IARC Impact in practice series
The Italy experience

As a founding IARC Participating State, Italy has used IARC as a strategic platform to combine global evidence with national action, strengthening prevention, screening and surveillance while ensuring Italian expertise helps set international standards. Membership gives Italy influence through IARC governance and practical reach through large multinational cohorts, registry platforms and implementation tools.

Why IARC membership made the difference for Italy:

- **Scientific leadership at scale:** Italy is one of IARC's most active collaborators, with around 980 joint publications in the past decade and strong participation in major multicountry cohorts (including EPIC-Italy). Collaboration is concentrated in priority areas such as HPV and infection-related cancers, nutrition and obesity, genomics (GWAS), screening and early detection, and metabolomics.
- **Evidence used across government:** Italian authorities routinely cite IARC research in official strategies, technical reports and guidance, over 190 public-sector documents in the past ten years, supporting cancer surveillance, screening strategy and prevention policy, including environmental and occupational risk management.
- **System improvement through benchmarking:** IARC-linked European platforms and screening indicator work help Italy monitor programme performance, compare outcomes with peers and target gaps in quality and equity in breast, cervical and colorectal screening.
- **Capacity and standards that stay in Italy:** Italy has built sustained expertise through long-term training pipelines: 39 IARC fellowship holders since 1967; 27 early-career visiting scientists in 2021–2025. Italy has also maintained strong participation in IARC's standard-setting work - *IARC Monographs, IARC Handbooks* and WHO tumour classifications - embedding international methods in national institutions while ensuring Italian perspectives shape global guidance.

Part I. Scientific leadership through international collaboration

Exceptional intensity and depth of collaboration

Italy has been one of IARC's longest-standing scientific partners and has developed a sustained, high-intensity collaboration that embeds Italian institutions deeply within IARC's global research networks. Over the last decade alone, Italian researchers have co-authored **980 scientific publications** with IARC[1], averaging approximately **98 joint papers per year**, placing Italy among the Agency's most active collaborators in Europe.

This partnership is characterised not only by volume, but by strong integration into large, coordinated international research efforts. **43% of these publications are IARC-led**, reflecting Italy's participation in multicountry consortia and shared research infrastructures rather than isolated bilateral projects. The depth of collaboration per paper is particularly striking: IARC-linked publications involve a median of **24 institutions**, compared with just **2 institutions** for Italian oncology papers that do not include IARC, demonstrating a **more than tenfold increase in collaborative intensity** when IARC is engaged. In total, these partnerships connect **1,908 institutions across 178 countries**, positioning Italian centres at the heart of truly global cancer research networks.

Web of Science micro-topic analysis shows that Italy–IARC publications cluster strongly in **HPV & cervical cancer**, **nutrition & obesity**, and **genome-wide association studies**, with additional concentrations in **screening disparities, metabolomics, thyroid cancer, epigenetic regulation, antioxidant biology, and fatty**

Cancer in Italy: a high burden with opportunities for prevention

Based on recent Globocan estimates, cancer remains a major public health challenge in Italy, with **over 430 000 new cases diagnosed each year**, placing the country among those with the highest absolute cancer burdens in Europe. Breast, colorectal, lung, and prostate cancers account for a large share of cases, reflecting both population ageing and continued exposure to modifiable risks such as tobacco use, diet, alcohol, and obesity. Despite improving survival and comparatively low mortality rates by European standards, cancer remains a leading cause of premature death nationwide.

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

acids. This distribution reflects a collaboration centred on **large-scale epidemiology, prevention, and molecular mechanisms research**, areas that depend on multinational cohorts and coordinated infrastructures.

➔ Integration into large-scale research infrastructure

Through IARC, Italian institutions are embedded in some of the world's largest prospective cohorts, surveillance platforms, and international consortia, giving them access to research systems, harmonised data, and multicountry analyses that would be difficult to build or lead independently at national level.

