IARC Medium-Term Strategy (MTS) 2026-2030 Annexes

- **Annex #1. Programme and project proposals 2026–2030**
- **Annex #2. IARC Strategic Prioritization Framework – Categorization grids**
- **Annex #3. Proposed programme and budget 2026-2027**

Annex #1. Programme and project proposals 2026–2030

PILLAR I – DATA

Leading Branch:

➔ **Cancer Surveillance (CSU)**

Programme #1: Cancer statistics		
Pillar I – Data **Programme Tree Path: 1.1**	**Leading Branch:** CSU	**Contributing Branches:** All Branches
General objectives of the Programme: Aligning with IARC's mandate from WHO, CSU makes available global cancer indicators via web-based platforms. Such data and tools are in increasing demand among a global community seeking to better understand the shifting scale and profile of cancer worldwide. The aim is to provide quality-assured data and statistics freely available as public goods, via the Global Cancer Observatory (GCO), among other platforms.		
Research Teams and their contribution to the overall objective of the Programme: No IARC Research Teams specific to this programme, but project outputs are highly relevant for the three WHO global initiatives on cancer Teams (CCEI, GBCI, and CCARE). Within CSU, there are overlapping teams dedicated to specific aspects of the data/statistics cycles across the continuum (e.g. collection/validation, estimation, and dissemination).		
Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer: The provision of cancer data and statistics worldwide remains a core mandate of IARC from WHO, and our data are used extensively by WHO at the three levels. For example, CSU provides the complete GLOBOCAN dataset to various divisions within WHO headquarters, supporting the development of the WHO Global Health Estimates (GHE), country profiles, etc.		
Concrete outcomes of the programme: GLOBOCAN: national incidence and mortality estimates for 2024, 2026, and 2028 for 185 countries; CHILDCAN: equivalent estimates for children and adolescents; SURVCAN-4: survival estimates for cancers diagnosed in 2013–2020 with follow-up to end of 2021. Regular updates of websites (GCO, NORDCAN, etc.)	**Key Performance Indicators** ➔ GCO webpage hits by country and over time ➔ Citations of research papers related to the global indicators on the GCO ➔ Use of the above in policy documents (via Overton)	

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Global Cancer Observatory (GCO)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches
Outputs of the Project: • Updates of the GCO subsites (Cancer Today, Cancer Tomorrow, Cancer Over Time, Cancer Causes, Cancer Survival), in line with the relevant outputs (indicators) from global public goods and research projects listed below – includes the development of new global indicators • Prevalence by phase of care • Disability-adjusted life years (DALYs) • New subsites (e.g. CHILDCAN, Cancer Impact), the latter incorporating projects in other Branches (e.g. maternal/paternal orphans due to cancer)		

Global burden estimates (GLOBOCAN)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- GLOBOCAN: national incidence and mortality estimates for 2024, 2026, and 2028 for > 185 countries hosted on the GCO (see project #1)
- Peer-reviewed papers by cancer site and world region based on the above estimates

CHILDCAN		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- New CHILDCAN subsite of GCO (see project #1): cancer incidence and mortality estimates in children and adolescents presented by dedicated classification (ICCC, see project #14) based on IICC registry data (see project #10)
- Peer-reviewed papers by cancer site and world region based on the above childhood cancer estimates

Cancer Survival in Transitioning Countries (SURVCAN)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Survival estimates for cancers diagnosed in 2013–2020 with follow-up to end of 2021 in > 30 LMICs (SURVCAN-4); extended to a further 5 years (SURVCAN-5)
- Peer-reviewed papers by cancer site and world region based on the above survival estimates
- Updated Cancer Survival subsite on the GCO (SURVIVAL 3.0, see project #1)
- Used as a key source in estimating GLOBOCAN 2024, 2026, and 2028 estimates

SURVMARK		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- International peer-reviewed articles providing an overview of cancer control progress versus existing survival inequities across ICBP countries; stage-specific reports, stage and treatment reports, and population-based studies examining prognostic markers and survival
- IACR set of recommendations to improve and standardize data collection and indicators collected
- SURVIVAL 3.0 on the GCO (see project #1), including country-specific interactive dashboards
- Real-time data submission enabling annual updates of the SURVMARK database
- Scientific platform for remote data access to develop local technical expertise in survival analyses using federated learning approaches

NORDCAN		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Updated NORDCAN website, including most recent data from the Nordic cancer registries; enhanced user interface, critical to GCO technical development (see project #1)
- PREVENT 2.0 outputs (see project #17) added to the NORDCAN website
- Peer-reviewed papers based on the PREVENT 2.0 outputs

Programme #2: Cancer registration		
Pillar I – Data **Programme Tree Path: 1.2**	**Leading Branch:** CSU	**Contributing Branch:** ESC (Blue Books and ICD-O-4)

General objectives of the Programme:
CSU works in close partnership with population-based cancer registries (PBCR) worldwide and has as a focus a measurable improvement in registry coverage, quality, and networking capacity in transitioning countries. As a key partner of the Global Initiative for Cancer Registry Development (GICR), coordination with the International Association of Cancer Registries (IACR) is important to reduce duplication, to provide clarity to members, and to achieve the mutual goal of sustainable expansion of high-quality PBCR.

Research Teams and their contribution to the overall objective of the Programme:
No IARC Research Teams specific to this programme, but there is a dedicated team within CSU focusing on GICR and ChildGICR implementation. In addition, there are dedicated editorial boards for IACR and ICD-O. There are also contributions to international staging advisory boards (e.g. UICC TNM).

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
The 2030 targets of each of the WHO global initiatives on cancer uniquely require cancer registry data to measure progress. Efforts to develop joint activities with WHO at global, regional, and national levels that support the development of effective surveillance policies are being intensified via the IARC–WHO Action Plan.

Concrete outcomes of the programme:
Registry development through GICR and ChildGICR; forthcoming publications (CI5 Volume XIII, IICC Volume IV); IACR annual meetings, new version of CanReg (CanReg6); ICD-O-4 and ICCC-4 used by registries worldwide in coding cancer; staging tools (eTNM, CanStaging)

Key Performance Indicators

- ➔ Number of submissions to CI5 and of high quality
- ➔ Number of GICR*Net* trainers and trainees
- ➔ Global funding for GICR/ChildGICR by partners and their contribution
- ➔ Number of courses and of people trained
- ➔ Sustainable PBCR measured as those newly included in health planning cycles
- ➔ CanReg/ICD-O-4/ICCC-4 uptake; use of staging tools

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Global Initiative for Cancer Registry Development (GICR)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Expansion of PBCR development and outputs by Regional Hub: partner country agreements, partner (e.g. WHO headquarters/regional office) leading to more robust data for burden estimation and informing national cancer control plans
- GICR*Net*: sustainable expansion of cohort by subject area and reference materials
- GICR Best Practices Portal; WHO Toolkit; continued development of the e-learning modules
- PBCR costing tool

Targeting Childhood Cancer through the GICR (ChildGICR)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Site visit reports and tailored recommendations per target country to improve childhood cancer registration
- ChildGICR courses and dedicated GICR*Net* course (see project #1)
- Development of childhood cancer teaching modules linked to GICR e-learning
- Research articles on childhood cancer in target countries, challenges in implementation of childhood cancer registration, standards for classification of CNS tumours based on the treatment outcomes, data sharing needs, and financial hardship of families with a child with cancer

Cancer Incidence in Five Continents Volume XIII (CI5-XIII)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Global call for data for CI5-XIII and data submissions by PBCR covering diagnoses in 2018–2022
- Annual/ongoing call for data to ensure more timely high-quality recorded incidence data on the GCO (Cancer Over Time, see project #1) and in IACR 2.0 (see project #11)
- Systematizing of process and use of machine learning methods to support editorial decisions in compiling CI5
- IACR 2.0 website incorporating current CI5 websites, new PBCR directory, and updated standards/tools (see projects #11–15)

International Incidence of Childhood Cancer (IICC)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Peer-reviewed papers based on data from IICC-4 using ICCC system (see project #14)
- Global call for data for IICC-4 and data submissions by PBCR covering diagnoses in 2012–2022
- New AI methods for supporting editorial decisions (based on CI5-XIII, see project #9)
- Data incorporated onto IACR 2.0 website (see project #11)

International Association of Cancer Registries (IACR)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- IACR 2.0 website incorporating current CI5 websites, new PBCR directory, and updated standards/tools (see projects #9, #12–15)
- Joint IARC–IACR publications (CI5 Volume XIII, IICC Volume IV)
- IACR annual meetings
- New version of CanReg operating software (CanReg6, see project #12)
- ICD-O-4 and ICCC-4 used by registries worldwide in coding cancer (see projects #13–14)
- Staging tools (eTNM, CanStaging) (see project #15)

CanReg6		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Launch of CanReg6 – with simplified and easier-to-use interface and limited bugs – enabled with data interface linked to GICR-DHIS tracker (see project #7)

International Classification of Diseases for Oncology, 4th edition (ICD-O-4)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- ICD-O-4 book (online PDF) published with IACR and WHO headquarters
- Complementary peer-reviewed articles on ICD-O-4 and ICD-11 published with WTR and WHO headquarters
- ICD-O-4 included in the WHO Blue Books sixth edition

International Classification of Childhood Cancer (ICCC)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- ICCC-4 (online PDF) published with IACR (see project #11) and WHO headquarters
- Complementary peer-reviewed article on ICCC-4

Cancer staging tools (STAGING)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Updates of CanStaging+ and Essential TNM tools online – updated staging versions, new cancer sites, availability of further languages
- GICR/IACR courses on staging undertaken by GICR*Net* (see project #1)
- Complementary peer-reviewed article(s) on above tools and current staging practices/quality at PBCR worldwide

Programme #3: Descriptive research		
Pillar I – Data **Programme Tree Path: 1.3**	**Leading Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

General objectives of the Programme:
CSU conducts international research that illustrates the transitional nature of cancer profiles in person, place, and time and has as a focus the health, social, and economic benefits of preventive interventions via a systematic quantification of their future impact. Indicators developed through our research, based on support and collaboration of PBCR worldwide, are showcased through the GCO, illustrating the cyclical and complementary nature of the three programmes.

Research Teams and their contribution to the overall objective of the Programme:
The Cancer Inequalities Team (CIN), led by Dr Vaccarella, aims to coordinate and expand scientific activities in the area of cancer inequalities; the 2-year work plan was reviewed in 2024. The Health Economics and Cancer Team (HEC) will be led by the incoming P3 Scientist; it aims to coordinate research and generate evidence in descriptive economics to inform and guide cancer control policy, planning, and advocacy. They contribute to the overall aims of CSU by provision of data to inform action in cancer control.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
Numerous examples of our applied research of direct interest to the normative guidance of WHO (e.g. PAF for oral tobacco use in the WHO Regional Office for South-East Asia, alcohol polies in the WHO Regional Office for Europe, the IARC–WHO Global Status Report that Dr Soerjomataram is leading from IARC's side).

