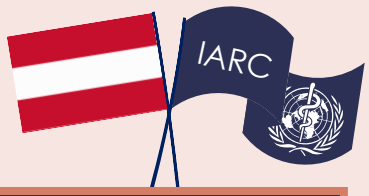
IARC Impact in practice series
The Austria experience



***"This is money well spent on a globally unique institution doing work that national plans could not replace."* – Prof Eva Schernhammer, Medical University of Vienna**

Since becoming an IARC Participating State in 2008, Austria has used IARC as a strategic interface between national priorities and the evidence and standards that increasingly shape cancer prevention and control in Europe. The partnership complements Austria's strengths in nutrition research, biobanking and specialised oncology by connecting Austrian institutions to large multicountry datasets, EU implementation frameworks, and independent risk evaluations that are routinely used in regulation and prevention policy.

Why IARC membership made the difference for Austria:

- **Better leverage of international science for Austrian priorities:** Over the past decade, Austrian researchers have co-authored around 235 publications with IARC, with a median of 33 institutions per paper compared with 7 for other Austrian oncology papers without IARC Collaboration is concentrated in high-impact, data-intensive areas such as genome-wide association studies, nutrition and obesity, metabolomics, metabolic syndrome, and paediatric cancer aetiology and survivorship.
- **Independent evidence used in Austrian public decisions:** IARC evaluations and burden studies appear in Austrian parliamentary material and Umweltbundesamt technical work, supporting risk framing on issues with regulatory consequences, such as carcinogen assessment, interpretation of carcinogenic pollutants in environmental monitoring, and prevention planning for infection-related cancers including HPV vaccination strategies.
- **European implementation tools**: Through IARC-linked EU work, Austrian authorities gain access to shared monitoring indicators, quality-assurance approaches, and practical implementation tools that help align Austrian screening and prevention policy with evolving EU standards, while ensuring Austrian experience is reflected in the methods that will be used for benchmarking across Participating States.
- **National capacity that remains in Austria:** Austria has a long record of engaging with IARC training. In practice, this builds Austrian capacity in large-cohort methods, harmonised data work, and modern epidemiology, skills that are increasingly essential for prevention policy, health-system planning, and participation in European research infrastructures.

Part I. Scientific leadership through international collaboration

EExceptional intensity and depth of collaboration

Austria's partnership with IARC is built around highly networked, data-intensive research. Over the past decade, Austrian researchers have co-authored **235 publications with IARC**[1], embedded in large international consortia. The scale of integration is particularly striking: Austria–IARC publications involve a median of **33 institutions per paper**, compared with **7 institutions** for Austrian oncology publications without IARC participation. Overall, these collaborations span **1,989 institutions across 175 countries**.

Cancer in Austria: a high-income burden with scope for prevention

Based on recent GLOBOCAN estimates, cancer remains a major public health challenge in Austria, with around **51,000 new cases** and **22,000 deaths** each year. Austria's cancer burden is typical of a high-income Western European country, shaped by population ageing and continued exposure to modifiable risk factors such as tobacco, alcohol, excess body weight and physical inactivity. Lung, breast, prostate and colorectal cancers account for a large share of cases and deaths, and although outcomes have improved with strong health services and organised screening, there is still important scope for further prevention and earlier diagnosis.

[1] Data derived from Web of Science records of IARC–Austria co-authored papers published between January 2016 and January 2026.

Micro-topic analysis shows that Austria–IARC outputs are strongly concentrated in high-impact, data-intensive fields, led by:

- **Genome-wide association studies (GWAS)** and genomic susceptibility research
- **Nutrition an d obesity**, including metabolic risk and diet-related exposures
- **Metabolomics** and molecular epidemiology
- **Metabolic syndrome** and related cardiometabolic pathways
- **Heme oxygenase pathways** and oxidative-stress biology
- **Genetic testing** and biomarker-oriented research
- **Colonoscopy** and colorectal cancer early detection
- **Advanced glycation end products (AGEs)** and **antioxidant activity** as mechanistic dietary pathways
- **Childhood cancer survivorship** and long-term outcomes

This profile indicates a partnership centred on large cohorts, harmonised biobanks, and pooled international datasets, areas where multinational coordination is essential to achieve statistical power and generate robust, policy-relevant evidence. Austria's strengths in nutritional science and its links to European research infrastructures position it as a valued contributor to these platforms.

Box #2: Vienna–IARC partnership on diet, obesity and multimorbidity

For nearly two decades, collaboration between IARC and the Department of Nutritional Sciences at the University of Vienna has built a shared research platform on diet, obesity and cancer. The partnership began with work on **bilirubin, body weight and cancer risk**, and has since expanded to investigate how dietary patterns and metabolic health shape the joint risk of cancer and cardiometabolic diseases.

