer and Nutrition (EPIC) cohort. Diabetes Metab. 50(6):101587. https://doi.org/10.1016/j.diabet.2024.101587 PMID:39521120

Rey Brandariz J, Pérez-Ríos M, Ruano-Ravina A, Soerjomataram I (2025). Reflections on the tobacco-free generation: methodological challenges and global implications – authors' reply. Lancet Public Health. 10(2):e83. https://doi.org/10.1016/S2468-2667(25)00008-8 PMID:39909695

Rey Brandariz J, Rumgay H, Ayo-Yusuf O, Edwards R, Islami F, Liu S, et al. (2024). Estimated impact of a tobacco-elimination strategy on lung-cancer mortality in 185 countries: a population-based birth-cohort simulation study. Lancet Public Health. 9(10):e745–54. https://doi.org/10.1016/S2468-2667(24)00185-3 PMID:39366730

Reynders C, Bruyere D, Roncarati P, Geuzaine R, Koopmansch B, Gofflot S, et al. (2025). Human papillomavirus infection is a favorable prognostic factor for patients with stages I to IVA esophageal squamous cell carcinoma but not adenocarcinoma. Mod Pathol. 38(12):100853. https://doi.org/10.1016/j.modpat.2025.100853 PMID:40738325

Richardson DB, Laurier D, Haylock R, Kelly-Reif K, Bertke S, Daniels RD, et al. (2025). Worker studies and their interpretation. J Radiol Prot. 45(3):034502. https://doi.org/10.1088/1361-6498/ade68e PMID:40654101

Richardson DB, Laurier D, Leuraud K, Gillies M, Haylock R, Kelly-Reif K, et al. (2025). Site-specific cancer mortality after low-level exposure to ionizing radiation: findings from an update of the International Nuclear Workers Study (INWORKS). Am J Epidemiol. 194(5):1285–94. https://doi.org/10.1093/aje/kwae256 PMID:39108174

Rimal R, Robsahm TE, Green AC, Ghiasvand R, Rueegg CS, Bassarova A, et al. (2024). Trends in invasive melanoma thickness in Norway, 1983–2019. Acta Derm Venereol. 104:adv26110. https://doi.org/10.2340/actadv.v104.26110 PMID:39221835

Rinaldi S, Dossus L, Keski-Rahkonen P, Kiss A, Navionis AS, Biessy C, et al. (2024). Circulating endogenous sex steroids and risk of differentiated thyroid carcinoma in men and women. Int J Cancer. 154(12):2064–74. https://doi.org/10.1002/ijc.34872 PMID:38357914

Ringborg U, von Braun J, Celis J, Baumann M, Berns A, Eggermont A, et al. (2024). Strategies to decrease inequalities in cancer therapeutics, care and prevention: proceedings on a conference organized by the Pontifical Academy of Sciences and the European Academy of Cancer Sciences, Vatican City, February 23–24, 2023. Mol Oncol. 18(2):245–79. https://doi.org/10.1002/1878-0261.13575 PMID:38135904

Ritter J, de Bragança J, Auste C, Mendez A, Cohen PD, Fajardo AF, et al. (2024). Novel framework of financial hardship in childhood cancer: incorporating stakeholder perspectives. JCO Glob Oncol. 10(10):e2400093. https://doi.org/10.1200/GO.24.00093 PMID:39208390

Robbins HA (2024). Multicancer early detection tests – keeping a high bar for evidence of benefit. N Engl J Med. 391(4):292–4. https://doi.org/10.1056/NEJMp2400297 PMID:39037048

Robbins HA, Feng X, Etzioni R (2024). Cancer stage vs mortality end points in randomized clinical trials of cancer screening. JAMA. 332(14):2. https://doi.org/10.1001/jama.2024.16365 PMID:39264595

Robinson O, Xiao H, Homann J, Viallon V, Ferrari P, Huerta JM, et al. (2025). Associations of proteomic age with mortality and incident chronic diseases in the European Prospective Investigation into Cancer and Nutrition (EPIC). Res Sq. https://doi.org/10.21203/rs.3.rs-7087230/v1

Rontogianni MO, Bouras E, Aglago EK, Freisling H, Murphy N, Cotterchio M, et al. (2024). Allometric versus traditional body-shape indices and risk of colorectal cancer: a Mendelian randomization analysis. Int J Obes (Lond). 48(5):709–16. https://doi.org/10.1038/s41366-024-01479-6 PMID:38297030

Rugge M, Genta RM, Malfertheiner P, Dinis-Ribeiro M, El-Serag H, Graham DY, et al.; RE.GA.IN (2024). RE.GA.IN.: the Real-world Gastritis Initiative – updating the updates. Gut. 73(3):407–41. https://doi.org/10.1136/gutjnl-2023-331164 PMID:38383142

Ruiz-De La Cruz M, Martínez-Gregorio H, Estela Díaz-Velásquez C, Ambriz-Barrera F, Resendiz-Flores NG, Gitler-Weingarten R, et al. (2024). Methylation marks in blood DNA reveal breast cancer risk in patients fulfilling hereditary disease criteria. NPJ Precis Oncol. 8(1):136. https://doi.org/10.1038/s41698-024-00611-z PMID:38898118

Rumgay H, Nethan ST, Shah R, Vignat J, Ayo-Yusuf O, Chaturvedi P, et al. (2024). Global burden of oral cancer in 2022 attributable to smokeless tobacco and areca nut consumption: a population attributable fraction analysis. Lancet Oncol. 25(11):1413–23. https://doi.org/10.1016/S1470-2045(24)00458-3 PMID:39393386

Sahrai MS, Dossus L, Biessy C, Rinaldi S, Ferrari P, Wasiq AW, et al. (2025). Dietary patterns among Afghan adults and their associations with overweight and obesity: a cross-sectional study in Kandahar, Afghanistan. BMC Public Health. 25(1):595. https://doi.org/10.1186/s12889-025-21775-8 PMID:39948468

Saini H, Basu P, Nesari T, Huddar VG, Ray K, Srivastava A, et al. (2024). Therapeutic and pharmacological efficacy of plant-derived bioactive compounds in targeting breast cancer. Am J Transl Res. 16(5):1499–520. https://doi.org/10.62347/NUZN4999 PMID:38883353

Salame C, Javaux G, Sellem L, Viennois E, de Edelenyi FS, Agaësse C, et al. (2024). Food additive emulsifiers and the risk of type 2 diabetes: analysis of data from the NutriNet-Santé prospective cohort study. Lancet Diabetes Endocrinol. 12(5):339–49. https://doi.org/10.1016/S2213-8587(24)00086-X PMID:38663950

Sampoornam Pape Reddy S, Francis DL, Rathi M, Harish R, Narayana R, Manohar B, et al. (2025). Microsurgical semilunar bilaminar technique halts progression of marginal tissue recession by soft tissue phenotypic modification – a case report with 3-year follow-up. Clin Case Rep. 13(1):e70054. https://doi.org/10.1002/ccr3.70054 PMID:39802367

Sandoval-Diez N, Belácková L, Fernandes Veludo A, Jalilian H, Guida F, Deltour I, et al. (2025). Determining the relationship between mobile phone network signal strength and radiofrequency electromagnetic field exposure: protocol and pilot study to derive conversion functions. Open Res Eur. 4:206. https://doi.org/10.12688/openreseurope.18285.1 PMID:40291791

Saville JR, Russell LJ, Padget K, Ghantous A, Nordlund J, McKay JA (2025). The potential role of environmentally associated DNA methylation in childhood acute lymphoblastic leukaemia subtypes. Int J Cancer. 157(8):1600–12. https://doi.org/10.1002/ijc.35506 PMID:40490854