Concrete outcomes of the programme:	**Key Performance Indicators**
SURVMARK-3 (survival benchmarking research outputs and online), PREVENT 2.0, and Cancer Causes (in the GCO) – platforms exploring impact of risk factors and their reduction on cancer incidence; Resilience (platform demonstrating impact of CCEI scale-up embedding delays in 78 LMICs); research studies in health economics and social inequalities and cancer further developed as subsites of the GCO.	➔ Citations of related research papers according to various metrics including in policy documents (via Overton) ➔ GCO webpage of relevant subsites and hits by country and over time ➔ Funding – direct and competitive – by year

RESILIENCE

Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Integration of a global modelling platform on the GCO as part of the IARC Initiative for Resilience in Cancer Control (IRCC), including the launch and further development of the Cervical Cancer Elimination Planning Tool on the GCO (see project #1)
- Peer-reviewed papers based on country and regional impact of cervical cancer elimination via the Cervical Cancer Elimination Planning Tool
- Peer-reviewed papers quantifying the impact of hypothetical scenarios of health-care system disruption at national or regional levels, including impact on future excess mortality and beneficial effects of mitigation

DATA-TO-PREVENTION		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Peer-reviewed papers providing estimates of avoidable cancer deaths
- Priority-setting in cancer prevention and control (with WHO headquarters) – evaluation of the impact, cost, and feasibility of a package of interventions according to national capacity, including:
- Country prioritization tool – based on considerations of impact and cost–effectiveness using a health systems approach and country-level piloting
- Development of investment cases for specific effective cancer prevention interventions
- PREVENT 2.0
- Peer-reviewed papers quantifying the impact of specific preventive interventions on cancer incidence in the Nordic countries (with a focus on reductions in tobacco smoking, alcohol consumption, and high body mass index), including assessments of the public health impact on cancer mortality and corresponding economic impact
- Integration of PREVENT 2.0 as an online interactive tool into NORDCAN (see project #6)

Population attributable fractions (PAF)		
Tier 1	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Population attributable fractions (PAF) for cancer prevention. Studies quantifying the proportion of cases attributable to risk factors (updates or new factors: body mass index, tobacco use including smokeless tobacco, physical inactivity, and UV exposure).
- ALMACAN (ALcohol MArketing restrictions to reduce the burden of CANcer in Europe) – will assess the effects of alcohol marketing restrictions on alcohol consumption and subsequent impact on the burden of alcohol-related cancers:
- Developing a scoring system to map the implementation of alcohol marketing restrictions in Europe
- Measuring the effect of alcohol marketing restrictions on alcohol consumption
- Estimating the potential reduction in the cancer burden attributable to alcohol after more comprehensive implementation of marketing restrictions

Health economics		
Tier 2	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Peer-reviewed papers and integration of relevant indicators into the GCO, focusing on:
- Financial hardship experienced by patients with cancer in different world regions: a gender perspective
- Productivity losses due to cancer-related illness and death
- Estimation of productivity losses due to cancer-related premature mortality at the global, regional, and national levels

Social inequalities		
Tier 2	**Coordinating Branch:** CSU	**Contributing Branches:** Multiple collaborations across Pillars and Branches

Outputs of the project:

- Descriptive epidemiology of social inequalities in cancer in the EU (EU-CanIneq), including:
- Developing a research and data framework to study socioeconomic inequalities in cancer
- Integrating indicators into the European Cancer Inequalities Registry
- Assessments of cancer mortality inequalities by education, sex, age, and residence
- Impact of overdiagnosis and overtreatment (thyroid cancer, melanoma, prostate cancer, kidney cancer, breast cancer)
- Assessing the financial burden of socioeconomic inequalities in cancer: quantifying the extent to which inequalities have an impact on the total economic burden of cancer

Addressing low-value care in cancer across Europe, to improve outcomes for individuals and strengthen equity, efficiency, and sustainability (CancerWise)		
Tier 2	**Coordinating Branch:** CSU	**Contributing Branches:** EPR

General objectives of the project:

Low-value care (LVC), encompassing overuse, misuse, and underuse of healthcare services, represents a major challenge for the performance, equity, and sustainability of European health systems. Critically, LVC is inherently linked to inequalities: underuse of effective cancer services disproportionately affects disadvantaged populations, while overuse of unnecessary or harmful interventions is more common among those with greater access to care. This dual pattern reflects a systemic misallocation of resources and contributes to persistent inequalities in cancer outcomes. In cancer, LVC is particularly consequential, given the complexity, cost, and rapid evolution of care. It leads to avoidable harm, inefficient use of resources, and missed opportunities to improve population health. Despite growing recognition of the problem, current approaches remain fragmented. There is no integrated, system-level framework to identify, quantify, and reduce low-value cancer care across the full continuum, nor sufficient linkage between measurement, economic evaluation, and implementation of effective solutions. CANCERWISE addresses this gap through a comprehensive, multidisciplinary, and implementation-oriented approach. The project will develop a harmonised framework combining clinical indicators, population-level signatures, and system-level variation to identify low-value care across European settings. It will quantify its magnitude, economic burden, and distribution across population groups, capturing both its inefficiency and its role in shaping inequalities.

PILLAR II – DISCOVERY

Leading Branches:
- **Nutrition and Metabolism (NME)**
- **Genomic Epidemiology (GEM)**
- **Environment and Lifestyle Epidemiology (ENV)**
- **Epigenomics and Mechanisms (ENV)**

Programme #1: Causes of cancer and -omics		
Pillar II – Discovery **Programme Tree Path: 2.1**	**Leading Branch:** NME	**Contributing Branches:** CSU, ENV, GEM, LSB
General objectives of the Programme: About 40% of cancers globally can be attributed to known risk factors linked to lifestyle and environmental exposures. However, large international differences and changes over time indicate that many carcinogens remain to be discovered. Programme #1 will seek to discover new causes of cancer by leading epidemiological and molecular studies across multiple populations. It will combine novel -omics techniques with large-scale population studies and focus on cancers for which the underlying etiology is poorly understood and/or changes in incidence are occurring. It will include, but will not be limited to, a focus on cancers in younger adults that have been increasing recently, as well as enhancing research in understudied populations in LMICs.		
Research Teams and their contribution to the overall objective of the Programme: - The Sustainable Lifestyle and Cancer Team (SLC) will develop a comprehensive programme for the assessments of dietary and lifestyle indicators to enhance cancer prevention while ensuring environmental and global health sustainability. - The Onco-Metabolomics Team (OMB) and the Biostatistics and Data Integration Team (BDI) will implement a programme on early-onset cancer for the identification of novel determinants that contribute to the increase in cancers in different generations. - The Hormones and Metabolism Team (HorM) will lead research initiatives in LMICs on breast cancer.		
Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer: It is intended to seek collaborations with WHO within programme #1.		
Concrete outcomes of the programme: Project 1: Implementation of novel lifestyle and environmental indicators Project 2: Implementation of research activities focused on early-onset cancers Project 3: Implementation of research activities focused on better understanding of novel etiological factors of breast cancer in LMICs	**Key Performance Indicators** ➔ Extrabudgetary funding secured to implement the projects' objectives ➔ Enhanced databases, including novel lifestyle and environmental indicators ➔ Development of capacity-building in LMICs ➔ Recruitment of staff ➔ High-impact publications in peer-reviewed scientific journals ➔ Extended international collaborations	

Integrating dietary and lifestyle factors for cancer prevention to promote global health and environmental sustainability		
Tier 1	**Coordinating Branch:** NME	**Contributing Branches:** CSU, ENV
Outputs of the project:		

Our diets and lifestyle are pivotal in shaping human and environmental health, often referred to as planetary health. Interventions for lifestyle factors, such as diet and physical exercise, could substantially reduce cancer occurrence and death. In addition, increasing evidence indicates that diet and lifestyle habits may exert or reduce pressure on the planetary boundaries, for example by promoting the consumption of plant versus animal products and of species diversity in our diets, as well as the use of sustainable transportation like walking and cycling. In addition, increasing food biodiversity, defined as the variety of dietary species in our diet, may offer multiple co-benefits for human and planetary health, including the restoration of planetary biodiversity by allowing a regeneration of threatened species, while contributing to health benefits, including reduced cancer risk and mortality. Also, agricultural systems that preserve biodiversity are likely to enhance food security.

Leveraging large-scale epidemiological studies, this project aims to identify optimal diet and lifestyle habits that could jointly benefit human and environmental health. For this investigation, dietary and lifestyle indicators, such as nutrient adequacy scores, the ratio of plant to animal protein intake, scores expressing species diversity, and food processing classifications will be computed from dietary intake assessments in existing cohorts, including EPIC, UK Biobank, and the NutriNet-Santé study. In addition, environmental indicators, such as greenhouse gas emissions and land use associated with the diet, will be computed for individual cohort participants.

These lifestyle and environmental indicators will be used in state-of-the-art statistical techniques, such as hierarchical optimization models, to identify diets that meet the nutritional requirements of populations, promote health, and are within planetary boundaries. This work will capitalize on existing nutritional and lifestyle data, environmental impact indicators, and health data from large-scale cohort studies. Ultimately, associations between the consumption of these optimized diet patterns and cancer risk and mortality will be evaluated. This project will leverage existing resources and expertise in NME to produce state-of-the-art evidence that could guide policy-makers in developing sustainable and equitable cancer prevention recommendations.

Investigating etiological risk factors of early-onset cancers		
Tier 3	**Coordinating Branch:** NME	**Contributing Branches:** CSU, GEM

Outputs of the project:

Emerging scientific evidence points to a significant rise in colorectal cancer rates among younger populations. Similar trends are observed for gastric, pancreatic, and biliary tract cancers and certain female cancers. Most early-onset cancers – defined as those diagnosed before age 50 years – are sporadic and lack a genetic origin, because genetic changes typically take several generations to manifest. This highlights the potential role of lifestyle, diet, the gut microbiome, and other environmental factors, alongside unidentified risk factors, in the development of these cancers. Recent trends suggest shifting patterns of exposure to modifiable risk factors, especially dietary and lifestyle changes. Younger generations are facing earlier exposure to obesity, weight gain, highly processed foods, and unhealthy dietary patterns, all of which may influence cancer risks.

In this project, we will explore the etiological links between dietary, lifestyle, and metabolic factors – including metabolomic and proteomic indicators – and early-onset cancers, particularly colorectal, hepatobiliary, and premenopausal breast cancers. Given the rarity of cancer in people younger than 50 years, we will use multiple large-scale prospective studies with extensive epidemiological, molecular, and biospecimen data for laboratory analysis. These include EPIC, UK Biobank, the Japan Public Health Center-based Prospective Study (JPHC), and international consortia like the Colorectal Cancer Pooling Project (C2P2), the Diet and Cancer Pooling Project, and the Asia Cohort Consortium. These data resources have existing, harmonized data. In addition, we will draw from real-world clinical and primary care databases, such as SIDIAP (Catalonia), CPRD (UK), and Italian databases, as well as studies with available -omics and epidemiological data (e.g. COMETS), to assess the influence of molecular features and their interaction with environmental and behavioural exposures. This research aims ultimately to uncover potential preventive measures or interventions to reduce cancer risk in younger populations, which currently do not exist, and will provide guidance for the development of public health cancer prevention policies geared towards younger population groups.

Breast cancer in low-and middle-income countries (LMICs)		
Tier 2	**Coordinating Branch:** NME	**Contributing Branches:** ENV, GEM

Outputs of the project:

Breast cancer is a significant global health challenge, currently ranking as the most prevalent malignancy worldwide. Despite notable advances in medical research, breast cancer incidence rates continue to rise at an alarming pace. In LMICs, more than half of breast cancer cases occur in women younger than 50 years, with a median age range of 49–52 years, compared with 63 years in HICs. Although 5-year survival rates for breast cancer exceed 90% in HICs, they range between 30% and 60% in LMICs. This stark disparity is driven by various factors, including limited access to early diagnosis and treatment and insufficient health-care infrastructure, all contributing to high mortality rates and long-term societal challenges in LMICs. In addition, breast cancer etiology might be different in LMICs compared with HICs, with several candidate risk factors still left to be uncovered. To meet these gaps, it is essential to comprehensively investigate the etiology of breast cancer in LMICs and identify specific, potentially novel, risk factors to improve prevention and reduce mortality.

NME has designed and implemented three international, population-based, multicentre case–control studies, collecting data on lifestyle, nutrition, anthropometry, and biological samples (blood and tumour tissue) in Latin America and Africa. PRECAMA is a study conducted in Mexico, Costa Rica, Colombia, Brazil, and Chile that recruited > 700 premenopausal breast cancer cases and 700 matched controls. SABC is a study conducted in Black women in Johannesburg (South Africa) that recruited 399 breast cancer cases and 399 controls. EDSMAR is a study conducted in Fez and Rabat (Morocco) and included 500 cases and 500 controls. These studies enrolled newly diagnosed breast cancer cases before the start of any treatment, along with age- and residence-matched controls. Data on lifestyle, nutrition, anthropometry, and biological samples, including blood fractions and urine samples, are collected and stored. Immunohistochemistry on tumour samples was conducted locally and validated.

