

IARC Impact in practice series

The Ireland experience



As an IARC Participating State since 2007, Ireland uses IARC as a strategic interface to connect its cancer system with international evidence and standards. This supports prevention, screening, survivorship and risk assessment, while ensuring Irish expertise helps shape how cancer burden and control are measured and governed in Europe and globally.

Why IARC membership made the difference to Ireland:

- **Scale with purpose:** Over the past decade, Irish researchers have co-authored **154 oncology publications** with IARC, which means around **one in 16 Irish oncology papers** involves IARC. These studies link Ireland to **hundreds of institutions worldwide** and focus on high-impact topics such as GWAS, HPV and cervical cancer, head and neck cancers, screening performance and disparities, nutrition and obesity, metabolomics and environmental risks
- **Evidence used across government:** More than **100 Irish reports, guidelines and technical papers** cite IARC, mainly from public bodies. IARC evidence feeds into **cancer reporting and projections (NCRI), HTAs on screening and vaccination (HIQA), food and nutrition policy (SafeFood, FSAI, Teagasc) and environmental and health-impact assessments (EPA, ESRI, Institute of Public Health)**, showing it is part of routine decision-making.
- **Benchmarking and planning from registry data:** NCRI data are embedded in IARC-coordinated platforms such as the **International Cancer Benchmarking Partnership (SurvMark-2)** and the **EUCanScreen Joint Action**. Joint analyses of stage, survival and inequalities help Ireland benchmark its performance against peer countries, refine pathways for earlier diagnosis and align indicators with **Europe's Beating Cancer Plan**.
- **Capability and standards that stay in Ireland:** Irish scientists are making growing use of IARC's training opportunities, with one IARC-Ireland postdoctoral fellow and six Irish trainees hosted between 2021 and 2025. Irish experts also contribute to **IARC Monographs, IARC Handbooks, and WHO tumour classifications**. This ensures that advanced methods and international standards are embedded in Irish institutions, and that Irish experience helps shape global guidance.

Part I. Scientific leadership through international collaboration

→ Exceptional intensity and depth of collaboration

Ireland's partnership with IARC is relatively young but already unusually dense and global. Teams use IARC as a gateway into large, multicountry consortia where harmonised methods and pooled datasets are the norm.

Over roughly the past decade, Irish researchers have produced **154 oncology publications co-authored with IARC¹**, alongside about **2,282 oncology papers without IARC**. This means **around one in 16 Irish oncology articles involves IARC collaboration**, a high share for a research system of Ireland's size. Almost **one in three of these joint papers is IARC-led (30.5%)**, underlining the Agency's role as coordinator of complex international studies rather than a marginal partner.

The collaboration is striking not just for its volume but for its depth and reach. When IARC is on the author list, Irish papers involve a **median of 33 institutions per study, compared with 5 for Irish oncology publications**

Cancer in Ireland: a high-income burden with opportunities for prevention

Recent [GLOBOCAN 2022 estimates](#) show that about **31,000 new cancer cases** and **10,400 deaths** each year in Ireland, with **prostate, breast, colorectal, lung and melanoma** accounting for much of the incidence and **lung, colorectal and breast cancers** leading mortality. Tobacco and alcohol use, excess body weight, unhealthy diet and physical inactivity drive a substantial share of this burden, highlighting clear opportunities for **prevention, earlier diagnosis and more equitable outcomes** through stronger risk-factor policies, HPV vaccination and optimised screening.

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

without IARC, and they link **1,869 partner institutions across 176 countries**. This places Ireland at the heart of truly global research networks that would be difficult to assemble through national mechanisms alone.