Savona R, Modena A, Alessi L, Alberini CM, Baussano I, Guerra R, et al. (2025). Towards a framework for a new research ecosystem. Humanit Soc Sci Commun. 12(1):1044. https://doi.org/10.1057/s41599-025-05281-1

Sawant P, Saoba S, Kadam P, Gupta D, Ponnada AK, Khanna D, et al. (2025). The Nirmiti application: an innovative tool for extending CanReg5 analyses to cancer mortality and paediatric cancer. Int J Cancer. 157(1):161–9. https://doi.org/10.1002/ijc.35420 PMID:40156432

Schafer EJ, Laversanne M, Sung H, Soerjomataram I, Briganti A, Dahut W, et al. (2025). Recent patterns and trends in global prostate cancer incidence and mortality: an update. Eur Urol. 87(3):302–13. https://doi.org/10.1016/j.eururo.2024.11.013 PMID:39668103

Scherer D, Barahona Ponce C, Mengoa C, Montenegro P, Losada H, Garcia AL, et al. (2025). Data resource profile: EULAT Eradicate GBC: the European-Latin American Research Consortium towards Eradication of Preventable Gallbladder Cancer. Int J Epidemiol. 54(4):dyaf127. https://doi.org/10.1093/ije/dyaf127 PMID:40735836

Schmidt L, Cree I, Campbell F; WCT EVI MAP group (2025). Digital tools to support the systematic review process: an introduction. J Eval Clin Pract. 31(3):e70100. https://doi.org/10.1111/jep.70100 PMID:40290054

Schoemaker MJ, Ellington T, Nichols HB, Wright LB, Jones ME, O'Brien KM, et al.; Premenopausal Breast Cancer Collaborative Group (2025). Central and peripheral adiposity and premenopausal breast cancer risk: a pooled analysis of 440,179 women. Breast Cancer Res. 27(1):55. https://doi.org/10.1186/s13058-025-01995-x PMID:40234955

Schubauer-Berigan M (2025). Human carcinogens identified by the IARC Monographs program. In: Jemal A, Sung H, Kelly K, Soerjomataram I, Bray F, editors. The cancer atlas. 4th ed. Atlanta (GA), USA: American Cancer Society; pp. 18–19.

Schubauer-Berigan MK, Bertke SJ, Kelly-Reif K, Daniels RD (2025). Updated cancer mortality among uranium miners on the Colorado Plateau: interactions of radon exposure with smoking and temporal factors. Occup Environ Med. 82(5):230–7. https://doi.org/10.1136/oemed-2025-110297 PMID:40579177

Schüz J, Kovalevskiy E, Olsson A, Moissonnier M, Ostroumova E, Ferro G, et al. (2024). Cancer mortality in chrysotile miners and millers, Russian Federation: main results (Asbest Chrysotile Cohort-Study). J Natl Cancer Inst. 116(6):866–75. https://doi.org/10.1093/jnci/djad262 PMID:38247448

Sebitloane HM, Forestier M, Ginindza TG, Dhlomo W, Moodley-Govender E, Darragh TM, et al. (2024). Cervical cancer screening and treatment algorithms using human papillomavirus testing – lessons learnt from a South African pilot randomized controlled trial. Cancer Epidemiol Biomarkers Prev. 33(6):779–87. https://doi.org/10.1158/1055-9965.EPI-23-0752 PMID:37955560

Sellem L, Srour B, Javaux G, Chazelas E, Chassaing B, Viennois E, et al. (2024). Food additive emulsifiers and cancer risk: results from the French prospective NutriNet-Santé cohort. PLoS Med. 21(2):e1004338. https://doi.org/10.1371/journal.pmed.1004338 PMID:38349899

Selmouni F, Bendahhou K, Sauvaget C, Abahssain H, Lucas E, Muwonge R, et al. (2024). Impact of clinical breast examination-based screening program on care pathway, stage at diagnosis, nature of treatment, and overall survival among breast cancer patients in Morocco. Cancer. 130(19):3353–63. https://doi.org/10.1002/cncr.35419 PMID:38837217

Senkin S, Moody S, Díaz-Gay M, Abedi-Ardekani B, Cattiaux T, Ferreiro-Iglesias A, et al. (2024). Geographic variation of mutagenic exposures in kidney cancer genomes. Nature. 629(8013):910–8. https://doi.org/10.1038/s41586-024-07368-2 PMID:38693263

Serban ST, Perdomo S, Borges-Yañez A, Allen F, Guarnizo-Herreño C, Navarro-Ramírez MK, et al. (2025). The political determinants of oral health inequalities: lessons in policy development and implementation from six case studies. Community Dent Oral Epidemiol. 53(5):514–32. https://doi.org/10.1111/cdoe.70005 PMID:40717040

Seyyedsalehi MS, Hadji M, Collatuzzo G, Rashidian H, Sasanfar B, Huybrechts I, et al. (2024). Role of dietary intake of specific polyunsaturated fatty acids (PUFAs) on colorectal cancer risk in Iran. Lipids. 59(2):41–53. https://doi.org/10.1002/lipd.12386 PMID:38287648

Sfera A, Andronescu L, Britt WG, Himsl K, Klein C, Rahman L, et al. (2024). Exploring novel therapies for schizophrenia-dementia patients in forensic settings: beyond traditional approaches. In: Gurunathan R, editor. Recent updates in disease and health research. Volume 4. London, UK: BP International; pp. 55–87. https://doi.org/10.9734/bpi/rudhr/v4/3366G

Sfera A, Hazan S, Anton JJ, Sfera DO, Andronescu CV, Sasannia S, et al. (2025). COVID-19 mRNA therapeutics meet psychotropic drugs. In: Rizvi SAA, editor. Pharmaceutical science: new insights and developments. Volume 5. London, UK: BP International; pp. 51–74. https://doi.org/10.9734/bpi/psnid/v5/5088

Sfera A, Imran H, Sfera DO, Anton JJ, Kozlakidis Z, Hazan S (2024). Novel insights into psychosis and antipsychotic interventions: from managing symptoms to improving outcomes. Int J Mol Sci. 25(11):24. https://doi.org/10.3390/ijms25115904 PMID:38892092

Shafique A, Gonzalez R, Pantanowitz L, Tan PH, Machado A, Cree IA, et al. (2024). A preliminary investigation into search and matching for tumor discrimination in World Health Organization breast taxonomy using deep networks. Mod Pathol. 37(2):100381. https://doi.org/10.1016/j.modpat.2023.100381 PMID:37939901

Shah R, Battisti NML, Brain E, Gnangnon FHR, Kanesvaran R, Mohile S, et al. (2025). Updated cancer burden in oldest old: a population-based study using 2022 GLOBOCAN estimates. Cancer Epidemiol. 95:102716. https://doi.org/10.1016/j.canep.2024.102716 PMID:39603975

Shah R, Hanna NM, Loo CE, David M, Mafra A, Fink H, et al. (2025a). The global impact of the COVID-19 pandemic on delays and disruptions in cancer care services: a systematic review and meta-analysis. Nat Cancer. 6(1):194–204. https://doi.org/10.1038/s43018-024-00880-4 PMID:39747650

Shah R, Loo CE, Hanna NM, Hughes S, Mafra A, Fink H, et al. (2024). Global review of COVID-19 mitigation strategies and their impact on cancer service disruptions. J Cancer Policy. 41:100486. https://doi.org/10.1016/j.jcpo.2024.100486 PMID:38830535

Shah S, Laouali N, Mahamat-Saleh Y, Biessy C, Nicolas G, Rinaldi S, et al. (2025). Plant-based dietary patterns and breast cancer risk in the European Prospective Investigation into Cancer and Nutrition (EPIC) study. Eur J Epidemiol. 40(8):947–58. https://doi.org/10.1007/s10654-025-01277-y PMID:40658296