Major objectives of the project include:

- Identify specific modifiable risk factors for overall and early-onset breast cancer risk and survival in LMICs, with a special focus on Latin America and Africa;
- Identify molecular signatures of specific modifiable exposures to better understand mechanisms linking modifiable exposures and breast cancer risk;
- Identify modifiable determinants (e.g. lifestyle) of these risk factors/metabolic signatures to support local preventive actions.

In settings where few epidemiological studies have been conducted so far, our studies will provide unique information on nutrition, metabolic health, and breast cancer risk and survival in LMICs and will foster local epidemiological cancer research and capacity-building.

BaCK-TraCK: Tracking Childhood Cancer Back to Early Life: Biomarkers, Exposures, and Policy Impact		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:** CSU, ENV, NME, ESC

Outputs of the project:

BaCK-TraCK will chart the multi-omic landscape of the most early-onset tumours, childhood cancers (CC) – from in utero through birth, diagnosis, remission, and relapse – to reveal molecular precursors and biomarkers for early detection, prognosis, aggressive forms, and therapeutic intervention. It combines the world's largest epidemiological and clinical CC consortia with experimental models (cells, organoids, animals) to triangulate evidence and model exposures, especially where epidemiological models lack data. Given the rarity of CC, no single country can achieve such a scale or follow-up, and IARC is uniquely positioned to lead this effort globally. With ongoing funding on leukaemia, brain cancer, and other cancer forms across multiple ethnicities and populations in both HICs and LMICs, the project is led by ENV and the IARC Childhood Cancer Awareness and Research

Evidence Team (CCARE; co-leader, A. Ghantous), in partnership with the WHO Global Initiative for Childhood Cancer, St. Jude, multiple research centres worldwide, and childhood cancer associations from HICs and LMICs. These collaborations will generate evidence, inform policy, and translate findings into improved prevention, classification, and care. Specific outputs include:

- Scientific Discoveries: (a) Primary research papers identifying genetic–epigenetic precursors of paediatric leukaemia, brain cancer, and other childhood and young adult cancers. (b) Multi-omic studies and research papers on molecular drivers underlying links between exposures and CC initiation.
- Evidence Synthesis: (a) A meta-analysis and systematic review on exposure-related molecular mechanisms in CC, providing mechanistic input to the *IARC Monographs* (flagship) (e.g. CC-specific hazards, ongoing H2025 partnership). (b) A living evidence map of risk factors for CC etiology and survival (Open and Living Science), laying foundations for a potential World Code Against Childhood Cancer (flagship). (c) A realistic review to guide effective policies addressing CC risk factors.
- Recommendations and Guidelines: (a) Dietary guidance on optimal folate and coffee intake in pregnancy to reduce leukaemia risk. (b) Policy-relevant recommendations on pesticides/insecticides/fungicides, air pollution/benzene, and endocrine disruptors. (c) Improved CC classification based on multi-omic profiling (flagship: WHO Classification of Tumours).
- Capacity and Dissemination: (a) Major grants on CC precursors and evidence synthesis. (b) Presentations, posters, infographics, videos, and media outreach on CC. (c) Training of postdoctoral fellows in CC research (flagship: IARC Learning Programme). (d) Joint communications with WHO and CC associations to maximize policy engagement.

A molecular diary of tobacco/nicotine exposure across the life to map cancer mechanisms: waterpipe, cigarette, and lung cancer as a cornerstone (DialCT)		
Tier 3	**Coordinating Branch:** ENV	**Contributing Branches:** ENV, GEM

Outputs of the project:

Waterpipe smoking, historically prevalent in the Middle East and North Africa (MENA), is rapidly spreading worldwide, yet there is a global shortfall in data collection. Only a few countries, particularly LMICs, collect such data, giving these countries a distinct competitive edge in this research field. Misinformation about waterpipe's water cleansing effects, its social appeal, and its flavoured versions have fuelled its spread and evasion of indoor smoking bans. In line with the 2019 IARC Scientific Council, WHO has issued an advisory note on waterpipe smoking, urging research into its health risks, epigenomic effects, and the development of exposure biomarkers.

DiaLCT aims to record the (epi)genetic diary of tobacco and nicotine exposure, starting with waterpipe and cigarette smoking, across critical windows in early and adult life using clinical, birth, and adult cohorts from multiple countries. The project will investigate the implications of the (epi)genetic markers in the mechanisms of cancer and comorbid conditions sharing common risk factors, including addiction – central to cancer prevention and control – and cardiovascular and respiratory diseases. In keeping with a One Health perspective, DiaLCT recognizes that tobacco and nicotine products harm not only human health but also animal and environmental health, including disease in people, cigarette butts as one of the most common forms of litter, plastic pollution through e-products, and ecosystem degradation through deforestation and pesticide use. Epidemiological and clinical evidence will be triangulated with experimental models, including bioengineered smoking robots that mimic human smoking behaviour. Current funding focuses on waterpipe and cigarette smoking, lung cancer, and partnerships with Qatar, Lebanon, Saudi Arabia, France, and the UK, with resources enabling the expansion to other tobacco forms, cancers, and countries. The project is further strengthened by the first international waterpipe consortium, launched in 2025 in partnership with IARC, paving the way for global collaboration and impact. Our epigenomics-based AI approach has shown promise in accurately predicting smoking status, type, and duration, representing a potential game changer for exposure modelling and intervention strategies, particularly that distinct smoking forms seem to affect the genome differently. The findings will be amplified through partner anti-tobacco organizations (e.g. Demain Sera Non Fumeur) and the WHO FCTC Knowledge Hub for Waterpipe Tobacco Smoking, harnessing community engagement, education, and policy-maker

outreach to advance lung cancer prevention and control, with long-term benefits for other cancers and comorbidities. Specific outputs include:

- Scientific Discoveries: (a) Primary research papers characterizing the epigenetic impact on neonates exposed to tobacco and nicotine products during pregnancy. (b) Multi-omic studies on shared and distinct molecular drivers linking tobacco and nicotine products with cancer and comorbidities. The identification of mutational signatures could shed light on cancer etiology by revealing distinctive telltale patterns in DNA (flagship: Mutographs).
- Evidence Synthesis: (a) A systematic review of waterpipe smoking biomarkers, highlighting their research applications, public health significance, and alignment with the key characteristics of carcinogens, providing mechanistic input to the *IARC Monographs* (flagship). (b) A position paper on waterpipe smoking, addressing incidence, knowledge gaps on carcinogenicity, control barriers, and political landscapes (*Handbooks* flagship, *Monographs* flagship, and WHO FCTC). (c) A synthesis paper on tobacco and nicotine products through a One Health lens.
- Recommendations and Guidelines: Policy-oriented recommendations on waterpipe and other tobacco/nicotine product use, including a regional focus on the Middle East, where waterpipe use is predominant. The results may help shape a MENA Code Against Cancer (flagship) (in line with recommendations by the 2025 Governing Council).
- Capacity and Dissemination: (a) Major grants on tobacco and nicotine products. (b) Presentations, posters, infographics, videos, and media outreach on misinformation, knowledge gaps, and cessation programmes. (c) Training of postdoctoral fellows in this field (flagship: IARC Learning Programme). (d) Joint communications with WHO and anti-tobacco associations to maximize policy engagement.

Unraveling the role of trans fats in childhood leukemia and lymphoma risk (EnTrance)		
Tier 2	**Coordinating Branch:** NME	**Contributing Branch(es): CSU (Co-coordinator)**

General objectives of the project:

The general objective of EnTrance is to determine the relationship between neonatal plasma fatty acid composition and the risk of childhood hematopoietic malignancies.
Childhood leukemia and lymphoma are the most common malignancies of childhood, yet their etiology remains largely unknown. Increasing evidence points toward the intrauterine environment as a critical window during which metabolic and immunological programming may influence later cancer risk. Polyunsaturated fatty acids, particularly omega-3 and omega-6, exhibit anti-inflammatory and immunomodulatory effects that may reduce carcinogenesis. Conversely, trans fatty acids (TFA) are linked to inflammation and may promote tumor growth via pro-inflammatory, oxidative, and epigenetic mechanisms. Neonatal dried blood spots (DBS), routinely collected for screening and archived in Denmark's Neonatal Screening Biobank, provide an opportunity to objectively quantify fatty acid profiles at birth, thereby capturing in utero nutritional exposure without recall bias on a population level. Leveraging this unique national infrastructure, integrated with comprehensive health registries, enables rigorous examination of how neonatal plasma fatty acid composition may relate to the subsequent development of childhood hematopoietic malignancies.
We hypothesize that the neonatal plasma fatty acid profile is associated with the later risk of childhood leukemia and lymphoma, with higher content of saturated and TFA and lower content of polyunsaturated fatty acids contributing to increased susceptibility through pro-inflammatory and pro-oxidative mechanisms.

Outputs of the project:
In this nationwide, population-based, matched case–control study within the Danish birth cohorts (1988–2012), 710 children diagnosed with hematopoietic malignancies before age six have been individually matched to controls on birth year, sex, and birthplace. Neonatal plasma fatty acids have been quantified using validated gas chromatography–tandem mass spectrometry (GC–MS/MS) in multiple-reaction-monitoring mode.

In the short term, this study will be the first to examine measured neonatal blood concentrations of a comprehensive panel of fatty acids – including both TFAs and PUFAs – and their association with the subsequent risk of childhood hematopoietic cancers. By focusing on objectively measured biomarker-based prenatal exposures rather than retrospective self-reported dietary reports, this project circumvents key limitations of prior research. Moreover, using the national population as the basis for this study, we avoid selection bias, and the expected results will be relevant to the entire population of Denmark and potentially to other countries.
Looking beyond the immediate outcomes, this study represents a critical step toward identifying relatively easily modifiable in-utero risk factors for childhood cancers, with the long-term goal of informing dietary recommendation guidelines for women of reproductive age and in pregnancy, contributing to evidence-based cancer prevention strategies targeting exposures during fetal life. The research group will be generating evidence regarding the relationship between neonatal biomarkers of fatty acids and the risk of developing childhood haematopoietic neoplasms; and anticipate the identification of related food sources that can either be encouraged or discouraged (depending on direction of association) in the diet of pregnant mothers and their offspring. Over time, our results will contribute to promotion of healthy dietary choices as a health insurance for the future generations of children.
In addition, we plan to present findings in public lectures and through science communication platforms to raise awareness of early life risk factors for childhood cancer. If dietary fatty acids are affecting childhood cancer, the Danish Health Authorities will be contacted to incorporate findings into guidelines for pregnant women.

Epigenetic Programming of Obesity across the Life Course: Early-Life Mechanisms Driving Obesity Risk and Long-Term Health (EPOC)		
Tier 2	**Coordinating Branch:** ENV	**Contributing Branch(es): N/A**

General objectives of the project:

To investigate how early-life environmental exposures shape epigenetic patterns linked to long-term obesity risk and obesity-related cancers across the life course.

Outputs of the project:

- Identification of DNA methylation markers linked to long-term obesity susceptibility across the life course.
- Federated analyses linking early-life epigenetic variation with longitudinal obesity trajectories.
- Evidence on obesity as a mechanistic mediator between early-life epigenetic programming and cancer risk.
- Evidence to support earlier and more targeted strategies for obesity- and cancer-prevention.

EMBOGEN		
Tier 3	**Coordinating Branch:** ENV	**Contributing Branch(es): NME**

General objectives of the project:

- To clarify how epigenetic mechanisms mediate the effects of lifestyle, environmental exposures, and genetic susceptibility on obesity development from childhood into adulthood.

Outputs of the project:

- Identification of epigenetic markers of adiposity in childhood and their stability across the life course.
- Longitudinal analyses of how lifestyle, environmental exposures, and genetic risk shape obesity-related epigenetic profiles.
- Evidence on the causal contribution of modifiable factors, including air pollution, to obesity development.
- Policy-relevant evidence to support precision prevention of obesity and related non-communicable diseases, including cancer.