Through IARC, Austrian researchers are fully integrated into large international cohorts such as **EPIC** and **UK Biobank**, giving them access to sample sizes and follow-up that are not achievable with national data alone. Joint Vienna–IARC studies have examined plant-based dietary patterns, ultra-processed foods, **metabolic syndrome**, advanced glycation end products, and related biomarkers, often combining detailed dietary assessment with **metabolomics and genome-wide association studies**.

The collaboration also serves as a training platform. Several PhD students from Vienna have been co-supervised at IARC, gaining experience in analysing complex cohort data and in state-of-the-art nutritional and molecular epidemiology, and then applying these skills within Austrian institutions. Together, these projects provide a coherent evidence base on which specific dietary components and metabolic pathways are most relevant for cancer prevention, and how they intersect with cardiovascular and diabetes risk, information that can support future updates of dietary guidelines and integrated NCD prevention strategies in Austria and across Europe.

➔ **Leadership in European and global research infrastructure**

> *"In my view, what countries get in return is substantial; when the cost is shared across countries, the contribution for each one is relatively small."*
>
> Prof Eva Schernhammer, Medical University of Vienna

Through IARC, Austrian institutions participate in and help shape major European and international research infrastructures that generate evidence directly informing cancer prevention, screening, and risk-assessment policies. Examples from the past decade include:

- **Large European cohort platforms (including EPIC-based analyses) –** where Austrian researchers, through IARC-led coordination, contribute to and analyse harmonised data on diet, obesity, metabolic health and cancer, including high-profile work on plant-based diets and multimorbidity, ultra-processed foods, and advanced glycation endproducts (AGEs). These studies rely on pooled cohorts at a scale that Austria could not assemble nationally.
- **BBMRI-ERIC and Mission Cancer infrastructures –** with Austria hosting BBMRI-ERIC and IARC acting as a core scientific and ethics partner in Mission-Cancer work. This collaboration supports interoperable biobanking and cohort infrastructures and strengthens shared governance approaches, notably through projects such as PERFORMANCe (public engagement and ELSI), canSERV (access to cutting-edge cancer research services), and INTEGRATE (concepts for sustainable cohort infrastructures).
- **ARICE (Twinning for the Armenian Research Infrastructure on Cancer Research)** – a twinning initiative emerging from the IARC–BBMRI-ERIC ecosystem, where Austrian institutions and IARC jointly support the development of biobanking, pathology and genomic infrastructure and associated governance models, extending compatible research standards into the wider European neighbourhood.
- **International Childhood Cancer Cohort Consortium (I4C) fetal exposome project** – an IARC-coordinated programme using prospective birth cohorts and cord-blood omics to identify prenatal determinants of childhood cancer, linking Austrian expertise to harmonised international designs.

- **Paediatric high-grade glioma precision-medicine platform** – IARC-linked projects integrating single-cell epigenomics, transcriptomics and functional screening approaches, connecting Austrian paediatric oncology and pathology groups to larger international networks working on therapeutic targets and biomarkers.
- **EUCanScreen – Joint Action on the new EU Cancer Screening Scheme** – where IARC contributes scientific leadership and Austrian authorities participate as partners, strengthening access to shared indicators, quality assurance approaches and implementation tools for screening programmes.

> *"Austria doesn't have national cohorts at the scale of EPIC. Working with IARC connects us to those large, harmonised datasets and that changes what we can do scientifically."*
>
> Dr Heinz Freisling
> IARC Liaison Officer
> for Austria

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➔ Shaping the global cancer research agenda and standards

Austrian experts and diplomats help steer IARC's direction. Through seats on the **Scientific Council and Governing Council**, and active involvement in developing the Medium-Term Strategy (MTS), Austria contributes directly to setting IARC's research and capacity-building priorities. This high-level engagement is a form of **soft power**. By shaping IARC's work programme, Austria brings national and regional realities into global decision-making while gaining early insight into emerging priorities, methods, and partnership opportunities, aligning its own cancer plans and investments with cutting-edge international evidence.

Austria also play a central role in developing widely respected **international evidence frameworks and classification standards** that shape global cancer science, prevention, and regulation. During the 2020-2025 cycle, 3 Austrian experts have contributed to the IARC's flagship evaluations, including:

- **IARC Monographs Volume 134:** Aspartame, methyleugenol, and isoeugenol
- **World Health Organization Classification of Tumours (Blue Books) 5th and 6th editions:** Editorial board and expert contributions supporting tumour classification standards, diagnostic criteria, and reporting systems across multiple organ systems.