Micro-topic analysis shows that Ireland-IARC publications cluster in high-impact, data-intensive areas, including:

- **Genome-wide association studies (GWAS)** across multiple cancer sites
- **Head and neck cancers**, including HPV-related disease
- **HPV and cervical cancer prevention**
- **Screening disparities and performance of early-detection programmes**
- **Nutrition, obesity and metabolomics**, with a strong focus on metabolic health and biomarkers
- **Health technology assessment and evaluation of screening and treatment pathways**
- **Advanced glycation end products (AGEs) and other metabolic markers**, especially in colorectal cancer
- **Selenium and other trace elements**, and their links to cancer risk

Together, this profile points to a partnership built around registries, cohorts and biobanks, where sophisticated exposure assessment, omics and pooled data are essential to generate robust, policy-relevant evidence. Ireland's strengths in clinical research, national cancer registration and population-based cohorts make it a natural and valued contributor to these platforms.

➔ Leadership in global research infrastructure and benchmarking initiatives

Through IARC, Irish institutions are embedded in major European and global infrastructures that directly inform prevention, screening and cancer-control policy.

- **International Cancer Benchmarking Partnership (ICBP) and SurvMark platforms:**

The **National Cancer Registry Ireland** is a key partner in IARC-coordinated survival benchmarking, providing high-quality registry data and methodological input for comparative studies on oesophageal, gastric, lung, colorectal and other cancers (see Box #2).

- **Risk-stratified prostate cancer screening and staging tools:** Through IARC, Irish experts are connected to emerging European infrastructures for **risk-based early detection and harmonised staging**. The **PRAISE-U initiative on prostate cancer screening** brings together EU partners to design and test pragmatic, risk-stratified screening pathways, with IARC hosting consortium meetings that help align approaches across Member States. In parallel, **the CanStaging tool developed by IARC** provides a common framework for assigning stage from routinely collected data, supporting NCRI and other registries in generating comparable stage-specific indicators that feed into survival benchmarking and EU-level monitoring.
- **Diet, metabolic health and hepatobiliary cancer consortia:** Irish funders such as the **Health Research Board** support a portfolio of IARC-linked projects on **selenium and gastric and breast cancer**, **Hepato-Flame** (diet, obesity, microbial translocation and inflammatory pathways in hepatobiliary cancer), and **proteomic assays of progression from steatosis to liver cancer**, embedding Irish cohorts and biobanks inside European prospective infrastructures. Within this broader agenda, **Irish investigators at the Royal**

Box #2: Benchmarking cancer survival through international collaboration

Through IARC, Ireland's cancer registry is part of a trusted international platform that allows Irish outcomes to be compared, like for like, with those of other high-income countries. In the **International Cancer Benchmarking Partnership (ICBP) SurvMark-2** studies, IARC, the **National Cancer Registry Ireland** and partners across six peer countries combine harmonised data on stage at diagnosis and survival to understand where progress is being made, and where health systems still fall short.

For **lung cancer**, these comparisons **show that Ireland remains in the group of countries with lower survival than top performers such as Canada and Norway**. The gap is linked not only to stage at diagnosis, but also to wider system factors such as access to optimal treatment and the impact of comorbidities. For Ireland, this turns international comparison into practical intelligence: where earlier detection, faster diagnosis and stronger treatment pathways are most needed.

For **oesophageal cancer**, the same collaboration **shows a more nuanced picture. Survival has improved markedly across all participating countries over the past two decades**, and Ireland performs relatively well for **adenocarcinoma at one year after diagnosis**. At the same time, the studies highlight continuing weaknesses for **squamous cell carcinoma** and for **older patients**, showing why national planning must differentiate by subtype, age and stage rather than treating oesophageal cancer as a single condition.

By embedding Irish data in these IARC-coordinated comparisons, the registry becomes more than a national reporting tool: it becomes part of a shared evidence infrastructure for improving cancer care. This helps Ireland identify where it lags behind comparable systems, understand whether gains come from better treatment or earlier diagnosis, and feed robust indicators into European monitoring frameworks and **Europe's Beating Cancer Plan**.

College of Surgeons in Ireland, working with IARC and international partners, lead a major study on advanced glycation end products (AGEs) and colorectal cancer risk and survival. This project uses stored blood samples, detailed dietary data and long-term follow-up to clarify how metabolic health and diet shape colorectal cancer incidence and prognosis.