Programme #2: Mechanisms of etiology/carcinogenesis		
Pillar II – Discovery Programme Tree Path: 2.2	**Leading Branch:** NME	**Contributing Branches:** ENV, EPR, ESC, GEM, LSB

General objectives of the Programme:
Enhancing the understanding of the genomic and biological mechanisms of carcinogenesis in relation to environmental and lifestyle factors is key to uncovering how these external influences trigger cancer development. Carcinogenesis involves complex interactions between individuals' genetic makeup and exposures such as chemicals, pollutants, and dietary and lifestyle habits. Genomic studies explore how environmental and lifestyle factors induce genetic mutations in normal tissue, and how these combine with non-genetic changes in the tumour microenvironment to drive cells towards malignant transformation. Meanwhile, lifestyle factors, such as obesity and alcohol consumption, can influence hormonal and metabolic pathways that promote cancer growth. By examining these mechanisms, we plan to identify specific genetic and molecular changes that link environmental and lifestyle factors to cancer risk.

Research Teams and their contribution to the overall objective of the Programme:
- The Hormones and Metabolism Team (HorM) will develop a comprehensive programme for the identification of risk factors and candidate mechanistic pathways related to breast, thyroid, ovarian, and endometrial cancers.
- The Onco-Metabolomics Team (OMB) will implement a programme to examine associations between nutrition, diet, lifestyle, obesity, and the gut microbiome and the risk of gastrointestinal tract cancers.
- The Biostatistics and Data Integration Team (BDI) will implement an infrastructure to liaise data from international consortia.
- The Computational Cancer Genomics Team (CCG) will develop a comprehensive programme to investigate the molecular triggers of rapid early-stage lung cancer progression, while also advancing aspects of IARC's Open Science initiatives.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
It is intended to seek collaborations with WHO within programme #2.

Concrete outcomes of the programme:
Generation of molecular data to investigate hormonal cancers
Generation of novel metabolomics and microbiome data to investigate gastrointestinal tract cancers
Data federation
Generation of data to investigate molecular triggers behind the rapid progression of early-stage lung cancer
Generation of molecular data in histologically normal material related to the early steps in carcinogenesis

Key Performance Indicators
- ➔ Extrabudgetary funding secured to implement the projects' objectives
- ➔ High-impact publications in peer-reviewed scientific journals
- ➔ Communication of results to the general public
- ➔ Capacity-building and mentorship for early-career scientists and staff
- ➔ Extended international collaborations

Identification of germline susceptibility variants and hypotheses related to lymphoma etiology.	

Hormone-related cancers: integrative molecular tools to identify the underlying causal pathways		
Tier 2	**Coordinating Branch:** NME	**Contributing Branches:** GEM

Outputs of the project:

Hormone-related cancers pose a significant global health burden. Breast cancer is the most common cancer in women worldwide, accounting for nearly 2.3 million new cases annually, driving up health-care costs, and affecting workforce participation. Ovarian cancer, although less common, is one of the leading causes of cancer-related deaths, because of late detection. Endometrial cancer rates are rising, particularly in countries with increasing obesity rates. Thyroid cancer is the fastest-growing cancer in incidence, although survival rates are generally high. It is recognized that hormones play a key role in their development, but the lifestyle causes of these hormone-related cancers still need to be uncovered, together with the biological pathways associated with their onset. Better understanding the etiology of hormone-related cancers could inform primary prevention strategies, as well as prevent their recurrence and improve survival.

We propose an ambitious series of studies aimed at:

- Identifying novel risk factors and pathways related to breast, thyroid, ovarian, and endometrial cancers;
- Exploring candidate mechanisms linking risk factors -- whether known or newly discovered -- to the development of these cancers.

To achieve this, we will apply cutting-edge laboratory techniques, such as proteomics and metabolomics, to observational and intervention studies worldwide. Leveraging molecular data from the NME laboratories, we will advance understanding on how endocrinologic and metabolic pathways contribute to cancer. Obesity and metabolic health will be primarily examined, via the identification of novel biomarkers and specific signatures that could inform on candidate biological pathways related to cancers. We will investigate potential mechanisms through advanced mediation models, by integrating lifestyle factors, molecular features, and cancer indicators. Mendelian randomization analyses, using genetic instruments from large-scale consortia (e.g. BCAC and ECAC for breast and endometrial cancer, respectively), will be performed to further assess the causality of observed associations.

The identification of novel, modifiable risk factors is essential to improve prevention and to lower cancer burden among women. In the context of the global obesity crisis and the transition to lifestyles typical of industrialized countries, results generated from this research programme may guide specific prevention efforts for hormone-related cancers. If found to be causal and modifiable, the identified molecular pathways could be used to support the development of non-invasive methods to identify high-risk individuals and guide therapeutic strategies for clinical or lifestyle interventions.

Exploring the role of metabolic factors in gastrointestinal cancer development		
Tier 2	**Coordinating Branch:** NME	**Contributing Branches:** ENV, EPR, ESC, GEM, LSB

Outputs of the project:

Metabolic changes have been linked to cancer development, particularly for cancers of the gastrointestinal tract, including oesophageal, stomach, liver, biliary tract, pancreatic, and colorectal cancers, which are influenced by dietary and lifestyle factors, as well as the gut microbiome. This project aims to identify targetable metabolic pathways for cancer prevention while also identifying modifiable cancer risk factors and high-risk population subgroups. Understanding the underlying mechanisms connecting these factors to cancer is critical towards the development of effective cancer prevention policies.

We will implement epidemiological studies to examine associations between nutrition, diet, lifestyle, obesity, and the gut microbiome and the risk of gastrointestinal tract cancers. The synergism between the gut microbiome and its metabolic activity and dietary and lifestyle factors can influence host metabolism in ways that either promote or protect against cancer. This project will place special emphasis on investigating their role in gastrointestinal tract cancer development.
This research will leverage multiple complementary data and biospecimen resources, including large-scale prospective cohorts such as EPIC, with > 520 000 participants from 9 European countries, and UK Biobank, with 500 000 participants, among other repositories. It will also rely heavily on metabolomics data, which will be generated within the NME metabolomics laboratories. A major focus will be the development and application of liquid chromatography-mass spectrometry (LC-MS)-based metabolomics approaches to support these studies.
Key outputs of this project will include the generation of impactful scientific knowledge that contributes to cancer prevention guidelines and policies. The project will be implemented within the unique multidisciplinary environment of NME, which combines epidemiology expertise with cutting-edge metabolomics laboratory facilities designed specifically for large-scale population research.

Identifying the causes of the global increase in early-onset colorectal cancer		
Tier 1	**Coordinating Branch:** GEM	**Contributing Branches:** NME, LSB, LCB, ITS

Outputs of the project:
The overall incidence of colorectal cancer has been stable or even decreasing in many HICs in recent decades, largely due to improved screening and early detection. In contrast, there has been an increase in the incidence of early-onset colorectal cancer (eoCRC) before age 50 years, and the cause of this increase is not understood. Epidemiological studies have investigated potential causes for these trends, including an increase in exposures that are known to cause colorectal cancer at later ages, such as obesity, alcohol consumption, and diet. However, none of these risk factors is specific to eoCRC, and the cause or causes of this increase remain unknown. The steep increase in eoCRC incidence over the past 30 years indicates that a new environmental exposure has emerged, but prevention of eoCRC will not be possible without its identification.
We aim to:
(i) Leverage the established consortium of > 30 partners across 5 continents from the Mutographs project (flagship) to continue the scientific focus on early-onset cancers.
(ii) Establish a biorepository of > 3000 cases of colorectal cancer, increasing the Open Science outputs of GEM, with a particular focus on eoCRC.
(iii) Initiate a collection of up to 300 colorectal tissue samples and exposure data on children and healthy individuals.
(iv) Conduct mutational signature studies to identify the role of the microbiome and other factors in causing the increase in eoCRC incidence.
(v) Lead an international consortium with specialist centres in sequencing, microbiome analysis, and bioinformatics.

PROMINENT: Discovering the molecular signatures of cancer PROMotion to INform prevENTion		
Tier 2	**Coordinating Branch:** GEM	**Contributing Branches:** NME, LSB, LCB, ITS

Outputs of the project:
PROMINENT aims to understand the mechanisms by which environmental and lifestyle factors promote cancer development, with a focus on the emerging role of non-mutagenic factors in driving the transformation from normal cells to cancer. The work on human tissues builds on the Mutographs project's collection of thousands of human samples with detailed exposure information from regions of high and low cancer risk. GEM's Open Science work is expanded with new collections of samples that have also been initiated with a focus on the objectives of PROMINENT, including oesophageal

squamous cell carcinomas in low- and high-risk areas (Canada and Malawi, respectively) and the collection of oesophageal tissue from healthy individuals in a high-risk area in the south of Brazil (Pelotas).
Using multi-omics analyses, PROMINENT will identify clonal and phenotypic differences in normal tissues from individuals with diverse risk profiles and exposures to potential promoters by: (1) Assessing variations in clonal architecture in normal tissues exposed to environmental, lifestyle, or endogenous risk factors; (2) Characterizing transcriptomic profiles to uncover early molecular changes; and (3) Mapping spatial tissue organization to detect disruptions linked to environmental, lifestyle, or endogenous risk factors.

DISCERN/Environmental causes of cancer		
Tier 1	**Coordinating Branch:** GEM	**Contributing Branches:** NME, LSB, LCB, ITS

Outputs of the project:
The overall goal of DISCERN is to understand the causes of three poorly understood cancers in Europe – renal, pancreatic, and colorectal cancer – and help to explain the geographical distribution of these cancers, including their high incidence in central and eastern Europe. This will be achieved by combining large-scale European biorepositories comprising population-based cohorts and tumour case series with state-of-the-art exposomics and proteomics, as well as genomics technologies, that analyse both normal and tumour tissue. DISCERN will provide the critical evidence base required to develop new prevention strategies for these cancers in Europe. DISCERN builds upon ongoing pan-European initiatives, including the European Human Exposome Network (EHEN), the Partnership for the Assessment of Risks from Chemicals (PARC), EXPANSE, and the Mutographs project (flagship). The main outcomes of the project are:
1. Leverage the biorepository of the Mutographs project and selected longitudinal cohort collections to perform a broad exposomic profiling on blood and tissue samples globally.
2. Build a comprehensive catalogue of environmental mutagenic exposures, including their temporal trends and geographical distribution.
3. Uncover underlying causes of prevalent cancers through a broad exposomic approach of blood and tissue samples.

Germline susceptibility		
Tier 2	**Coordinating Branch:** GEM	**Contributing Branches:** NME, ITS

Outputs of the project:
Background. GEM has a long-standing leadership role in coordinating international genetic consortia to investigate the causes of cancer. GEM convenes some of the world's largest resources for germline studies across multiple cancer sites:
- InterLymph – global resource for lymphoma genetics and epidemiology (~70 000 cases and 137 000 controls from > 30 studies);
- ILCCO – global resource for lung cancer genetics and epidemiology (~100 000 cases and 200 000 controls from > 80 studies);
- VOYAGER/HEADSpAcE (Dr Virani) – largest global initiative in head and neck cancer genetics and epidemiology (~19 000 cases and 40 000 controls from > 19 studies);
- Complementary collaborations with the US NCI for kidney cancer.

These large-scale platforms are made possible through IARC/WHO's unique convening role, which fosters collaboration across continents and disciplines, harmonizes diverse studies, and integrates the multidisciplinary expertise needed to advance genetic discoveries in cancer.
This project will capitalize on GEM's leadership in international consortia by harmonizing genetic and environmental data across Europe, the Americas, the Middle East, Asia, and Oceania. Within the framework of the IARC Medium-Term Strategy, GEM will leverage these platforms to:

- Advance understanding of the causes of cancer – integrate germline susceptibility with detailed epidemiology to uncover novel carcinogenic mechanisms and refine the causal role of established exposures;
- Translate discoveries into precision prevention – develop and validate genetic risk scores and other tools to guide integration of genomics into population screening and secondary prevention strategies;
- Promote Open Science and global equity – mobilize consortia data through IARC's Data Coordination Centre (DCC) and Scientific IT Platform, enabling wide access for approved research projects, while actively recruiting and integrating under-represented populations.