Sheikh M, Domingues A, Alcala K, Langdon R, Mariosa D, Feng X, et al. (2025). Regular use of pharmaceutical opioids and subsequent risk of cancer: a prospective cohort study and Mendelian randomization analysis. EClinicalMedicine. 89:103439. https://doi.org/10.1016/j.eclinm.2025.103439

Sheikh M, Evison M (2025). Treating tobacco dependency in cancer care: essential, cost-effective, and feasible, yet overlooked. Br J Cancer. 132(7):585–6. https://doi.org/10.1038/s41416-025-02957-y PMID:39948239

Sheikh M, Weiderpass E (2025). Lung cancer screening in Europe: a golden opportunity to address tobacco use through scalable, WHO-guided cessation interventions. Eur Respir J. 65(6):2500124. https://doi.org/10.1183/13993003.00124-2025 PMID:40537166

Sheridan B, Irzaldy A, Heijnsdijk EAM, Dimitrova N, Senore C, Basu P, et al. (2025). Corrigendum to 'Prioritizing performance and outcome indicators for quality assessment of cancer screening programs in the EU' [Public Health Volume 239, February 2025, Pages 185-192]. [Erratum for: Public Health Volume 239, February 2025, Pages 185-192]. Public Health. 246:105868. https://doi.org/10.1016/j.puhe.2025.105868 PMID:40744805

Sheridan B, Irzaldy A, Heijnsdijk EAM, Dimitrova N, Senore C, Basu P, et al. (2025a). Prioritizing performance and outcome indicators for quality assessment of cancer screening programs in the EU. Public Health. 239:185–92. https://doi.org/10.1016/j.puhe.2024.12.010 PMID:39869999

Shezi B, Street R, Nkosi V, Winde F, Nuernberger H, Schüz J, et al. (2025). Uranium concentration in children's hair samples and residential soil samples near mine tailings facilities, in Johannesburg, South Africa. Environ Geochem Health. 47(12):562. https://doi.org/10.1007/s10653-025-02874-2 PMID:41217549

Shi F, Chowdhury R, Sofianopoulou E, Koulman A, Sun L, Steur M, et al. (2025). Association of circulating fatty acids with cardiovascular disease risk: analysis of individual-level data in three large prospective cohorts and updated meta-analysis. Eur J Prev Cardiol. 32(3):233–46. https://doi.org/10.1093/eurjpc/zwae315 PMID:39365172

Shrestha S, Foot H, Sheikh M, Parat MO, La Caze A (2025). Opioid use and the risk of cancer incidence and mortality: a systematic review. Cancer Metastasis Rev. 44(2):54. https://doi.org/10.1007/s10555-025-10268-0 PMID:40498363

Shrestha S, Pathak N, Sapkota S, Thapa S, Pandit S, Bhandari J, et al. (2025). Strengthening cancer care for the LGBTQIA+ population in Nepal: a narrative review to set priorities for equitable oncology services. Dialogues Health. 7:100229. https://doi.org/10.1016/j.dialog.2025.100229 PMID:40688796

Sichero L, Gonçalves MG, Bettoni F, Coser EM, Mota G, Nunes RAL, et al. (2024). Detection of serum biomarkers of HPV-16 driven oropharynx and oral cavity cancer in Brazil. Oral Oncol. 149:106676. https://doi.org/10.1016/j.oraloncology.2023.106676 PMID:38150987

Simba H, Kapambwe S, Bates MJ, Anorlu R, Mutebi M, Guida F, et al. (2024). Impact of cancer across the intergenerational family: a multidimensional perspective from African countries. JCO Glob Oncol. 10(10):e2400116. https://doi.org/10.1200/GO.24.00116 PMID:39361909

Simba H, McCormack V, Bilaba J, Mmbaga BT, Kini L, Mshana JA, et al. (2025). Non-melanoma skin cancer and HPV in persons with albinism: a call for research investment. Br J Cancer. 133(5):599–603. https://doi.org/10.1038/s41416-025-03107-0 PMID:40615714

Simba H, Mutebi M, Galukande M, Mahamat-Saleh Y, Aglago E, Addissie A, et al. (2024). Cancer care terminology in African languages. JAMA Netw Open. 7(8):e2431128. https://doi.org/10.1001/jamanetworkopen.2024.31128 PMID:39212985

Simeon-Dubach D, Kozlakidis Z, Tayal J, McCall SJ, Hasan W, Betsou F, et al. (2024). Experts Speak Forum: implementation of the FAIR principles in biobanking needs fair incentives. Biopreserv Biobank. 22(6):557–62. https://doi.org/10.1089/bio.2024.0153 PMID:39635895

Singh D, Carvalho AL, Mosquera I, Vilaseca J, Patasius A, Miksiene G, et al.; PRAISE-U Consortium (2025a). Monitoring of prostate cancer screening in the European Union: development of key performance indicators through the PRAISE-U project. EClinicalMedicine. 80:103022. https://doi.org/10.1016/j.eclinm.2024.103022 PMID:39927107

Singh D, Chandran A, Panebianco V, Vilaseca J, Patasius A, Tupikowski K, et al. (2025b). MRI capacity assessment for prostate cancer screening in five sites of Europe. Eur J Radiol. 190:112235. https://doi.org/10.1016/j.ejrad.2025.112235 PMID:40527099

Singh D, Rana A, Adhikari S, Lucas E, Muwonge R, Bhoosal A, et al. (2025c). A comprehensive assessment of intervals in care pathways among cancer patients in a limited resourced setting: results of a prospective patterns of care study in 2022 in Nepal. BMJ Glob Health. 10(11):e019297. https://doi.org/10.1136/bmjgh-2025-019297 PMID:41218949

Singini MG, Muchengeti M, Sitas F, Chen WC, Combes JD, Waterboer T, et al. (2024). Antibodies against high-risk human papillomavirus proteins as markers for noncervical HPV-related cancers in a Black South African population, according to HIV status. Int J Cancer. 155(2):251–60. https://doi.org/10.1002/ijc.34919 PMID:38577820

Sjomina O, Poļaka I, Suhorukova J, Vangravs R, Paršutins S, Knaze V, et al. (2024a). Randomised clinical trial: efficacy and safety of *H. pylori* eradication treatment with and without *Saccharomyces boulardii* supplementation. Eur J Cancer Prev. 33(3):217–22. https://doi.org/10.1097/CEJ.0000000000000858 PMID:37942999

Sjomina O, Vangravs R, Ļeonova E, Poļaka I, Pūpola D, Čivkulis K, et al. (2024). Clarithromycin-containing triple therapy for *Helicobacter pylori* eradication is inducing increased long-term resistant bacteria communities in the gut. Gut. 73(7):1214–5. https://doi.org/10.1136/gutjnl-2023-329792 PMID:37364984

Skrivankova VW, Richmond RC, Woolf BAR, Davies NM, Swanson SA, VanderWeele TJ, et al. (2025). Strengthening the reporting of observational studies in epidemiology using Mendelian randomization (STROBE-MR): a Korean translation of explanation and elaboration. Ewha Med J. 48(4):e68. https://doi.org/10.12771/emj.2025.00934 PMID:41223895

Smith CDL, McMahon AD, Lyall DM, Goulart M, Inman GJ, Ross A, et al. (2024). Development and external validation of a head and neck cancer risk prediction model. Head Neck. 46(9):2261–73. https://doi.org/10.1002/hed.27834 PMID:38850089