- **Metabolomics, microbiome and pancreatic cancer:** A joint project with **University College Dublin** investigates **perturbations of circulating metabolites and markers of gut barrier integrity and bacterial translocation in pancreatic ductal adenocarcinoma**, using advanced metabolomics to illuminate mechanisms and potential biomarkers in a cancer with very poor prognosis.
- **Head and neck cancer and mucosal HPV:** Collaboration with **Coombe Women and Infants University Hospital** on **mucosal HPV prevalence in head and neck cancer specimens** links clinical samples from Ireland into IARC's broader work on HPV-related head and neck cancers, complementing international studies on survival and HPV-driven disease.

→ **Shaping the global cancer research agenda and standards**

Irish 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 \(MTS\)](#), Ireland 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, Ireland 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.

Ireland 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, 17 Irish experts have contributed to the IARC's flagship evaluations, including:

- **IARC Monographs Volume 129:** *Gentian violet, leucogentian violet, malachite green, leucomalachite green, and CI direct blue 218*
- **IARC Monographs Volume 132:** *Occupational Exposure as a Firefighter*
- **IARC Monographs Volume 133:** *Anthracene, 2-bromopropane, butyl methacrylate, and dimethyl hydrogen phosphite*
- **IARC Monographs Volume 134:** *Aspartame, methyleugenol, and isoeugenol*
- **IARC Monographs Volume 135:** *Perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS)*
- **IARC Monographs Volume 136:** *Talc and Acrylonitrile*
- **IARC Monographs Volume 137:** *Hydrochlorothiazide, Voriconazole, and Tacrolimus*
- **IARC Monographs Volume 138:** *Automotive gasoline and some oxygenated gasoline additives*
- **IARC Monographs Volume 140:** *Atrazine, Alachlor, and Vinclozolin*
- **IARC Handbooks of Cancer Prevention Volume 18:** *Cervical cancer screening*
- **IARC Handbooks of Cancer Prevention Volume 21:** *Lung cancer screening and early detection approaches*
- **World Health Organization Classification of Tumours (Blue Books) 5th and 6th editions:** Editorial board and expert contributions supporting international standards for tumour pathology classification, diagnostic criteria, and reporting systems across multiple organ systems

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

→ **Evidence that informs national regulation and prevention policy**

In Ireland, IARC assessments are used as practical tools by government, advisory bodies and analysts. They underpin cancer-surveillance reports, health-technology assessments, screening decisions, food-safety and nutrition guidance, and wider debates on climate and environmental health. An [Overton](#) analysis of Irish public-sector (2005-2026) and analytical documents identifies **around 115 reports, guidelines and technical papers** that explicitly cite IARC research or evaluations, with **about two thirds published from 2015 onwards**. Roughly **85% of these documents come from government bodies**, complemented by NGOs and think tanks.

The most frequent users include:

- the **National Cancer Registry Ireland (NCRI)**, through its *Cancer in Ireland* annual reports, *Cancer Trends* series and projections;
- the **Health Information and Quality Authority (HIQA)**, via successive **health technology assessments (HTAs)** of cancer screening, vaccination and diagnostic technologies;

- **Safefood**, the **Food Safety Authority of Ireland**, **Teagasc** and the **Royal Irish Academy**, in work on diet, obesity, mycotoxins and sustainable food systems;
- the **Irish Environmental Protection Agency**, **GOV.IE** and the **Health Service Executive**, in environmental-health, climate and policy reports;
- think tanks such as **ESRI**, the **Institute of Public Health in Ireland** and the **UCD Geary Institute**, which draw on IARC evidence when analysing inequalities and prevention policies.

Across these documents, IARC evidence supports concrete regulatory and preventive decisions in several ways:

- **Tracking trends and setting priorities:** National cancer reports and projections use IARC incidence, survival and attributable-risk estimates, as well as methods from international benchmarking studies, to monitor trends, quantify the burden of modifiable risk factors and compare Ireland with other high-income countries.
- **Guiding screening and vaccination policy:** Reviews of colorectal screening, HPV testing and vaccination, breast surveillance and emerging diagnostics draw on *IARC Monographs* and pooled epidemiological evidence to assess likely benefits, harms and cost-effectiveness. This evidence feeds directly into decisions on programmes such as *BowelScreen* and cervical screening.