Uncovering the molecular processes driving poor-prognosis cancers (focus on lung and pancreas)		
Tier 2	**Coordinating Branch:** GEM	**Contributing Branches:** ESC, NME, LSB, LCB

Outputs of the project:

Small cell lung cancer (SCLC) and pancreatic ductal adenocarcinoma (PDAC) are among the most lethal and refractory cancers. Previous work has failed to improve outcomes for patients with these diseases, and thus future research must be conducted with innovative hypotheses and technologies. GEM has investigated the mutagenic effects of known and unknown carcinogens across multiple cancer types and geographical regions through the Mutographs project (flagship). However, the project could neither prove how known risk factors cause PDAC nor identify new causes of the disease. Building on the emerging hypothesis that cell states, defined by the convergence of intrinsic (tumour-specific) and extrinsic (microenvironmental) factors, may represent an initial step in rendering cells susceptible to carcinogenesis, this project aims to advance our understanding of these aggressive tumours through molecular profiling with a view to informing screening programmes and intervention strategies. In addition, the datasets used within these projects are partly obtained from the Mutographs project, housed within GEM, and represent varied geographical regions, ensuring that the results have global relevance.

Knowledge generation to build next-generation evidence-based prevention strategies:

1. Uncover the mode of action of known and suspected risk factors and carcinogens. These findings are expected to guide prevention strategies and inform future screening and early-stage interventions.
2. Reveal previously unrecognized, "cryptic" aggressive cell populations that often escape detection by conventional histopathology or bulk molecular profiling. This will provide novel morphological biomarkers for detection of the earliest stages of tumour aggressiveness in SCLC and PDAC.
3. Pave the way for next-generation "ecological cancer prevention", which aims to prevent the emergence of pro-tumoral microenvironments and force existing early tumour ecosystems to collapse.

Capacity-Building and Open Science:

1. Development of data analysis pipelines for the processing, integration, and interpretation of single-cell and spatial transcriptomics data, as well as AI solutions for whole-slide image analysis and multimodal data integration.
2. Creation of tools to study the evolution of cancer ecosystems that are easily applicable to other cancers prioritized by GEM (e.g. oesophageal cancer).
3. Training courses on computational genomics and AI organized annually at IARC.

ExpoDrivers: Epigenetic drivers of cancer and their link to environmental exposures		
Tier 4	**Coordinating Branch:** ENV	**Contributing Branches:** ESC, NME, EPR

Epigenetic deregulation is increasingly recognized as a key driver of carcinogenesis. Alterations in the epigenome can reprogramme gene expression, support hallmark cancer traits, and shape tumour phenotype and progression – often in ways comparable to genetic mutations. Importantly, epigenetics serves as a critical interface between the genome and the environment: both

endogenous and exogenous exposures can alter chromatin states, influencing cellular response and cancer risk. However, the interplay between epigenetic drivers ("epidrivers") and environmental exposures remains poorly understood. This project addresses this gap by investigating whether epidrivers directly drive tumour development or mediate the carcinogenic effects of environmental exposures. The ultimate aim is to generate mechanistic insights that improve cancer prevention, classification, and evaluation of carcinogenic hazards using an established framework combining (1) in silico analyses of epigenetic alterations in large datasets, (2) molecular epidemiology building on several consortia and established cohorts (notably the flagship EPIC cohort), and (3) state-of-the-art experimental modelling to validate causal mechanisms. The focus is on highly prevalent cancers: breast and colorectal cancers, with contributions to childhood cancers (projects: BaCK-TraCK, EpiCARE) and lung cancer (project: DiaLCT). The ExpoDrivers project will investigate exposures relevant to the studied cancers, such as endocrine disruptors, pesticides/fungicides, biological agents, and mycotoxins.
The project demonstrates high scientific relevance and strong alignment with IARC's mission, leveraging established internal expertise and infrastructure in epigenetics, molecular epidemiology, and experimental modelling. Its maturity and implementation-readiness ensure that measurable outcomes can be delivered, including defined KPIs such as epigenetic biomarkers, exposure signatures (see below), and mechanistic insights that can directly inform cancer prevention strategies and policy. By interacting with multiple IARC initiatives, including flagship projects (DiaLCT, EpiPediac, EpiCARE, CanScreen5) and contributing to WHO global initiatives on cancer, the project enhances cross-Pillar collaboration and strengthens external partnerships and networks (CRCL, CLB, INSERM, LyriCAN+ consortia, France; Sunway University, Malaysia; Princess Maxima, the Netherlands; University of Otago, New Zealand; ISS Rome, Italy; Ghent University, Belgium; Mount Sinai, USA; Ottawa University, Canada, etc.), increasing both scientific credibility and reputational value.

Outputs of the project:
Scientific Discoveries:
- Identification of epigenetic drivers in cancers, with validation in experimental models.
- Characterization of exposure-related epigenetic signatures serving as biomarkers of cancer risk.
- Mechanistic insights into the role of the cross-talk between the epigenome and environmental and lifestyle factors such as endocrine disruptors in aggressive breast and colorectal cancers.
- Mechanistic evidence on the impact of bacterial and fungal toxins in colorectal cancer.
- Support with mechanistic and molecular evidence other ENV projects (BaCK-TraCK, EpiCARE, DiaLCT, etc.).
- Mechanistic data supporting studies on risk factors leading to early cancer onset and emerging carcinogens, notably those affected by climate change.

Evidence for Policy and Prevention:
- Generation of high-quality mechanistic evidence to inform *IARC Monographs* evaluations of carcinogens (including endocrine disruptors, bacterial and fungal toxins, biological agents, pesticides, etc.).
- Contribution to WHO global initiatives on cancer (notably the WHO Global Breast Cancer Initiative).
- Contribution to the WHO Classification of Tumours.
- Evidence supporting early detection and screening strategies (CanScreen5 flagship).

Capacity-Building and Dissemination:
- Contribute to IARC Learning Programme flagship by training of Early Career and Visiting Scientists (ECVSs) and strengthening technical expertise in collaborating institutions worldwide.
- Dissemination of findings through open access publications, systematic reviews, outreach campaigns, and workshops to raise awareness of exposure-related cancer risks.

Understanding oral cancer etiology through lifestyle and biological risk factors		
Tier 3	**Coordinating Branch:** ENV	**Contributing Branches:** ESC, ENV, GEM
Outputs of the project:		

This project, strongly endorsed by the Scientific Council Review Panel for ENV in January 2025, aims to clarify how lifestyle exposures, infectious agents, and host tissues interact in oral squamous cell carcinoma (OSCC). Using 700 samples from 5 continents and 7 countries (USA, France, Czechia, and 4 LMICs: Brazil, Indonesia, the State of Libya, and Malaysia), ENV will study how bacteria, viruses, and fungi interact with host cells and the immune system. A key focus is on oral tongue cancers, which have driven the rising global incidence and early-onset disease for > 20 years. By uncovering mechanisms through which infections contribute to OSCC, the research seeks to identify biomarkers of onset and recurrence and targets for therapy and prevention. ENV will also assess how infectious agents and the oral epithelium interact with alcohol consumption, examining how alcohol promotes pathogen persistence and carcinogenesis. Additional research in Ethiopia, a specific LMIC setting, will evaluate how khat, tobacco, and alcohol use cause genomic damage in OSCC, aiming to detect genetic signatures for early diagnosis, prognosis, and novel risk factors.

The project further aims to develop molecular biomarkers for early detection, monitoring, prevention, and prognosis of OSCC, improving diagnostic accuracy and enabling precision prevention and treatment. Preliminary analyses of ~20% of samples confirm the feasibility and operational readiness for full-scale implementation. Fully aligned with IARC's mission and the MTS 2026–2030 priorities – advancing precision prevention, equity, and innovative cancer control – the project addresses oral cancers that disproportionately affect LMIC populations, offering strong potential for public health impact.

OraCLE, led by ENV, builds on IARC's broad expertise in molecular epidemiology, genomics, and infection research, supported by established biobanking and high-throughput capacity, ensuring feasibility and sustainability. The project also strengthens capacity and training in LMIC partner institutions, fostering the next generation of cancer researchers. Externally, it leverages partnerships with academic centres, public health agencies, and clinical institutions, enhancing scientific credibility and reach. Its cross-Pillar relevance, from mechanistic biology to prevention and implementation, provides broad institutional value. Defined KPIs (e.g. validated biomarkers, predictive models, risk factor signatures will demonstrate contributions to cancer prevention at the population level.

OraCLE's scalability across diverse populations, particularly in LMICs with high oral cancer burden, positions it as a model of translatable research with global relevance and lasting impact. With timely prioritization, OraCLE can advance biomarker discovery, mechanistic studies, and multicountry sample collection at full scale, strengthen global and LMIC collaborations, align with IARC's 2026–2030 priorities, and accelerate the development of early detection and prevention tools for oral cancers. Without adequate support, progress may slow, partnerships could lose momentum, and delivery of the unique and crucial tools would be delayed.

ToxEpiGen+: Toxicogenomics of high-priority chemical and microbial cancer risk agents		
Tier 4	**Coordinating Branch:** ENV	**Contributing Branches:** ESC, GEM, ENV, NME

Outputs of the project:

Mutations are key drivers of tumorigenesis, and their patterns can provide insight into cancer etiologies; however, new evidence shows the importance of other cancer-promoting mechanisms that often act in conjunction with genetic changes. This is in line with the different modes of action associated with cancer risk agents, which have been summarized as part of the key characteristics of carcinogens. The objective of this project is to fill emerging gaps by identifying new mutational and non-mutational molecular signatures of cancer risk agents and to link them to alterations detected in cancer, to better understand the causes of human cancer and mechanisms of carcinogenesis, and to help develop scientific strategies for cancer prevention. This will be achieved by generating the following outputs:

Molecular Signatures of Cancer Risk Agents:

The selected cancer risk agents are aligned with the priorities of the *IARC Monographs* flagship, and the omics-based readouts are established in the team. Moreover, ENV has led the development of a framework for the incorporation of -omics data into future *Monographs* evaluations.

- Identify DNA damage, genomic, epigenomic, and transcriptomic signatures linked to cancer risk agents, including common lifestyle exposures (e.g. e-cigarette compounds), microorganisms (e.g. *Fusobacterium nucleatum*), pollutants, and occupational hazards (e.g. asbestos).
- Inclusion of the identified exposure-specific molecular signatures in cancer hazard and risk assessments.

Mode-of-Action Analysis of Cancer Risk Agents:

- Based on the key characteristics of carcinogens framework used for *IARC Monographs* evaluations, determine the mechanisms by which cancer risk agents cause DNA damage, epigenetic changes, and oxidative stress and disrupt cell functions such as proliferation or cell death.
- Generate mechanistic knowledge for *IARC Monographs* (flagship) evaluations, in support of evidence-based policy-making and primary prevention.

Molecular Markers of Carcinogenesis:

- Identify biomarkers of carcinogenesis induced by internal and external risk factors. Using unique methodologies developed as part of the ToxEpiGen+ project, such molecular markers have and will be characterized, in the context of collaborative activities, in cohorts of breast cancer (EPIC flagship, ABC-DO project (LMIC)), waterpipe vs tobacco smoking-related lung cancer (DiaLCT project (LMIC)), and oral cancer (OraCLE project (LMIC)).
- Apply the identified markers to early cancer detection, risk assessment, and monitoring, or the evaluation of the effectiveness of prevention strategies.