Box #3: GloboDiet Austria: turning international methodology into a national policy tool

"The GloboDiet adaptation is still used in Austria today. It's now run locally, but it was built with IARC's expertise so the capacity stays in Austria." Dr Heinz Freisling, IARC Liasion Officer for Austria

Good prevention policy depends on knowing what people actually eat. Without reliable and comparable dietary data, it is difficult to target obesity prevention, monitor cancer-related risk factors, or assess whether national nutrition policies are working.

Austria was an early adopter of **GloboDiet**, IARC's harmonised, computer-assisted method for 24-hour dietary recall surveys. In collaboration with IARC, Austrian public-health authorities and researchers at the **University of Vienna** adapted the system to Austrian foods, recipes and portion sizes, creating a national tool for the **Austrian National Nutrition Survey**.

IARC's contribution went well beyond a software transfer. It included the methodological framework, technical adaptation, training, and integration into the wider **GloboDiet-Europe** network, ensuring that Austrian data would be both nationally relevant and internationally comparable.
The result is a lasting national asset. The Austrian GloboDiet system is still in use today and is now managed locally by Austrian teams. It provides:

- **high-quality, nationally representative data** on diet and nutrient intake;
- a stronger evidence base for **dietary guidelines, obesity prevention, and cancer-related risk reduction**;
- **comparability with other European countries**, allowing Austria to benchmark trends and contribute to international analyses of diet and cancer risk.

Part II. From evidence to action: IARC's impact on national Public Health

➔ Evidence that informs national regulation and prevention policy

In Austria, IARC evidence feeds into regulatory debates, technical risk assessments, and prevention strategies. An Overton analysis of Austrian public-sector documents (2005-2026) shows that IARC research is cited across parliamentary material, environmental and chemical-risk assessments, and public-health planning documents. Across these documents, IARC outputs are used in three quite concrete ways:

- **Carcinogen classification for contentious substances:** Parliamentary briefing notes and committee background papers on **glyphosate** and other pesticides draw directly on the IARC Monograph evaluation that classified glyphosate as "probably carcinogenic to humans", with evidence of increased risk of non-Hodgkin

lymphoma in exposed populations. IARC's independent hazard classification is used to frame Austria's position in EU-level debates on renewal of authorisations and to justify precautionary language in national risk-management discussions.

- **Environmental monitoring and chemical risk assessment:** Technical reports from **Umweltbundesamt** on **polycyclic aromatic hydrocarbons (PAHs)** and other persistent pollutants in soil, sediments, and moss biomonitoring cite IARC evaluations and experimental work linking PAH mixtures to lung and other cancers. In practice, IARC's reviews are used to:
  - explain why PAHs are treated as priority carcinogens in Austrian environmental monitoring;
  - justify the choice of indicators and reference values in surveillance of contaminants (e.g. in Danube sediments and atmospheric deposition);
  - support communication to local and regional authorities on the health rationale for reducing emissions.
- **Infection-related cancers and vaccination:** Parliamentary documents discussing EU Council Recommendations on vaccine-preventable diseases refer to IARC-led global estimates of the burden of **infection-attributable cancers**. These figures are used to underline the role of HPV and hepatitis B vaccination in preventing future cancer cases, and to position Austria's immunisation strategy within a broader European effort to reduce infection-related cancers.

> ***"IARC publications are often cited as evidence because they draw on a very large body of data, as well as unique databases established across many countries."***
>
> **Prof Eva Schernhammer, Medical University of Vienna**

➔ A European multiplier for evidence-based cancer policy

Across the European Union, IARC acts as a **multiplier of national efforts**, turning scientific evidence into coordinated, practical action at scale. An Overton analysis (2005-2026) identified **over 500 EU policy and technical documents** citing IARC research, demonstrating that IARC evaluations are routinely used by EU institutions and agencies to inform legislation, guidance, and public health strategies.

IARC's added value is not only generating evidence but packaging it into forms that governments can use. Building on large European research platforms (including those described in Part I), IARC produces Europe-wide analyses that inform key policy debates: for example, work showing that recent increases in prostate cancer incidence in Europe are likely driven by PSA testing patterns (with implications for screening approaches), comparative burden estimates for Europe (millions of new cancer cases and deaths annually), and major studies mapping socioeconomic inequalities in cancer mortality to inform targeted cancer control.