Box #3: CervScreen: Ireland as an exemplar for high-quality cervical screening

The [CervScreen Project](#) shows how Ireland's partnership with IARC can turn a national challenge into a source of international learning. Working with the **Department of Health** and the **Health Service Executive**, [IARC has helped Ireland use its cervical screening programme as a real-world setting for developing and applying best practices on quality, coverage and public trust.](#)

At the centre of the project are **three international Technical Working Groups**, supported by an **Irish Stakeholder Advisory Group**, which together translated experience from Ireland and other countries into practical tools for stronger programme governance. The result is not only support for improving **CervicalCheck**, but a set of approaches that other countries can also use.

The project [has produced a series of concrete outputs:](#)

- **IARC Working Group Report No. 11**, which sets out best practices for cervical screening programmes, covering cancer audits, legal and ethical frameworks, workforce competencies and communication with women and providers.
- A **checklist and guidance for transparent, two-way communication**, helping programmes explain more clearly the benefits, limitations and possible harms of screening and strengthening informed choice.
- A **legal and data-protection framework** that protects women, professionals and programme managers while enabling robust audit and quality assurance.
- An **Irish model for adapting global best practices to a national context**, with lessons that are relevant across Europe and beyond.

By placing Ireland at the centre of this work, CervScreen delivers immediate value for national cervical cancer control while also helping shape how countries implement the **WHO cervical cancer elimination agenda** in practice.

- **Informing food and obesity policy:** Reports on childhood obesity, prevention policies, healthy food standards and mycotoxin control use IARC evidence on diet-related carcinogens and large international studies linking obesity, processed foods and other exposures to cancer risk. These findings help shape dietary guidance, risk-management measures and public-health campaigns.

- **Supporting environmental and occupational risk management:** Irish analyses of air pollution, radon and climate-related health risks draw on IARC classifications of carcinogenic exposures, helping to inform emission standards, planning decisions and adaptation priorities.

- **Highlighting inequalities and preventable burden:** Reports on cancer inequalities and mortality differences use IARC-based estimates of preventable cancers and comparative survival to identify socioeconomic gaps and support broader prevention strategies across government.

→ 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 both generates the evidence and translates it into action. Through large research infrastructures such as [EPIC \(the European Prospective Investigation into Cancer and Nutrition\)](#), it produces long-term, high-quality data on risk factors and outcomes relevant to

Europe. This is complemented by Europe-wide analyses that directly shape policy choices and guidance, 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](#). Ireland, through its Department of Health and National Cancer Registry, is directly involved in these initiatives, helping to shape indicators and implementation models that are then applied across Member States.

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 \(ECIR\)](#).

Together, this body of evidence feeds into one of IARC's flagship initiative, the [European Code Against Cancer \(ECAC\)](#), which converts evidence into clear, practical prevention recommendations for governments and citizens across Europe. 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 Ireland, as a smaller but highly connected research system, this collaboration provides not only access to data and expertise but also a meaningful voice in shaping the European standards and tools that guide cancer prevention and screening across the EU.

Part III. Building capacity for lasting impact

→ Training as a gateway to international science

Training and knowledge exchange are central features of the Ireland–IARC partnership, supporting two-way flows of expertise between Irish institutions and international research networks. In recent years, Irish scientists have increasingly taken up places in IARC's competitive training schemes, including an IARC postdoctoral fellow in 2014. This historical foothold is now complemented by a steady pipeline of new trainees: during the 2021–2025 cycle, **six Irish trainees** have undertaken short- and medium-term research attachments at IARC. For Irish institutions, these opportunities give early-career researchers and technical experts hands-on experience in harmonising data, applying advanced analytical methods and working within multidisciplinary, multinational teams, skills that are difficult to acquire within a purely national setting.

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.