The project uses innovative approaches to identify mutational signatures, pre-mutagenic DNA damage, and non-genotoxic mechanisms. Focusing on high-priority chemical and microbial agents and leveraging experimental studies, epidemiological collections, and pan-cancer genome data, it enhances cancer hazard assessments and generates mechanistic insights that support IARC's mission and the flagship *IARC Monographs* Programme. The project is mature and implementation-ready, with strong expertise and infrastructure in exposure science, (epi)genomics, and cancer mechanisms. It offers training opportunities, benefits from strategic partnerships, integrates cross-Pillar research, and uses defined KPIs to measure public health impact, with a scalable design that ensures scientific relevance, innovation, and contributions to cancer prevention.

Data federation for cancer epidemiology		
Tier 1	**Coordinating Branch:** NME	**Contributing Branches:** GEM

Output of the project:

Epidemiological evidence on cancer prevention has primarily been generated through prospective studies, where individuals who have not yet developed disease are recruited and followed up over time. These studies have been instrumental in assessing the relationships between diet, lifestyle, occupational, and environmental exposures and cancer risk. Recently, significant resources have been allocated to establish new studies and to merge individual studies into large consortia, enhancing statistical power. These consortia are particularly valuable for investigating the etiology of specific cancer types or subtypes, such as early-onset colorectal cancer, and for examining a wide range of molecular exposures, both targeted and untargeted.

Historically, consortia data has been allowed to be centralized in a single location for pooled analysis. For instance, the EPIC study, a consortium of cohort studies from 10 European countries, has been centralized, harmonized, and maintained at IARC since the 1990s. However, recent data protection regulations, such as GDPR, have significantly restricted the ways in which epidemiological data can be shared and analysed. Centralizing data from studies across different countries or continents has become increasingly difficult, if not unfeasible.

Federated data analysis, which allows each study to be analysed locally and in compliance with data protection laws, offers a solution to this challenge. Instead of sharing raw data, only summary results from local analyses are exchanged and combined, yielding results comparable to those from pooled analyses. This method safeguards the integrity and confidentiality of individual-level data while ensuring that international collaborations, such as EPIC and other large consortia, continue to produce robust and accurate scientific results.

In collaboration with international experts in federated data analysis, we aim to:
- Implement federated analyses within EPIC and other IARC-coordinated consortia, such as DISCERN.
- Expand federated analyses to other large consortia, including the NCI Cohort Consortium and the UNCAN initiative.
- This ambitious project will benefit from the extensive experience NME has gained in the harmonization, centralization, sharing, and analysis of large prospective epidemiological studies. Ensuring IARC's continued leadership in coordinating large-scale epidemiological research will be critical in the years ahead.

Programme #3: Environment, occupation, and lifestyle		
Pillar II – Discovery Programme Tree Path: 2.3	**Leading Branch:** ENV	**Contributing Branches:** ENV, GEM, NME, CSU, ESC

General objectives of the Programme:

ENV leads an extensive IARC programme of research into the environmental and lifestyle causes of cancer. These include the natural environment and anthropogenic environment, spanning environment, radiation, occupation, and lifestyle factors. ENV has 10 broad projects within this Programme, each with multiple research components.

Some of these projects are exposure-focused and include investigations of exposures and mixes of exposures for which the carcinogenicity is unknown but the exposure prevalence – and thus the public health importance and potential population attributable fractions – is large. They include epidemiological, exposure-methodology, and mechanistic studies to identify whether any cancer risks are associated with (1) tattooing and (2) non-ionizing radiation (especially linked to mobile telephony electromagnetic frequencies). A second group of projects is dedicated to cancers for which the epidemiology still has large etiological gaps but for which a large sample size or international partners are needed to deliver on the epidemiological etiology. In this regard, we aim to identify modifiable and thus preventable risk factors. These include studying the etiology of (3) squamous cell oesophageal cancer in East Africa and southern Africa (through the ESCCAPE study), including to determine the role of tobacco (smoked and smokeless), alcohol, poor oral health/hygiene, and indoor air pollution and to better understand the geographical distribution, and studies of the etiology of (4) childhood cancer worldwide through the CLIC international pooling consortium of leukaemia and childhood cancers. A third group of projects concerns exposures in the occupational setting. They include a programme of work in occupational cancers, specifically on (5) occupational cancers: prevention, including for lung and testicular cancers, (6) occupational cancers: asbestos mining in the Russian Federation (Asbest), and (7) occupational cancers: agricultural exposures, including to pesticides (AGRICOH). In addition, ENV leads a long-standing programme of work on (8) radiation-related cancer risks. Our current radiation focuses are on radiation exposures associated with nuclear testing and nuclear accidents, with a new research project in Kazakhstan and a continued programme on Chernobyl-associated radiation exposures. ENV is also embarking on a new programme of work on potential carcinogenic exposures related to (9) industry-linked environmental contamination in LMICs. These include contamination of soil, water, and air in the vicinity of mining industries, as well as related to the oil industry in the Niger Delta. Finally, ENV is developing a new programme of work of cancer risk associated – either directly or indirectly – with the accelerating rates of (10) climate change. The latter includes novel research on one of the most vulnerable populations to UV exposure, i.e. persons with albinism.

Research Teams and their contribution to the overall objective of the Programme:

ENV leads or co-leads the IARC Teams on occupational cancer and on oesophageal cancer and is a strong member in childhood cancer. ENV has within-Branch research teams, which lead on each of the 10 projects, each comprising several scientists as well as postdoctoral scientists. Each project has a corresponding webpage where all international study team members are listed, encompassing > 50 countries worldwide. The within-Branch teams are on radiation and cancer (for electromagnetic fields and ionizing radiation), on tattooing, and on cancer in Africa (for ABC-DO, ESCCAPE, and BEED), and there is a team on occupational and environmental cancers.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
The Lifestyle, Environment, and Occupational Cancer programme has extensive links to WHO's relevant departments, namely the Department of Environment, Climate Change and Health and the Department of Noncommunicable Diseases, and frequently advises on radiation-related and occupational cancer. The programme is very active in the WHO global initiatives on breast cancer and on childhood cancer. ENV advises the WHO Regional Office for Africa on breast cancer control activities. The programme also has links with the WHO country office in Germany, which is part of the WHO Regional Office for Europe and deals with environmental issues. The programme also has links to other UN organizations, namely the International Labour Organization (ILO), the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), and the United Nations Environmental Programme (UNEP).

Concrete outcomes of the programme:	**Key Performance Indicators:**
➔ Identification of new carcinogens ➔ Identification of carcinogenic effects at low doses and in specific occupational and environmental settings ➔ Identification of risk factors for poorly understood cancers	See individual projects.

Biomarkers of lifestyle exposures and cancer risk		
Tier 3	**Coordinating Branch:** NME	**Contributing Branches:** GEM

Outputs of the project:
Despite extensive research on cancer etiology, conclusive evidence linking a wide range of lifestyle factors to cancer risk remains difficult to obtain because of inconsistent epidemiological findings and a lack of mechanistic understanding. Recent epidemiological efforts have increasingly focused on identifying biomarkers for specific lifestyle exposures. Biomarkers offer objective measures that can overcome the limitations of self-reported data, such as measurement errors. In addition, the identification of biomarkers can shed light on the biological pathways that may mediate the relationship between lifestyle factors and cancer risk.
The availability of large-scale molecular datasets – including metabolomics, proteomics, and other -omics data – from major cohort studies presents critical new opportunities to advance our understanding of cancer etiology. These data can help identify novel biomarkers that improve our understanding of how lifestyle influences metabolic processes and cancer risk. Previous research conducted in NME has demonstrated that molecular signatures comprising multiple biomarkers may more accurately capture the metabolic impacts of lifestyle exposures than individual biomarkers.
This project has the following objectives:
- To identify molecular biomarkers and signatures of lifestyle factors – such as dietary habits, obesity, physical activity, and healthy lifestyle indices – and their links to cancer risk. This will be done by leveraging metabolomics, proteomics, and other -omics data from large cohort studies like EPIC and UK Biobank.
- To develop analytical frameworks that integrate biomarker, -omics, and questionnaire data into statistical models for investigating cancer etiology. This will involve the use of statistical and machine learning techniques for constructing multi-omics signatures, along with methods to characterize candidate biological mechanisms.
This ambitious project will be implemented in the unique multidisciplinary environment of NME, with strong expertise in cancer and molecular epidemiology, biochemistry, statistics, and bioinformatics. This will lead to a better understanding of the relationship between lifestyle factors and cancer risk and, ultimately, to improved cancer prevention recommendations.

Programme #4: Multimorbidity and mortality		
Pillar II – Discovery Programme Tree Path: 2.4	**Leading Branch:** NME	**Contributing Branches:** CSU, GEM

General objectives of the Programme:
Enhancing the understanding of how known and new causes of cancer contribute to multimorbidity and mortality is essential to improve patient outcomes and public health strategies. Cancer rarely exists in isolation; it often co-occurs with other chronic conditions like cardiovascular disease, diabetes, or respiratory disorders, collectively contributing to increased morbidity and mortality. Known risk factors such as smoking, obesity, and alcohol consumption are linked not only to cancer but also to these comorbid diseases, exacerbating the overall health burden. Emerging causes, including environmental pollutants and lifestyle changes, may also play a role in triggering both cancer and other chronic illnesses through shared biological mechanisms like inflammation, immune dysfunction, and metabolic imbalances. By deepening our understanding of how these causes of cancer intersect with multimorbidity, we aim to develop integrated prevention and management approaches that address the full spectrum of a patient's health, reducing both mortality and the long-term disease burden.

Research Teams and their contribution to the overall objective of the Programme:
The Biostatistics and Data Integration Team (BDI) and the Onco-Metabolomics Team (OMB) will jointly contribute towards the programme's objectives. OMB's main contribution will be laboratory analysis of biological samples using high-resolution metabolomics methods and pre-processing of the resulting data to a format enabling statistical analyses. OMB will also perform metabolomics data analysis at the raw data level, including suspect screening and identification of metabolites of interest. BDI will develop and implement machine learning and statistical methods for the analysis of molecular data and the construction of molecular signatures of dietary exposures and cancer risk.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
It is intended to seek collaborations with WHO within programme #4.

Concrete outcomes of the programme:	**Key Performance Indicators**
The programme will produce robust scientific evidence that can inform cancer prevention policy encompassing population groups with other chronic diseases, including diabetes and heart diseases.	➔ Extrabudgetary funding secured to implement the projects' objectives ➔ High-impact publications in peer-reviewed scientific journals ➔ Capacity-building and mentorship for early-career scientists and staff ➔ Communication of results to the general public

Modifiable risk factors at the intersection of cancer and cardiometabolic diseases		
Tier 2	**Coordinating Branch:** NME	**Contributing Branches:** CSU, GEM

Outputs of the project:
Multimorbidity, defined as the co-existence of two or more chronic diseases in an individual, is becoming increasingly common worldwide, driven in part by population ageing. It can lead to reduced quality of life, along with disability and greater need for care, significantly increasing health-care costs for governments globally.
We will focus on investigating the co-occurrence of cancer, cardiovascular diseases, and type 2 diabetes, because these are the most common clusters of multimorbidity and are among the leading causes of morbidity and mortality worldwide. These conditions share common, preventable risk factors, such as poor diet.

In addition, little is known about the biological pathways that link preventable risk factors to the development of multimorbidity in cancer and cardiometabolic diseases. Identifying protein biomarkers, which are believed to be more direct biological effectors than other types of biomarkers, could offer vital clues to the underlying biological mechanisms. Understanding how multimorbidity-associated proteins are linked to "upstream" risk factors could provide valuable insights for the primary prevention of both cancer and cardiometabolic diseases.
The outcomes of this project will contribute to policy recommendations for adults affected by noncommunicable diseases, guide screening for people most at risk of developing disease, and inform interventions across several noncommunicable diseases to prevent cancer and multimorbidity. NME in collaboration with other IARC Branches offers an unparalleled interdisciplinary research environment in which to implement this project, combining expertise on research on social inequality, etiology, and prediction of cancer and cardiometabolic multimorbidity.