This collaboration is sustained by a broad national network of academic, clinical, and public health institutions, spanning centres in **Milan, Florence, Naples, Turin, Ragusa, Aviano, Pisa, Rome, and Reggio Emilia**, including the **University of Milano-Bicocca, Fondazione IRCCS Istituto Nazionale dei Tumori, the Cancer Prevention and Research Institute (ISPRO), Università degli Studi di Napoli Federico II, Università del Piemonte Orientale, the Piedmont Oncology Centre (CPO Piemonte), Università degli Studi di Torino, the Italian Institute for Genomic Medicine, the Associazione Iblea per la Ricerca Epidemiologica, the Istituto di Ricovero e Cura a Carattere Scientifico Centro di Riferimento Oncologico di Aviano, the European Institute of Oncology, Scuola Superiore Sant'Anna, Sapienza Università di Roma, and the Istituto Superiore di Sanità**.

Box #2: EPIC-Italy: powering global evidence on diet, lifestyle, and cancer

A distinctive strength of Italy's partnership with IARC is its deep integration into **EPIC**, one of the world's largest prospective cohort studies on cancer risk factors.

Through five Italian centres, Florence, Ragusa, Varese (Milan area), Turin, and Naples, EPIC-Italy has enrolled over **45,000 participants**, including **>30,000 blood samples** collected under harmonised protocols. These data are linked to regional cancer registries and national mortality systems for **20+ years of follow-up**, providing rich information on diet, lifestyle, biomarkers, and cancer outcomes.

By embedding these population cohorts within IARC's multicountry platform, Italian institutions help generate **large-scale, internationally comparable evidence** on nutrition, metabolism, and cancer risk. For several centres, this collaboration also provides access to IARC's cancer surveillance and registry networks, enabling European benchmarking and broader comparability of results, particularly valuable in a context where national registry coverage remains uneven. As Dr Pietro Ferrari, Principal Investigator of EPIC and IARC Liaison Officer for Italy, noted: "***For the Italian centres linked to EPIC and the cancer registries, the connection with IARC is essential. It opens the door not only to collaboration within Italy, but to visibility and comparison at the European level.***"

> ***Italy has many centres of excellence, and there is strong potential to further amplify their impact through deeper international engagement. IARC adds a valuable global dimension, supporting the connection of Italian teams with worldwide networks in cancer research and prevention.***
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> **Dr Pietro Ferrari**
> **EPIC Principal Investigator**
> **IARC**

A flagship example is **EPIC (European Prospective Investigation into Cancer and Nutrition)**, one of IARC's largest long-term cohort studies on diet, lifestyle, and cancer risk (see Box #2). Through EPIC and related infrastructures, Italian centres contribute high-quality cohort, registry, and biospecimen data to international platforms that generate globally comparable evidence on cancer aetiology and prevention.

Beyond EPIC, Italian partners are integrated into multiple IARC-coordinated platforms that strengthen different parts of the research and prevention continuum. These include the **European Cancer Information System (ECIS)**, which supports comparable cancer surveillance and screening data across Europe; **Human Papillomavirus–AHEAD (HPV-AHEAD)**, which combines epidemiological, clinical, and biological data on human papillomavirus-related head and neck cancers; large **multicohort analyses on early-onset colorectal cancer**, designed to identify emerging risk factors in younger adults; **Personalised Cancer Primary Prevention Research through Citizen Participation and Digitally Enabled Social Innovation (4P-CAN)**, which develops innovative approaches to primary prevention and behaviour change; and the **BCNet (Biobank and Cohort Building Network)**, which advances harmonisation and capacity in biobanking and cohort infrastructure.

➔ Shaping the global cancer research agenda and standards

Italian 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), Italy contributes 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, Italy 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.

Italy's contribution also includes active leadership international standard-setting. During the **2020–2025 cycle, 19 Italian experts** have contributed to IARC's flagship programmes, including:

- **IARC Monographs Volume 126:** *Opium Consumption*
- **IARC Monographs Volume 128:** *Acrolein, Crotonaldehyde, and Arecoline*
- **IARC Monographs Volume 130:** *1,1,1-Trichloroethane and Four Other Industrial Chemicals*
- **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 and diagnosis across multiple organ systems

Box #3: From international evidence to national policy dialogue: thyroid cancer care in Italy

A distinctive feature of Italy's partnership with IARC is the direct translation of scientific evidence into national policy discussion. IARC scientists recently worked with Italian partners to analyse patterns of **thyroid cancer incidence, management, and outcomes**, generating an independent, population-based assessment of care pathways and potential overdiagnosis.