IARC also produces actionable modelling, showing that scaling up tobacco control could prevent one in four lung cancer cases in Europe (about **1.65 million fewer cases over 20 years**), and supports implementation through initiatives such as EU-funded implementation research such as **EU Joint Action on the implementation of cancer screening programmes (EUCanScreen)**, which sets common standards for screening delivery and quality assurance and **EUROHELICAN**, assessing the feasibility of population-based *H. pylori* test-and-treat strategies for gastric cancer prevention. In parallel, IARC remains a core technical partner in efforts to improve the quality, comparability and timeliness of cancer registry data and to refine indicators used in the **European Cancer Information System (ECIS)** and the **European Cancer Inequalities Registry (ECIR)**.

This body of evidence feeds into one of IARC's flagship initiatives, the **European Code Against Cancer (ECAC)**, which converts evidence into clear, practical prevention recommendations for governments and citizens across Europe. IARC further supports implementation through coordinated European initiatives such as the **Innovative Partnership for Action Against Cancer (iPAAC)**, which brings Member States together to strengthen evidence-based cancer prevention policies and capacity building.

IARC also strengthens Europe's prevention ecosystem by convening and supporting major collaborative platforms, such as **Cancer Mission Europe** and **Cancer Prevention Europe** (including its Learning Centre), that accelerate translation of evidence into capacity building and practice across Member States.

By combining independent evidence, harmonised methods, and implementation support, IARC enables Participating States to **benchmark performance, share best practices, and adopt proven prevention strategies faster and more efficiently** than acting alone. For Austria, this collaboration provides not only access to data and expertise, but a seat at the table where **European and global cancer control standards are defined**.

➔ Vienna as a UN hub for global cancer control (IAEA–IARC–WHO)

Vienna hosts the headquarters of the International Atomic Energy Agency (IAEA) and is one of the main UN centres where global cancer-control priorities are coordinated. IAEA, IARC and WHO work together as the three UN bodies with dedicated cancer-control mandates, using annual strategic consultations in Vienna to align priorities and coordinate country support. A core mechanism is the joint **imPACT Review** programme, which provides integrated assessments of national cancer-control capacity across prevention, early detection, diagnosis, treatment, palliative care and surveillance and helps governments plan investments and reforms. The same collaboration supports global initiatives such as the **WHO Global Breast Cancer Initiative**, aimed at improving earlier diagnosis and timely treatment, particularly in low- and middle-income settings.

IAEA's technical assistance from Vienna, including education and capacity-building programmes such as VUCCnet, strengthens radiotherapy and nuclear-medicine services internationally. IARC's role ensures that this technical cooperation is anchored in the wider evidence base on cancer risk, radiation-related benefits and harms, and population impact, linking technology deployment to prevention and health-system strategies rather than stand-alone equipment delivery.

Part III. Building capacity for lasting impact

➔ Skill transfer and analytical capacity for cancer prevention

Austria's collaboration with IARC is not only about joint publications; it is a practical pipeline for skills that are increasingly essential for cancer prevention policy: large-cohort analytics, harmonised data, and molecular epidemiology. Multiple PhD students from Vienna have been co-supervised at IARC, gaining hands-on experience with very large cohorts (including EPIC-based analyses, UK Biobank and other international platforms), advanced statistical modelling, and multidisciplinary approaches that combine epidemiology with biomarkers and omics.

This training function has deep roots. Austrian scientists were awarded highly **competitive IARC fellowships** as early as 1969 establishing a long-standing channel for advanced methods transfer. Today it continues through **PhD co-supervision and short-and medium-term research attachments**. For Austria, where there is no large, nationwide cohort comparable to those used in many international studies, these placements provide direct exposure to the design, governance and analysis of large, harmonised datasets and to the quality standards needed for cross-country comparability.

> ***"At IARC, our students learn how to work with big, complex datasets in a community that does this every day. They bring that experience back to Austria."***
>
> **Dr Heinz Freisling**
> **IARC Liaison Officer for Austria**

This engagement is part of IARC's wider capacity-building ecosystem, which includes the Postdoctoral Fellowship Programme, the IARC Summer School, the IARC Learning Platform, and global networks for cancer registries, screening, and biobanking. Together, these initiatives train thousands of professionals worldwide and generate durable benefits: in a 2024 outcome survey, **98% of postdoctoral respondents reported transferable skills, 72% maintained research ties with IARC after training, and over half progressed to leadership roles (53%) or managed independent research funding (52%)**. This creates a **two-way multiplier effect**: expertise gained at IARC is reinvested in national institutions, while the priorities, data, and methodological strengths of participating countries feed back into IARC's networks, helping shape future research, standards, and capacity-building efforts.