Integrated Multi-Dimensional Profiling for Risk Stratification in Head and Neck Cancer (IMPACT-HNC)		
Tier 2	**Coordinating Branch:** NME	**Contributing Branches:** CSU, GEM

Outputs of the project:
Most head and neck cancers (HNCs) are diagnosed at advanced stages, because of limited screening, subtle early symptoms, and structural barriers to timely care. Despite promising therapies, the current standard of care for most patients with HNC remains a combination of surgery, radiation, and/or cytotoxic chemotherapy, which carry significant morbidity. The HEADSpAcE consortium shows that HNC deaths arise primarily from non-cancer causes. Long-term deficits in chewing, swallowing, and speech, as well as visible facial disfigurement from surgery, result in profound quality-of-life impairments. This is reflected in suicide rates of patients with HNC that are 4 times those of the general population and 2 times those of other patients with cancer. Stratifying patients at diagnosis to guide prognostication of adverse outcomes is essential to improve both survival and survivorship.

- Scientific Outputs:

Molecular/viral biomarkers – Clinically validate HPVhet score in > 1000 tumours for de-escalation trials. Output: robust stratifier to guide tertiary prevention and guidelines.
Digital pathology and morphology-based predictors – Deliver first externally validated deep learning index of nodal metastasis risk from whole-slide images. Output: low-cost imaging tool to identify patients who can avoid intensive therapy.
Immune signatures – Define immune archetypes integrating germline and somatic variation, generating a tumour aggression score for oral cavity cancer. Output: biology-driven basis for risk-adapted surveillance, usable where sequencing is not feasible.
Care-pathway interface – Quantify how treatment delays interact with tumour aggressiveness across countries. Output: system-level guidance, especially for LMICs, to prioritize timely care and reduce inequities.
Integrated risk framework – Combine biological and socioeconomic data into risk algorithms. Output: decision-support blueprint for function-preserving, equitable care.
Equitable research findings – Ensure representation from high-burden regions via HEADSpAcE. Output: generalizable results across global populations.

- Infrastructure and Capacity-Building:

Leverage Mutographs – Integrate Mutographs-generated whole-genome sequences of HNCs with new transcriptomic, spatial -omics, and digital pathology layers, bringing the HEADSpAcE Data Centre to > 18 000 cases of HNC. This output maximizes the value of existing flagship data and creates the world's most comprehensive resource for HNC prognostic research.
Controlled and open data dissemination – Share de-identified -omics publicly (EGA, dbGaP) but maintain linkage-ready datasets through the secure HEADSpAcE Data Centre. Output: transparent, reproducible, and linkage-capable resource with data protection.
Global access under IARC/WHO – Operate and enforce ethics-cleared, tiered access to data and biospecimens. Output: positions IARC/WHO as custodian of the largest longitudinal HNC repository with follow-up data, strengthening its leadership role and enabling high-quality international collaboration.

Capacity-building and knowledge transfer – Deliver Oral Cancer Team (OCT) workshops and mentoring that use HEADSpAcE data to address expert-defined knowledge gaps. Output: sustainable local expertise, and empowers partners to generate, manage, and analyse data independently.

PILLAR III – IMPLEMENTATION

Leading Branches:
- **Epigenomics and Mechanisms (ENV)**
- **Nutrition and Metabolism (NME)**
- **Genomic Epidemiology (GEM)**
- **Early Detection, Prevention, and Infections (EPR)**
- **Environment and Lifestyle Epidemiology (ENV)**

Programme #3: Biomarkers for early detection		
Pillar III – Prevention Programme Tree Path: 3.1	**Leading Branches:** NME, EPR	**Contributing Branch:** GEM
General objectives of the Programme: Biomarkers can enhance risk assessment and early detection of cancer and contribute to screening and other cancer prevention programmes. Biomarkers are usually measured in blood or other fluids such as urine or saliva, and include measures of proteins, metabolites, and changes in circulating DNA. They are typically measured before disease onset, including in large cohort settings. Alternatively, they can be incorporated into post-diagnostic studies as markers of cancer progression. By improving the precision of risk assessment and early detection, we will leverage large spectra of molecular data to gain insights about cancer development and to identify tools for early detection. Biomarkers hold the promise of reducing cancer incidence and mortality through earlier and more personalized prevention.		
Research Teams and their contribution to the overall objective of the Programme: The Biostatistics and Data Integration Team (BDI) and the Onco-Metabolomics Team (OMB) will jointly contribute towards the programme's objectives. OMB's main contribution will be laboratory analysis of biological samples using high-resolution metabolomics methods and pre-processing of the resulting data to a format enabling statistical analyses. OMB will also perform metabolomics data analysis at the raw data level, including suspect screening and identification of metabolites of interest. BDI will develop and implement machine learning and statistical methods for the analysis of molecular data and the construction of molecular signatures of dietary exposures and cancer risk.		
Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer: It is intended to seek collaborations with WHO within programme #3.		
Concrete outcomes of the programme: - Development of statistical and machine learning methods for the analysis of molecular data, in particular in nested case–control studies - Identification of molecular signatures of lifestyle exposures, including diet, alcohol intake, and physical activity - Generation and annotation of untargeted metabolomics data	**Key Performance Indicators** ➔ Extrabudgetary funding secured to implement the projects' objectives ➔ High-impact publications in peer-reviewed scientific journals ➔ Capacity-building and mentorship for early-career scientists and staff	

Urine biomarkers for the early detection and monitoring of bladder cancer		
Tier 2	**Coordinating Branch:** GEM	**Contributing Branches:** ENV, EPR, LCB
Outputs of the project: - Capacity-Building, Innovation, and Patent Development:		

This project capitalizes on IARC's expertise in biomarker development to advance non-invasive diagnostics for bladder cancer. A patent for the uTERTpm urine-based assay – developed and validated over the past decade – is planned for filing by the end of 2025, marking a key step towards clinical application and potential commercialization.

- Robust Clinical Validation for Early Detection in Asymptomatic Populations:

The NIH ProspecTERT project will validate the performance of uTERTpm in 5 large prospective cohort studies. This will generate robust evidence on its ability to detect preclinical bladder cancer, with direct implications for population-level screening and early intervention strategies, particularly in high-risk, asymptomatic individuals.

- Biomarker Comparison and Health Technology Assessment:

Through the EU-funded UbioBCa study, we are conducting multicentre biomarker comparisons (including uTERTpm) across diverse populations, with collection of > 1500 urine samples (in Canada, France, and Germany). The study will evaluate 4 key biomarkers for bladder cancer detection and recurrence monitoring. uTERTpm data will inform a predictive model for tumour recurrence and support an early health technology assessment (HTA) (KWF OPTIMARK planned project), analysing cost–effectiveness and quality-of-life outcomes associated with biomarker-guided surveillance. These insights will guide decisions on the adoption of urine-based tools in clinical settings.

- Equity in Innovation: Application in LMICs and High-Exposure Populations:

The programme extends its impact to LMICs, evaluating uTERTpm and new IARC-developed mutation panels (UroMut project) in populations with high environmental or occupational risk: Bangladesh (UroScan ongoing project), Malawi (BEED ongoing project), Morocco, and possibly Egypt. This supports global health equity by ensuring access to validated, affordable, and context-appropriate screening methods.

- Evidence-Based Policy Guidance:

Ongoing stakeholder engagement with clinicians, policy-makers (e.g. EAU policy office), and patient advocates ensures alignment of scientific findings with public health priorities. The programme aims to translate biomarker evidence into policy recommendations, shaping national and international bladder cancer screening and surveillance guidelines.

- New Frontiers in Biomarker Science:

Complementary research explores novel biological mechanisms of bladder cancer progression, including sex chromosome loss in urothelial and immune cells (NIH R35 LOY project) and the role of pathogens, using liquid biopsy assays developed at IARC (GEM and ENV). This work could lead to future biomarkers and deeper insights into disease biology.

Tattooing and cancer		
Tier 3	**Coordinating Branch:** ENV	**Contributing Branches:** ENV

Tattooing has become and is still becoming increasingly popular; up to 30–50% of young populations are tattooed in some European populations. Tattoo ink contains known carcinogens and several suspected carcinogens. The first regulations were introduced in the EU only very recently. Tattoo ink migrates into the body not only during the process of tattooing but also with each UV exposure and also in the case of tattoo removal.

Outputs of the project:

ENV is the principal investigator of two general population cohorts on tattooing and cancer in France and Germany, which are embedded in two national cohorts in those countries. Outputs will be unified databases of the first years of follow-up, as well as initial analyses of tattoos in relation to risk of lymphoma and different types of skin cancer. We have already published on the high rates of hepatitis C infections associated with having been tattooed in unsafe settings. For the suspected cancer types that might be affected by tattooing, a better understanding of tattoo exposure distribution within the body is being obtained by investigating the impact on lymph nodes in deceased tattooed people, using laser-induced breakdown spectroscopy technologies. We are also building a consortium of researchers from disciplines spanning epidemiology to toxicology to work together on understanding the health effects of tattooing.

Tattoo studio-based implementation of integrated primary and secondary prevention of viral hepatitis in Vietnam (TAT-HEP)		
Tier 2	**Coordinating Branch:** ENV	**Contributing Branch(es): ENV/EPR**

General objectives of the project:

To develop and evaluate a community-based hepatitis B and C prevention approach embedded in tattoo hygiene training, with the aim of improving testing uptake and supporting liver cancer prevention.

Outputs of the project:

- Integration of a hepatitis B and C prevention module into mandatory hygiene training for tattoo artists.
- Training of tattooists as lay health promoters to raise awareness, distribute self-testing kits, and support follow-up care.
- Evidence on the feasibility, acceptability, and scalability of tattoo studios as non-clinical entry points for hepatitis prevention.
- Transferable evidence to support low-threshold hepatitis testing strategies for liver cancer prevention.

Non-ionizing radiation		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:** ESC

IARC has been instrumental from the beginnings of research into the cancer risks from general population exposure to non-ionizing radiation or electromagnetic fields from power lines, electrical devices, mobile phones, and broadcast and mobile phone antennas. We are a key player with a long history of coordinating international efforts in this research domain. This is reflected in that the entire programme has been successfully run exclusively on extrabudgetary funding, currently with 6 ongoing projects. The longest-term project is the COSMOS study of mobile phone users, initially implemented to run for at least 25 years. In France, it has now been under way for 7 years, by ENV. With the frequent changes in mobile phone technology (now 5G, with 6G already in prototypes), which change exposure patterns and exposed organs, the research focus is also responding appropriately and is adapted with each new technology.

Outputs of the project:
This project is a continued follow-up of the international cohort study of mobile phone users COSMOS, where ENV is part of the steering group and the principal investigator of the French component of the project. This is periodically investigating changes in cancer risk and other health outcomes potentially related to or of concern to mobile phone users. Additional analyses will be done using the UK Biobank study. Second, we will generate a revision of exposure assessment to radiofrequency electromagnetic fields from devices and antennas, considering the changing technologies, especially including new features of the 5G technology. Third, we will conduct risk assessment for the risk of skin cancer related to the 5G technology. Fourth, we will report on childhood cancer risk of children living in the vicinity of radiofrequency electromagnetic fields-emitting broadcast transmitters in France.

Squamous Cell Oesophageal Cancer: ESCCAPE

Tier 2	**Coordinating Branch:** ENV	**Contributing Branches:** NME, GEM

Oesophageal squamous cell carcinoma (ESCC) ranks among the most common cancers diagnosed in both men and women in East Africa. It was a long-neglected cancer in this region until a decade ago, when IARC committed to research investment in this field.

Outputs of the project:
ESCCAPE is a programme of work on ESCC in Africa, spanning etiology and early detection. Outputs in the next 5 years will include:

- ➔ Establish the African Esophageal Cancer Consortium Etiology Pooling Project (AfrECC-EPP), which is a pooling project of all ESCC case–control studies across Africa, and use this resource for etiological investigations. IARC will host the Data Coordination Centre of this first African ESCC consortium.
- ➔ Identification of risk factors for oesophageal cancer in East Africa, overall and by informative subgroups (e.g. women and alcohol/tobacco abstainers). Multiple publications of these findings.
- ➔ Capacity-building of African scientists working on the ESCCAPE project.
- ➔ Conduct HydroESCCAPE in Malawi, a case–control study with environmental samples (drinking-water, staples, air pollution) taken from the home setting, and assess water-related constituents/contaminants in relation to ESCC risk.
- ➔ Submit research grants to fund testing of the early detection of oesophageal cancer via capsule-sponge technologies or proteomics panels.
- ➔ Assess *N*-nitrosamines in foods, water, and urine and their impact on ESCC.