The findings were presented directly to **the Italian Senate**, providing lawmakers and health authorities with robust, internationally benchmarked evidence to inform decisions on screening practices, diagnostic approaches, and service organisation.

This example illustrates how IARC collaboration goes beyond academic publication: by combining methodological independence with global comparative expertise, IARC helps Italian authorities ground national cancer policy debates in rigorous, internationally comparable data.

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

➔Evidence that informs national regulation and prevention policy

IARC evidence is systematically embedded in Italian policymaking. An Overton analysis of Italian public documents (2008-2026) identified **more than 80 documents** citing IARC research, demonstrating routine use of IARC evaluations across national government strategies, technical reports, and clinical guidance. Citations come predominantly from authorities responsible for health planning, prevention, and screening, including:

- the **Ministry of Health (Ministero della Salute)**, through national cancer plans, prevention strategies, and screening guidelines
- the **Istituto Superiore di Sanità (ISS)**, producing technical reports on cancer surveillance, risk factors, and screening performance
- **Parliamentary and governmental reports**, including Senate and Chamber of Deputies analyses on cancer burden, prevention, and health system organization
- national **screening coordination bodies and networks**, including the **Osservatorio Nazionale Screening (ONS)** and programme-specific working groups
- **regional health authorities and cancer registry networks** (e.g. Piemonte, Emilia-Romagna, Toscana), contributing to surveillance, evaluation, and service planning.

These bodies reference IARC research to underpin regulatory and preventive action on:

- **Cancer surveillance and planning:** national and regional reports drawing on **GLOBOCAN estimates and IARC burden analyses** to quantify incidence and mortality and guide resource allocation (e.g. Ministry of Health and ISS reports on cancer burden and national planning)
- **Screening policy and programme design:** technical guidelines and evaluation reports from the Ministry of Health, ISS, and ONS using IARC evidence to inform **breast, cervical, and colorectal screening strategies**, including programme coverage, intervals, and quality indicators
- **Lifestyle and metabolic risk factors:** policy documents and prevention plans citing **EPIC and other IARC studies** on alcohol consumption, diet, obesity, and physical activity to support national prevention strategies and public health campaigns
- **Environmental and occupational risks:** regulatory and technical documents referencing the ***IARC Monographs*** to classify carcinogenic exposures (e.g. chemicals, occupational risks, lifestyle factors) and support precautionary approaches in public health and workplace regulation
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➔ **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 action at scale. An Overton analysis identified **over 500 EU policy and technical documents** citing IARC research (2015-2025), demonstrating that IARC evaluations are routinely used by EU institutions and agencies to inform legislation, guidance, and public health strategies. IARC Europe-wide analyses 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.

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 initiatives, 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 Italy, 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**.

Part III. Building capacity for lasting impact

➔ **Training and institutional partnership as a multiplier of national capacity**

Italy's collaboration with IARC extends beyond individual research projects to long-term capacity building at both institutional and human levels. A set of formal agreements with leading national organisations establishes a structured framework for sustained cooperation, including **Memoranda of Understanding with the European Genetics Foundation (EGF), the International Centre for Genetic Engineering and Biotechnology (ICGEB), and the Italian National Institute of Health (ISS)**, as well as **Memoranda of Agreement with the University of Catania and the San Gallicano Dermatological Institute**. These partnerships facilitate joint research projects, training placements, knowledge exchange, and closer alignment between Italian priorities and IARC's global research agenda.

Training complements this foundation and reflects a long-standing national commitment. **Since 1967, 39 Italian researchers have been awarded competitive IARC fellowships**, establishing one of the IARC's most sustained fellowship pipelines. More recently, between 2021 and 2025, **27 Italian Early-Career Visiting Scientists trained at IARC**, developing advanced skills in cancer surveillance and multicountry research coordination. 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.

> ***"What IARC offers is a rare multidisciplinary environment, bringing together epidemiology, laboratory science, and advanced statistical methods in one place. Italian researchers can benefit from a multidisciplinary environment that fosters their ability to build synergies in cancer research across institutions.***
>
> **Dr Pietro Ferrari**
> **EPIC Principal Investigator (IARC)**

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.