Smith-Byrne K, Hedman Å, Dimitriou M, Desai T, Sokolov AV, Schioth HB, et al. (2024). Identifying therapeutic targets for cancer among 2074 circulating proteins and risk of nine cancers. Nat Commun. 15(1):3621. https://doi.org/10.1038/s41467-024-46834-3 PMID:38684708

Soerjomataram I, Bardot A, Bray F (2025). Stat Bite: Surviving or dying from colon cancer or other causes 5 years after diagnosis, Australia 2010–2014, females. J Natl Cancer Inst. 117(5):1090–1. https://doi.org/10.1093/jnci/djaf045 PMID:40748608

Soerjomataram I, Bray FJ (2025). Stat Bite: Infectious agents as global causes of cancer in 2020. J Natl Cancer Inst. 117(6):1291–2. https://doi.org/10.1093/jnci/djaf091

Sohi I, Rehm J, Saab M, Virmani L, Franklin A, Sánchez G, et al. (2024). Alcoholic beverage consumption and female breast cancer risk: a systematic review and meta-analysis of prospective cohort studies. Alcohol Clin Exp Res (Hoboken). 48(12):2222–41. https://doi.org/10.1111/acer.15493 PMID:39581746

Spindler L, Etienney I, Abramowitz L, de Parades V, Pigot F, Siproudhis L, et al.; Société Nationale Française de Colo-Proctologie (2024). Screening for precancerous anal lesions linked to human papillomaviruses: French recommendations for clinical practice. Tech Coloproctol. 28(1):23. https://doi.org/10.1007/s10151-023-02899-8 PMID:38198036

Stayner LT, Carreón-Valencia T, Demers PA, Fritz JM, Sim MR, Stewart P, et al. (2024). Carcinogenicity of talc and acrylonitrile. Lancet Oncol. 25(8):962–3. https://doi.org/10.1016/S1470-2045(24)00384-X PMID:38976996

Steenland K, Straif K, Schubauer-Berigan MK, Demers PA, Forastiere F, Stenzel T, et al. (2025). Letter: Robins-E risk of bias tool. Environ Int. 199:109463. https://doi.org/10.1016/j.envint.2025.109463 PMID:40307162

Stein MJ, Baurecht H, Bohmann P, Ferrari P, Fervers B, Fontvieille E, et al. (2025). Usual walking pace and risk of 28 cancers – results from the UK Biobank. BMC Cancer. 25(1):869. https://doi.org/10.1186/s12885-025-14258-x PMID:40369483

Stein MJ, Baurecht H, Bohmann P, Fervers B, Fontvieille E, Freisling H, et al. (2024). Diurnal timing of physical activity and risk of colorectal cancer in the UK Biobank. BMC Med. 22(1):399. https://doi.org/10.1186/s12916-024-03632-4 PMID:39289682

Steinberg J, Hughes S, Hui H, Allsop MJ, Egger S, David M, et al. (2024). Risk of COVID-19 death for people with a pre-existing cancer diagnosis prior to COVID-19-vaccination: a systematic review and meta-analysis. Int J Cancer. 154(8):1394–412. https://doi.org/10.1002/ijc.34798 PMID:38083979

Stepanenko V, Kaprin A, Ivanov S, Shegay P, Bogacheva V, Shinkarev S, et al. (2025). Features of internal absorbed dose microdistribution in biological tissue irradiated by $^{31}SiO_2$ microparticles compared with dose microdistribution from exposure to $^{56}MnO_2$ particles. J Radiat Res. 66(1):16–23. https://doi.org/10.1093/jrr/rrae096 PMID:39699238

Stepanenko V, Sato H, Kaprin A, Fujimoto N, Kushugulova A, Ivanov S, et al. (2024). Internal radiation dose estimates in organs of Wistar rats exposed to sprayed neutron-activated $^{31}SiO_2$ microparticles: first results of international multicenter study. J Radiat Res. 65(6):744–51. https://doi.org/10.1093/jrr/rrae063 PMID:39388726

Stepanenko V, Shinkarev S, Kaprin A, Apsalikov K, Ivanov S, Shegay P, et al. (2024). Comparison of external dose estimates using different retrospective dosimetry methods in the settlements located near Semipalatinsk Nuclear Test Site, Republic of Kazakhstan. J Radiat Res. 65(1):36–46. https://doi.org/10.1093/jrr/rrad082 PMID:37981331

Stepanenko V, Shinkarev S, Lipikhina A, Apsalikov K, Kaprin A, Ivanov S, et al. (2025). External radiation dose reconstruction for settlements near the Semipalatinsk nuclear test site, Kazakhstan, in the international multicenter study: a detailed review and comparative analysis of the initial data. J Radiat Res. 66(5):496–508. https://doi.org/10.1093/jrr/rraf049 PMID:40884744

Stepanenko VF, Hoshi M, Zhumadilov KS, Ostroumova EV, Shinkarev SM, Kushugulova AR, et al. (2025). 80 years after the bombing of Hiroshima and Nagasaki: atomic tragedy. A brief analytical review of available archival documents and current research in the field of retrospective dosimetry. Radiat Risk. 34(3):116–30. https://doi.org/10.21870/0131-3878-2025-34-3-116-130

Stepien M, Duarte-Salles T, Fedirko V, Trichopoulou A, Lagiou P, Bamia C, et al. (2024). Correction to: Consumption of soft drinks and juices and risk of liver and biliary tract cancers in a European cohort. Eur J Nutr. 63(4):1389–91. https://doi.org/10.1007/s00394-024-03374-2 PMID:38630305

Steponaviciene R, Maceika E, Kesminiene A, Smailyte G (2024). Recent insights into trends of thyroid cancer incidence in Lithuanian population exposed to Chernobyl fallout early in life. Ecotoxicol Environ Saf. 283:116789. https://doi.org/10.1016/j.ecoenv.2024.116789 PMID:39067071

Stern MC, Sanchez Mendez J, Kim AE, Obón-Santacana M, Moratalla-Navarro F, Martín V, et al. (2024). Genome-wide gene-environment interaction analyses to understand the relationship between red meat and processed meat intake and colorectal cancer risk. Cancer Epidemiol Biomarkers Prev. 33(3):400–10. https://doi.org/10.1158/1055-9965.EPI-23-0717 PMID:38112776

Stier EA, Clarke MA, Deshmukh AA, Wentzensen N, Liu Y, Poynten IM, et al. (2024). International Anal Neoplasia Society's consensus guidelines for anal cancer screening. Int J Cancer. 154(10):1694–702. https://doi.org/10.1002/ijc.34850 PMID:38297406

Støer NC, Vangen S, Singh D, Fortner RT, Hofvind S, Ursin G, et al. (2024). Menopausal hormone therapy and breast cancer risk: a population-based cohort study of 1.3 million women in Norway. Br J Cancer. 131(1):126–37. https://doi.org/10.1038/s41416-024-02590-1 PMID:38740969

Støer NC, Vangen S, Singh D, Fortner RT, Hofvind S, Ursin G, et al. (2025). Correction: Menopausal hormone therapy and breast cancer risk: a population-based cohort study of 1.3 million women in Norway. Br J Cancer. 133(6):910–1. https://doi.org/10.1038/s41416-025-03038-w PMID:40835748

Stratton MR, Humphreys L, Alexandrov LB, Balmain A, Brennan P, Campbell PJ, et al. (2025). Implementing mutational epidemiology on a global scale: lessons from Mutographs. Cancer Discov. 15(1):22–7. https://doi.org/10.1158/2159-8290.CD-24-1687 PMID:39801236

Strømland PP, Bertelsen BE, Viste K, Chatziioannou AC, Bellerba F, Robinot N, et al. (2025). Effects of metformin on transcriptomic and metabolomic profiles in breast cancer survivors enrolled in the randomized placebo-controlled MetBreCS trial. Sci Rep. 15(1):16897. https://doi.org/10.1038/s41598-025-01705-9 PMID:40374694

Sun D, Mülder DT, Li Y, Nieboer D, Park JY, Suh M, et al. (2024). The effect of nation-wide organized cancer screening programs on gastric cancer mortality: a synthetic control study. Gastroenterology. 166(3):503–14. https://doi.org/10.1053/j.gastro.2023.11.286 PMID:38007053

Sun T, Chan G, Gravely S, Quah ACK, Meng G, Fong GT, et al. (2025). Knowledge and concerns about smoking-related health risks: a cross-sectional analysis of the 2021 International Tobacco Control Japan and Korea Surveys. Drug Alcohol Rev. 44(7):2127–37. https://doi.org/10.1111/dar.70043 PMID:41030098

Sung H, Siegel RL, Laversanne M, Jiang C, Morgan E, Zahwe M, et al. (2025). Colorectal cancer incidence trends in younger versus older adults: an analysis of population-based cancer registry data. Lancet Oncol. 26(1):51–63. https://doi.org/10.1016/S1470-2045(24)00600-4 PMID:39674189

Syleouni ME, Joshu CE, Coresh J, Gunter MJ, Butler KR, Couper DJ, et al. (2025). Discovering plasma proteins associated with breast cancer incidence in postmenopausal women in the Atherosclerosis Risk in Communities study. J Natl Cancer Inst. 117(10):2044–52. https://doi.org/10.1093/jnci/djaf170 PMID:40623012

Taghavi K, Moono M, Mwanahamuntu M, Roumet M, Limacher A, Kapesa H, et al. (2024). Accuracy of screening tests for cervical precancer in women living with HIV in low-resource settings: a paired prospective study in Lusaka, Zambia. BMJ Oncol. 3(1):e000111. https://doi.org/10.1136/bmjonc-2023-000111 PMID:39886160

Tang Z, Wang Y, Sarnat JA, Diver WR, Everson TM, Deubler E, et al. (2025). The associations of air pollution mixture exposure with plasma proteins in an elderly U.S. panel. Environ Sci Technol. 59(30):15692–704. https://doi.org/10.1021/acs.est.5c03052 PMID:40704984

Terry MB, English DR, Freudenheim JL, Lauby-Secretan B, Gapstur SM (2024). Alcohol cessation and breast cancer risk stratified by hormone receptor status. Breast Cancer Res. 26(1):179. https://doi.org/10.1186/s13058-024-01937-z PMID:39639353

Teshima A, Martínez C, Filippidis FT, Laverty AA, Vardavas CI, Feliu A, et al. (2025). Mapping indicators of tobacco and related product use: unveiling challenges and variations in the Eurobarometer surveys over three decades. Tob Induc Dis. 23(April):23. https://doi.org/10.18332/tid/202651 PMID:40241742

Thakral A, Lee JJ, Hou T, Hueniken K, Dudding T, Gormley M, et al. (2024). Smoking and alcohol by HPV status in head and neck cancer: a Mendelian randomization study. Nat Commun. 15(1):7835. https://doi.org/10.1038/s41467-024-51679-x PMID:39244563

Theeuwes B, Ambatipudi S, Herceg Z, Herzog CM, Widschwendter M (2025). Validation of blood-based detection of breast cancer highlights importance for cross-population validation. Nat Commun. 16(1):2164. https://doi.org/10.1038/s41467-025-57265-z PMID:40044645

Thomas CE, Georgeson P, Qu C, Steinfelder RS, Buchanan DD, Song M, et al. (2024). Epidemiologic factors in relation to colorectal cancer risk and survival by genotoxic colibactin mutational signature. Cancer Epidemiol Biomarkers Prev. 33(4):534–46. https://doi.org/10.1158/1055-9965.EPI-23-0600 PMID:38252034

Thomas CE, Lin Y, Kim M, Kawaguchi ES, Qu C, Um CY, et al. (2025). Characterization of additive gene-environment interactions for colorectal cancer risk. Epidemiology. 36(1):126–38. https://doi.org/10.1097/EDE.0000000000001795 PMID:39316822

Tian Y, Lin Y, Qu C, Arndt V, Baurley JW, Berndt SI, et al. (2024). Genetic risk impacts the association of menopausal hormone therapy with colorectal cancer risk. Br J Cancer. 130(10):1687–96. https://doi.org/10.1038/s41416-024-02638-2 PMID:38561434

Tietze A, Bison B, Engelhardt J, Fenouil T, Figarella-Branger D, Goebell E, et al.; European Society for Paediatric Oncology (SIOPE)-Brain Tumour Group (2025). CNS embryonal tumor with PLAGL amplification, a new tumor in children and adolescents: insights from a comprehensive MRI analysis. AJNR Am J Neuroradiol. 46(3):536–43. https://doi.org/10.3174/ajnr.A8496 PMID:39271290

Timmins IR, Jones ME, O'Brien KM, Adami HO, Aune D, Baglietto L, et al. (2024). International pooled analysis of leisure-time physical activity and premenopausal breast cancer in women from 19 cohorts. J Clin Oncol. 42(8): 927–39. https://doi.org/10.1200/JCO.23.01101 PMID:38079601

Tin Tin S, Smith-Byrne K, Ferrari P, Rinaldi S, McCullough ML, Teras LR, et al. (2024). Alcohol intake and endogenous sex hormones in women: meta-analysis of cohort studies and Mendelian randomization. Cancer. 130(19): 3375–86. https://doi.org/10.1002/cncr.35391 PMID:38824654

Togawa K, Tabuchi T, Katanoda K (2025). Longitudinal impact of tobacco advertising, promotion and sponsorship on perceptions of harmfulness of tobacco and uptake of heated tobacco products in Japan: findings from the JASTIS study. Tob Control. tc-2024-058909. https://doi.org/10.1136/tc-2024-058909 PMID:40461121

Tolani MA, Palaniraja S, Babandi ZS, Gimba DM, Ahmed M, Basu P (2025). Prostate cancer in Nigeria: a scoping review and meta-analysis of current evidence on process indicators and interventions. Eur J Surg Oncol. 51(11):110413. https://doi.org/10.1016/j.ejso.2025.110413 PMID:40997725

Tong TYN, Clarke R, Schmidt JA, Huybrechts I, Noor U, Forouhi NG, et al. (2024). Dietary amino acids and risk of stroke subtypes: a prospective analysis of 356,000 participants in seven European countries. Eur J Nutr. 63(1):209–20. https://doi.org/10.1007/s00394-023-03251-4 PMID:37804448

Torrens L, Moody S, de Carvalho AC, Kazachkova M, Abedi-Ardekani B, Cheema S, et al. (2025). The complexity of tobacco smoke-induced mutagenesis in head and neck cancer. Nat Genet. 57(4):884–96. https://doi.org/10.1038/s41588-025-02134-0 PMID:40164736

Traini E, Smith RB, Vermeulen R, Kromhout H, Schüz J, Feychting M, et al. (2024). Headache in the international cohort study of mobile phone use and health (COSMOS) in the Netherlands and the United Kingdom. Environ Res. 248:118290. https://doi.org/10.1016/j.envres.2024.118290 PMID:38280529

Tran TV, Schonfeld SJ, Pasqual E, Haymart MR, Morton LM, Kitahara CM (2024). All-cause and cause-specific mortality among low-risk differentiated thyroid cancer survivors in the United States. Thyroid. 34(2):215–24. https://doi.org/10.1089/thy.2023.0449 PMID:38149602

Trias-Llimós S, Rentería E, Rutigliano R, Aggarwal A, Moodley J, Unger-Saldaña K, et al. (2024). Deciphering the sex gap in global life expectancy: the impact of female-specific cancers 1990–2019. J Natl Cancer Inst. 116(12): 1934–41. https://doi.org/10.1093/jnci/djae191 PMID:39141445

Trischitta P, Tamburello MP, Venuti A, Pennisi R (2024). Pseudovirus-based systems for screening natural antiviral agents: a comprehensive review. Int J Mol Sci. 25(10):5188. https://doi.org/10.3390/ijms25105188 PMID:38791226

Tschiderer L, Peters SAE, van der Schouw YT, Burgess S, Luijken J, Bijmolt C, et al. (2025). Reassessing the association between age at menarche and cardiovascular disease: observational and Mendelian randomization analyses. Eur J Prev Cardiol. 32(10): 857–66. https://doi.org/10.1093/eurjpc/zwaf051 PMID:40099743

Tsilidis KK, Markozannes G, Becerra-Tomás N, Cariolou M, Balducci K, Vieira R, et al. (2024). Post-diagnosis adiposity, physical activity, sedentary behaviour, dietary factors, supplement use and colorectal cancer prognosis: Global Cancer Update Programme (CUP Global) summary of evidence grading. Int J Cancer. 155(3):471–85. https://doi.org/10.1002/ijc.34904 PMID:38692587

Turner MC, Basagaña X, Albin M, Broberg K, Burdorf A, van Daalen KR, et al. (2025). Occupational health in the era of climate change and the green transition: a call for research. Lancet Reg Health Eur. 54:101353. https://doi.org/10.1016/j.lanepe.2025.101353 PMID:40613104

Turner MC, Godderis L, Guénel P, Hopf N, Quintanilla-Vega B, Soares-Lima SC, et al. (2024). Carcinogenicity of automotive gasoline and some oxygenated gasoline additives. Lancet Oncol. 26(5):548–9. https://doi.org/10.1016/S1470-2045(25)00165-2 PMID:40127668

Turner MC, Straif K, Kogevinas M, Schubauer-Berigan MK (2024). Five decades of occupational cancer epidemiology. Scand J Work Environ Health. 50(7):489–502. https://doi.org/10.5271/sjweh.4190 PMID:39311490

Turuban M, Kromhout H, Vila J, Vallbona-Vistós M, De Vocht F, Baldi I, et al. (2025). Occupational exposure to radiofrequency electromagnetic fields and brain tumor risk: application of the INTEROCC job-exposure matrix. Int J Cancer. 156(3):538–51. https://doi.org/10.1002/ijc.35182 PMID:39301814

Uusküla A, Tisler A, DeHovitz J, Murenzi G, Castle PE, Clifford G (2025). Prevention and control of HPV-related cancers in people living with HIV. Lancet HIV. 12(4):e293–302. https://doi.org/10.1016/S2352-3018(25)00011-6 PMID:40086453

Vaccarella S, Li M, Bray F, Kvale R, Serraino D, Lorenzoni V, et al. (2024). Prostate cancer incidence and mortality in Europe and implications for screening activities: population based study. BMJ. 386:e077738. https://doi.org/10.1136/bmj-2023-077738 PMID:39231588

Valbuena-Garcia AM, Trujillo-Cáceres SJ, Hernández Vargas JA, Diaz S, Acuña L, Perdomo S, et al. (2025). Quality of care in Colombian women with early-onset breast cancer in two time periods: findings from a nationwide administrative registry cohort. Lancet Reg Health Am. 43:101018. https://doi.org/10.1016/j.lana.2025.101018 PMID:40171140

Van Eycken LJ, Giannopoulos E, Tittenbrun Z, Piñeros M, Mery L, Rahal R, et al. (2025). Future of population-based cancer registries: a global perspective – a survey of population-based cancer registries. Int J Cancer. 157(8):1566–76. https://doi.org/10.1002/ijc.35516 PMID:40490886

Van Poppel H, Roobol MJ, Venderbos LD, Basu P, Chandran A, van den Bergh R, et al.; PRAISE-U Consortium (2024). Implications of EU Council Recommendations on Prostate Cancer Screening. Belg J Med Oncol. 18(3): 82–8.

van Zutphen M, Verkaar AJCF, van Duijnhoven FJB, Voortman T, Baskin ML, Chowdhury R, et al. (2025). Early-life anthropometry and colorectal cancer risk in adulthood: Global Cancer Update Programme (CUP Global) systematic literature review and meta-analysis of prospective studies. Int J Cancer. 157(6):1094–109. https://doi.org/10.1002/ijc.35461 PMID:40432531

Vasson F, Matta K, Biessy C, S Antoniussen C, Fournier A, Marques C, et al. (2025). Lifestyle changes and postmenopausal breast cancer risk in women from the European Prospective Investigation into Cancer and Nutrition. Breast Cancer Res. 27(1):192. https://doi.org/10.1186/s13058-025-02148-w PMID:41163053

Velasquez-Herrera T, Valverde P, Fuentes S, Peña A, Ortiz R, Calderon P, et al. (2025). Second generation of AHOPCA (Asociación de Hemato-Oncología Pediátrica de Centro América) treatment guidelines for Wilms tumor: a report of outcomes. Pediatr Blood Cancer. e32148. https://doi.org/10.1002/pbc.32148 PMID:41199505

Viallon V, Freisling H, Matta K, Nannsen AØ, Dahm CC, Tjønneland A, et al. (2024). On the use of the healthy lifestyle index to investigate specific disease outcomes. Sci Rep. 14(1):16330. https://doi.org/10.1038/s41598-024-66772-w PMID:39009699

Vicente ALSA, de Souza Santos FA, Hirai WY, Lissa D, de Oliveira Cavagna R, da Silva ALV, et al. (2025). HOXA9 methylation is not associated with survival in Brazilian patients with lung adenocarcinoma. Clin Epigenetics. 17(1):25. https://doi.org/10.1186/s13148-025-01831-1 PMID:39962529

Vijayraghavan S, Blouin T, McCollum J, Porcher L, Virard F, Zavadil J, et al. (2024). Widespread mutagenesis and chromosomal instability shape somatic genomes in systemic sclerosis. Nat Commun. 15(1):8889. https://doi.org/10.1038/s41467-024-53332-z PMID:39406724

Villain P, Downham L, Le Bonniec A, Bauquier C, Mandrik O, Nadarzynski T, et al. (2025). Impact of online interactive decision tools on women's decision-making regarding breast cancer screening: systematic review and meta-analysis. J Med Internet Res. 27:e65974. https://doi.org/10.2196/65974 PMID:39879616

Villiers CB, Plans-Beriso E, Erady C, Blackburn L, Wilson H, Turner H, et al. (2025). Biomarkers for personalised primary or secondary prevention in cardiovascular diseases: a rapid scoping review. Int J Mol Sci. 26(19):9346. https://doi.org/10.3390/ijms26199346 PMID:41096615

Von Holle A, Adami HO, Baglietto L, Berrington de Gonzalez A, Bertrand KA, Blot W, et al. (2024). BMI and breast cancer risk around age at menopause. Cancer Epidemiol. 89:102545. https://doi.org/10.1016/j.canep.2024.102545 PMID:38377945

Vynckier P, Annemans L, Raes S, Amrouch C, Lindgren P, Májek O, et al.; Members of the PRAISE-U Consortium (2024). Systematic review on the cost effectiveness of prostate cancer screening in Europe. Eur Urol. 86(5):400–8. https://doi.org/10.1016/j.eururo.2024.04.036 PMID:38789306

Wan W, Peters S, Portengen L, Olsson A, Schüz J, Ahrens W, et al. (2024). Occupational benzene exposure and lung cancer risk: a pooled analysis of 14 case-control studies. Am J Respir Crit Care Med. 209(2):185–96. https://doi.org/10.1164/rccm.202306-0942OC PMID:37812782

Wang S, Zheng R, Li J, Zeng H, Li L, Chen R, et al. (2024a). Global, regional, and national lifetime risks of developing and dying from gastrointestinal cancers in 185 countries: a population-based systematic analysis of GLOBOCAN. Lancet Gastroenterol Hepatol. 9(3):229–37. https://doi.org/10.1016/S2468-1253(23)00366-7 PMID:38185129

Wang SE, Tan VY, Yarmolinsky J, Zheng Y, O'Mara TA, Timpson NJ, et al. (2025). The effect of circulating proteins and their role in mediating adiposity's effect on endometrial cancer risk: Mendelian randomisation and colocalization analyses. Cancer Epidemiol Biomarkers Prev. 34(9):1534–43. https://doi.org/10.1158/1055-9965.EPI-25-0165 PMID:40553479

Wang SE, Viallon V, Lee M, Dimou N, Hamilton F, Biessy C, et al. (2024b). Circulating inflammatory and immune response proteins and endometrial cancer risk: a nested case-control study and Mendelian randomization analyses. EBioMedicine. 108:105341. https://doi.org/10.1016/j.ebiom.2024.105341 PMID:39278107

Wang X, Zhang Z, Ding Y, Chen T, Mucci L, Albanes D, et al. (2024). Impact of individual level uncertainty of lung cancer polygenic risk score (PRS) on risk stratification. Genome Med. 16(1):22. https://doi.org/10.1186/s13073-024-01298-4 PMID:38317189

Warnakulasuriya S, Filho AMM (2025). Oral cancer in the South and South-East Asia region, 2022: incidence and mortality. Oral Dis. 31(5):1398–405. https://doi.org/10.1111/odi.15369 PMID:40364456

Watts EL, Gonzales TI, Strain T, Saint-Maurice PF, Bishop DT, Chanock SJ, et al.; PRACTICAL consortium, CRUK, BPC3, CAPS, PEGASUS (2024). Observational and genetic associations between cardiorespiratory fitness and cancer: a UK Biobank and international consortia study. Br J Cancer. 130(1):114–24. https://doi.org/10.1038/s41416-023-02489-3 PMID:38057395

Wéber A, Bray F, Árvai M, Hilbert L, Kelemen D, Nagy P, et al. (2025). Half a century of cancer transition in Hungary: a visualization and assessment of mortality dynamics in the Lexis diagram, 1970–2020. Cancer Epidemiol. 99:102925. https://doi.org/10.1016/j.canep.2025.102925 PMID:40939417

Wéber A, Vignat J, Shah R, Morgan E, Laversanne M, Nagy P, et al. (2024). Global burden of bladder cancer mortality in 2020 and 2040 according to GLOBOCAN estimates. World J Urol. 42(1):237. https://doi.org/10.1007/s00345-024-04949-8 PMID:38625417

Wei F, Georges D, Man I, Baussano I, Clifford GM (2024). Causal attribution of human papillomavirus genotypes to invasive cervical cancer worldwide: a systematic analysis of the global literature. Lancet. 404(10451):435–44. https://doi.org/10.1016/S0140-6736(24)01097-3 PMID:39097395

Welch O, Hefteh N, Sheikh M, La Caze A, Parat MO (2025). Effects of opioids on tumour growth and metastasis in animal models: a systematic review. Br J Anaesth. 134(6):1784–93. https://doi.org/10.1016/j.bja.2025.02.030 PMID:40140289

Werr L, Bartenhagen C, Rosswog C, Cartolano M, Voegele C, Sexton-Oates A, et al.; Lung NEN Network (2025). *TERT* expression and clinical outcome in pulmonary carcinoids. J Clin Oncol. 43(2):214–25. https://doi.org/10.1200/JCO.23.02708 PMID:39348606

Wesselink E, Gauderman W, Berndt SI, Brenner H, Buchanan DD, Campbell PT, et al. (2024). Calcium intake and genetic variants in the calcium sensing receptor in relation to colorectal cancer mortality: an international consortium study of 18,952 patients. BJC Rep. 2(1):63. https://doi.org/10.1038/s44276-024-00077-3 PMID:39233917

Whitham L, Sheikh M, Hollmann MW, Parat MO (2024). The comparative effect of morphine on proliferation of cancer cell lines originating from different organs: an in vitro study. Pharmaceuticals (Basel). 17(12):1656. https://doi.org/10.3390/ph17121656 PMID:39770497

Whitworth HS, Mounier-Jack S, Choi EM, Gallagher KE, Howard N, Kelly H, et al. (2024). Efficacy and immunogenicity of a single dose of human papillomavirus vaccine compared to multidose vaccination regimens or no vaccination: an updated systematic review of evidence from clinical trials. Vaccine X. 19:100486. https://doi.org/10.1016/j.jvacx.2024.100486 PMID:38873638

Winter TD, Jahagirdar O, Johansson M, Brennan P, Machiela MJ, Chanock SJ, et al.; Renal Cancer Genetics Consortium (2025). Using Mendelian randomization to investigate etiologic heterogeneity across renal cell carcinoma subtypes. Int J Epidemiol. 54(6):dyaf177. https://doi.org/10.1093/ije/dyaf177 PMID:41170685

Wong CJW, Md Nasir ND, Koh VCY, Campbell F, Fox S, Lakhani SR, et al. (2024). Mapping the cited evidence of ductal carcinoma in situ from the 5th edition of the World Health Organisation classification of tumours of the breast. Histopathology. 85(3):510–20. https://doi.org/10.1111/his.15279 PMID:39030792

Wu T, Lucas E, Zhao F, Basu P, Qiao Y (2024). Artificial intelligence strengthens cervical cancer screening – present and future. Cancer Biol Med. 21(10):864–79. https://doi.org/10.20892/j.issn.2095-3941.2024.0198 PMID:39297572

Xie M, Song Y, Tao J, Jiang M, Liu Y, Cheong IH, et al. (2025). Global trends, age-period-cohort analysis, and future projections of diarrhea burden: findings from the Global Burden of Disease Study 2021. Biosaf Health. 7(5):295–305. https://doi.org/10.1016/j.bsheal.2025.09.005 PMID:41262457

Xu M, Ho V, Lavoué J, Olsson A, Schüz J, Richardson L, et al. (2024). Prevalent occupational exposures and risk of lung cancer among women: results from the application of the Canadian Job-Exposure Matrix (CANJEM) to a combined set of ten case-control studies. Am J Ind Med. 67(3):200–13. https://doi.org/10.1002/ajim.23562 PMID:38192156

Xu W, Gaborieau V, Niman SM, Mukeria A, Liu X, Maremanda KP, et al. (2024). Plasma kidney injury molecule-1 for preoperative prediction of renal cell carcinoma versus benign renal masses, and association with clinical outcomes. J Clin Oncol. 42(22):2691–701. https://doi.org/10.1200/JCO.23.00699 PMID:38701382

Xu Y, Zhu S, Xia C, Yu H, Shi S, Chen K, et al. (2025). Liquid biopsy-based multi-cancer early detection: an exploration road from evidence to implementation. Sci Bull (Beijing). 70(17):2852–67. https://doi.org/10.1016/j.scib.2025.06.030 PMID:40670203

Yadegar A, Dalvand S, Sharafkhah M, Sepanlou SG, Poustchi H, Roshandel G, et al. (2025). Association between prediagnostic risk factors and survival after colorectal cancer diagnosis in Golestan cohort study. Sci Rep. 15(1):17621. https://doi.org/10.1038/s41598-025-02674-9 PMID:40399474

Yang JJ, Wen W, Zahed H, Zheng W, Lan Q, Abe SK, et al. (2024). Lung cancer risk prediction models for Asian ever-smokers. J Thorac Oncol. 19(3):451–64. https://doi.org/10.1016/j.jtho.2023.11.002 PMID:37944700

Yang R, Kwan W, Du Y, Yan R, Zang L, Li C, et al. (2024). Drug-induced senescence by aurora kinase inhibitors attenuates innate immune response of macrophages on gastric cancer organoids. Cancer Lett. 598:217106. https://doi.org/10.1016/j.canlet.2024.217106 PMID:38992487

Yang R, Kwan W, Du Y, Yan R, Zang L, Li C, et al. (2024). Corrigendum to “Drug-induced senescence by aurora kinase inhibitors attenuates innate immune response of macrophages on gastric cancer organoids” [Cancer Lett. 598 (2024) 217106]. [Erratum for: Cancer Lett. 598 (2024) 217106]. Cancer Lett. 598:217127. https://doi.org/10.1016/j.canlet.2024.217127 PMID:39084933

Yang R, Qi Y, Kwan W, Du Y, Yan R, Zang L, et al. (2024a). Paired organoids from primary gastric cancer and lymphatic metastasis are useful for personalized medicine. J Transl Med. 22(1):754. https://doi.org/10.1186/s12967-024-05512-0 PMID:39135062

Yang SL, Togawa K, Gilmour S, Leon ME, Soerjomataram I, Katanoda K (2024). Projecting the impact of implementation of WHO MPOWER measures on smoking prevalence and mortality in Japan. Tob Control. 33(3):295–301. https://doi.org/10.1136/tc-2022-057262 PMID:36100264

Yano Y, Abnet CC, Roshandel G, Graf A, Poustchi H, Khoshnia M, et al. (2024). Dental health and lung cancer risk in the Golestan Cohort Study. BMC Cancer. 24(1):74. https://doi.org/10.1186/s12885-024-11850-5 PMID:38218793

Yarmolinsky J, Gunter MJO (2025). GLP-1 receptor agonists: an emerging tool for obesity-related cancer prevention? J Natl Cancer Inst. 117(10):1966–9. https://doi.org/10.1093/jnci/djaf212 PMID:40901707

Yarmolinsky J, Lee MA, Lau E, Moratalla-Navarro F, Vincent EE, Li-Gao R, et al. (2025). Proteogenomic and observational evidence implicate ANGPTL4 as a potential therapeutic target for colorectal cancer prevention. J Natl Cancer Inst. 117(9):1836–47. https://doi.org/10.1093/jnci/djaf137 PMID:40511612

Yarmolinsky J, Robinson JW, Mariosa D, Karhunen V, Huang J, Dimou N, et al.; International Lung Cancer Consortium; PRACTICAL Consortium (2024). Association between circulating inflammatory markers and adult cancer risk: a Mendelian randomization analysis. EBioMedicine. 100:104991. https://doi.org/10.1016/j.ebiom.2024.104991 PMID:38301482

Yazdanpanah MH, Sharafkhah M, Poustchi H, Etemadi A, Sheikh M, Kamangar F, et al. (2024). Mineral intake and cardiovascular disease, cancer, and all-cause mortality: findings from the Golestan Cohort Study. Nutrients. 16(3):23. https://doi.org/10.3390/nu16030344 PMID:38337629

Young CD, Katki HA, Cheung LC, Rivera MP, Robbins HA, Aldrich MC, et al. (2025). Individual- and group-level disparities between racial and ethnic groups in lung cancer screening eligibility criteria. JAMA Netw Open. 8(3):e252172. https://doi.org/10.1001/jamanetworkopen.2025.2172 PMID:40146107

Yu J, Cheong IH, Kozlakidis Z, Wang H (2025). Advancements and challenges of artificial intelligence in dermatology: a review of applications and perspectives in China. Front Digit Health. 7:1544520. https://doi.org/10.3389/fdgth.2025.1544520 PMID:40881732

Zahed H, Feng X, Sheikh M, Bray F, Ferlay J, Ginsburg O, et al. (2024). Age at diagnosis for lung, colon, breast and prostate cancers: an international comparative study. Int J Cancer. 154(1):28–40. https://doi.org/10.1002/ijc.34671 PMID:37615573

Zahm S, Bonde JP, Chiu WA, Hoppin J, Kanno J, Abdallah M, et al. (2024). Carcinogenicity of perfluorooctanoic acid and perfluorooctanesulfonic acid. Lancet Oncol. 25(1):16–7. https://doi.org/10.1016/S1470-2045(23)00622-8 PMID:38043561

Zahwe M, Bendahhou K, Eser S, Mukherji D, Fouad H, Fadhil I, et al. (2025). Current and future burden of female breast cancer in the Middle East and North Africa region using estimates from GLOBOCAN 2022. Int J Cancer. 156(12):2320–9. https://doi.org/10.1002/ijc.35325 PMID:39791948

Zeng Y, Luo CL, Lin GW, Li F, Bai X, Ko JM, et al. (2025). Whole-exome sequencing association study reveals genetic effects on tumor microenvironment components in nasopharyngeal carcinoma. J Clin Invest. 135(1): e182768. https://doi.org/10.1172/JCI182768 PMID:39744943

Zhang Y, Khil J, Feng X, Ugai T, Ogino S, Giovannucci E (2024). Risk of colorectal cancer and adenoma after an appendectomy: results from three large prospective cohort studies and meta-analysis. Cancer Causes Control. 35(11):1457–66. https://doi.org/10.1007/s10552-024-01901-4 PMID:39066935

Zhao X, Yang M, Fan J, Wang M, Wang Y, Qin N, et al. (2024). Identification of genetically predicted DNA methylation markers associated with non-small cell lung cancer risk among 34,964 cases and 448,579 controls. Cancer. 130(6):913–26. https://doi.org/10.1002/cncr.35130 PMID:38055287

Zheng JS, Steur M, Imamura F, Freisling H, Johnson L, van der Schouw YT, et al. (2024). Dietary intake of plant- and animal-derived protein and incident cardiovascular diseases: the pan-European EPIC-CVD case-cohort study. Am J Clin Nutr. 119(5):1164–74. https://doi.org/10.1016/j.ajcnut.2024.03.006 PMID:38479550

Zhivagui M, Zavadil J (2024). Mutational signatures in cancer genomics and toxicology. In: Comprehensive toxicology. 4th ed. Reference module in biomedical sciences. Elsevier; pp. 82–105. https://10.0.3.248/B978-0-323-95488-4.00216-3

Znaor A, Eser S, Bendahhou K, Shelpai W, Al Lawati N, ELBasmi A, et al. (2024). Stage at diagnosis of colorectal cancer in the Middle East and Northern Africa: a population-based cancer registry study. Int J Cancer. 155(1):54–60. https://doi.org/10.1002/ijc.34895 PMID:38456478

Znaor A, Fouad H, Zahwe M, Eser S, Fadhil I, Soerjomataram I, et al. (2025). Cancer surveillance in the Eastern Mediterranean region: a 10-year International Agency for Research on Cancer-WHO Regional Office for the Eastern Mediterranean collaboration. Lancet Oncol. 26(3):e131–9. https://doi.org/10.1016/S1470-2045(24)00624-7 PMID:40049204

Zulian V, Pauciullo S, Colombo D, McKay-Chopin S, Sias C, Del Nonno F, et al. (2025). Co-infection patterns of beta, gamma, and alpha HPV types in cervical and anal sites in HIV-positive women. J Med Virol. 97(8):e70518. https://doi.org/10.1002/jmv.70518 PMID:40708384

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