Epidemiology of childhood cancer		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:** CSU, ENV

The etiology of childhood cancer is not well understood, and IARC has a long history of being a respected key player in childhood cancer research, reflected through the requests of leading international consortia.

Outputs of the project:
From the Childhood Cancer and Leukemia International Consortium (CLIC), for which ENV hosts the Data Coordination Centre:

- Unified database and data dictionary of harmonized covariables for childhood solid tumours, namely brain tumours, germ cell tumours, and neuroblastoma.
- Risk analysis of maternal infections during pregnancy and childhood leukaemia risk.
- Advancement of exposure assessment of parental exposure to pesticides.
- Air pollution and risk of various childhood cancers.
- Parental occupational exposure to benzene and childhood leukaemia risk.
- Parental exposure to pesticide and risk of childhood brain tumours.

From the Environment and Child Health International Group (ECHIG), for which ENV is the scientific secretariat:

- PFAS exposure during pregnancy in different countries (Denmark, Norway, France, China, Japan).
- Risk analysis of maternal PFAS exposure during pregnancy and presence of pre-leukaemic clones.
- Preparation of study protocol for other chemical exposure of the mother during pregnancy for risk analysis on pre-leukaemic clones.

From the Cancer in Children – Epidemiology, Registration, Omics (CICERO) study of childhood cancer in Africa, for which ENV is the principal investigator:

- Awareness of childhood leukaemia in Kenya, the United Republic of Tanzania, and Malawi.
- Short-term survival of patients with childhood leukaemia in these countries.
- Better understanding of the journey to diagnosis of patients with childhood leukaemia.

Occupational cancers: Prevention		
Tier 2	**Coordinating Branch:** ENV	**Contributing Branches:** ESC

SYNERGY was created at a time when one of IARC's main activities was coordination of international consortia, and it has been extremely productive to date; present challenges are related to GDPR interpretation, given that all the studies are from the last century. Testicular cancer activities are related to the collaboration agreements between IARC and Centre Léon Bérard from 2010–2011.

Outputs of the project:
Outputs of the project are as follows. First, from the Lung Cancer Case–Control Study Consortium SYNERGY, co-chaired by ENV, are reports on the synergistic effects of 5 main occupational lung carcinogens – PAHs, chromium, asbestos, respirable silica, and nickel – for better understanding of preventing occupational cancer. Second, we will provide scientific insight into parental occupational exposures and the risk of testicular cancer in their sons. Third, we will use infrastructures of employers to reach out to individual workers for tobacco prevention. Because there are synergistic effects between occupational lung carcinogens and smoking, those workers are a particularly vulnerable group. A pilot study to see how the employer infrastructure can be used in France will be completed.

Occupational cancer: Asbestos		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:**

This activity stems from a legally binding agreement between the Ministry of Health of the Russian Federation and IARC, in the context of the Participating State agreement with the Russian Federation, signed by IARC in 2010.

Outputs of the project:
The extension will involve a further 10-year follow-up, with ENV serving as the co-principal investigator of the Asbest Chrysotile Cohort Study.
Deliverables of the project include:
1. Estimation of the exposure of individual workers from 2015 to 2020.
2. Obtaining vital status and cause of death information from the respective authorities up to 2025.
3. Preparation of data for risk analysis.

Occupational cancer: Agricultural exposures		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:**

Pesticides are perhaps the group of chemicals with most active substances with suspected but not established carcinogenicity (according to the *IARC Monographs* Programme), and agriculture is one of the largest industries worldwide. Research appears to be possible only in international collaboration, which is why IARC has played a key role for decades.

Outputs of the project:
The outputs of the projects are from the Agricultural Cohort Study Consortium in AGRICOH. The following scientific outcomes will be produced, with ENV chairing the steering group and being the rapporteur of the steering group:
1. Association between exposure to different pesticides and risk of breast cancer in women.
2. Exposure to different pesticides and risk of prostate cancer.

3. In-depth analysis of active ingredients in pesticides that have previously shown an association with lymphoma in terms of the absolute risk and dose–response relationship.

Radiation from nuclear accidents and nuclear testing		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:** ESC, CSU

IARC has a long tradition of leading studies related to nuclear accidents and nuclear testing, not only because of its good reputation of delivering excellent science but also as a UN institution perceived as neutral, given the political implications of this topic.

Outputs of the project:
First, the creation of a cohort to investigate cancer risk related to nuclear testing at the Semipalatinsk Nuclear Test Site in Kazakhstan, including exemplar risk analysis for leukaemia and selected solid cancers. This is the start of a long-term follow-up. There are accepted research agendas to follow up on the Chernobyl nuclear accident and the Mayak Production Association nuclear accidents and waste dumps, both with a coordinating role of IARC, but these are on hold because of the political situation. While this is the situation, there will be no investment from our side, but we continue the preparedness in anticipation of the situation changing in the future.

Industry-linked environmental contamination		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:** ENV

This activity started as a result of a request to IARC from UNEP for support on health research for the environmental assessment and remediation work of UNEP in Ogoniland, Nigeria, in 4 districts with a total of almost 1 million residents, of which many live in heavily contaminated areas from decades of oil production.

Outputs of the project:
A human biomonitoring study in Ogoniland, Nigeria, in residents and workers exposed to environmental contamination and occupational exposures to oil production and oil pollution. This human biomonitoring study was one of the high-priority recommendations by UNEP, and IARC signed a contract with the Nigerian government to undertake this work.

Climate change: a focus on cancer-vulnerable populations		
Tier 2	**Coordinating Branch:** ENV	**Contributing Branches:** CSU, NME, ESC, EPR, ENV

Persons with albinism (PWA) are among the most vulnerable populations to UV exposure and to climate impacts. With a small population size in individual countries, a UN mandate for the enjoyment of human rights and health of PWA, and the 2025 World Health Assembly resolution on skin diseases, IARC is perfectly positioned to initiate research on the infectious, genetic, and UV influences on skin cancer risk and prognosis in PWA. PWA are also most prevalent in LMICs.

Outputs of the project:
Following the IARC recommendations to expand climate change research in the context of cancer, ENV is involved in two lines of research. First, within the French cancer prevention network CANCEPT, where ENV is a member of the steering group: development of an overview and quantification of how climate mitigation measures have beneficial effects for cancer prevention, to endorse their implementation. This will be done in collaboration with the Cancer Prevention Europe network for

optimal outreach within Europe. Second, ENV has started a new programme of work on skin cancer risks in PWA. Outputs of this project include:
- Assess whether sunscreen use (which is not established to reduce skin cancer risk in the general population) protects against skin cancer risk among PWA. Almost all skin cancers in PWA are non-melanoma.
- Establish new epidemiological studies on skin cancer in East Africa and southern Africa, including to (i) evaluate the impact of skin cancer screening of PWA on skin cancer incidence and skin tumour size and (ii) update the distribution of the major causes of death of PWA in sub-Saharan African countries with the highest prevalence of PWA.

Epigenetic signatures and risk factors of childhood cancers in LMICs		
Tier 3	**Coordinating Branch:** ENV	**Contributing Branches:** ENV, CSU, ESC, EPR, NME

Outputs of the project:
Paediatric cancers in LMICs remain critically understudied, with causes and risk factors far less understood than in HICs – particularly for endemic Burkitt lymphoma and leukaemia (the most prevalent cancers in LMICs). This disparity is striking given that ~80% of the world's child population lives in LMICs, where survival rates for childhood cancers can be as low as 20%. By 2050, nearly half of the global cancer burden in children younger than 15 years is projected to occur in sub-Saharan Africa. Therefore, understanding the underlying mechanisms and identifying context-specific risk factors is an urgent global health priority to reduce preventable deaths and improve outcomes in these regions.
This project leverages cohorts of neonatal biological samples and/or tumour biopsies from children with Burkitt lymphoma and leukaemia built in collaboration with multiple sites in Africa (Burkina Faso, The Gambia, Kenya, Malawi, the United Republic of Tanzania) and Brazil (collaboration with INCA Brazil), with the aim to extend to additional LMIC regions (e.g. Asia and other countries in Africa and South America). This project also builds on multi-omic profiling of the epigenome, virome/microbiome, and metabolome – alongside biomonitoring of in utero samples where available – complemented with experimental modelling of exposures (specific to LMIC regions), which will, all together, uncover environmental, lifestyle, and infectious risk factors (e.g. mycotoxins, viruses, parasites, dietary habits, pollution) and molecular drivers of paediatric cancers in LMICs and compare them with patterns observed in HICs. This project is led by ENV and in collaboration with multiple Branches and Teams at IARC (CCARE, SLC) and will ultimately generate evidence contributing to the establishment of preventive strategies and public health measures that will improve survival and equity in paediatric cancer care worldwide. Specific outputs:
Scientific Discoveries:
- Generate evidence on how early-life exposures to mycotoxins and multi-infections induce epigenetic changes contributing to endemic Burkitt lymphoma and other childhood cancers in Africa.
- Comparative analyses of paediatric leukaemia epigenetic profiles across sub-Saharan Africa, Brazil, Europe, and North America to unravel region-specific molecular and environmental exposure risk factors.
- Multi-omic insights integrating epigenetics, metabolomics, virome/microbiota, and transcriptomics from LMIC cohorts and experimental modelling of exposures to advance the understanding of the mechanisms of paediatric cancers in LMICs.

Evidence for Policy and Prevention:
- Deliver research outputs that directly contribute to IARC's mission of reducing the global cancer burden through prevention and early intervention, with a strong focus on LMICs.
- Provide a robust evidence base to support strategies aimed at controlling mycotoxin contamination in LMICs, particularly in vulnerable populations, recognizing that rising global temperatures will exacerbate fungal proliferation and food contamination risks.
- Evidence bases for inclusion in *IARC Monographs* flagship on carcinogenic hazards (e.g. mycotoxins, several biological agents).
- Provide actionable, evidence-based data for policy-makers and public health agencies to design LMICs/region-specific cancer prevention and early detection strategies.

- Scientific foundations to (i) anticipate how climate change will exacerbate infection prevalence and mycotoxin-related cancer risk globally and (ii) contribute to the One Health studies.

Capacity-Building, Equity, and Dissemination:

- Establishment of cohorts and biobanks for paediatric Burkitt lymphoma and leukaemia in less-studied LMIC regions with high prevalence of these diseases.
- Training of Early Career and Visiting Scientists (ECVSs) and technical capacity-building in LMICs (sub-Saharan Africa and Brazil).
- Dissemination of findings via open access publications, reviews, and outreach campaigns targeting awareness of risk factors for paediatric cancers in LMICs.
- Contribute to several IARC flagship programmes (e.g. *IARC Monographs*, World Code Against Childhood Cancer, IARC Learning Programme, WHO Classification of Tumours) and to the WHO Global Initiative for Childhood Cancer.

Cancer risk associated with emerging addictive and pharmaceutical exposures		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:** NME, GEM

General objectives of the project:

This project contributes to strategic Pillar III by generating robust scientific evidence on the impact of emerging risk factors, including commonly used medications, in primary cancer prevention. Overarching aims include evaluating the importance of prescription drugs such as opioids and obesity medications (i.e. GLP-1 receptor agonists), as well as other addictive substances such as cannabis, electronic cigarettes, and waterpipe.

Prescription opioids are a potentially important group of emerging cancer risk factors, with growing evidence linking their use to increased risk of certain cancers, including for lung, pancreatic, and oesophageal cancer. Despite their widespread and long-term use, especially amid the ongoing opioid crisis, their carcinogenic potential remains poorly understood. The Opioid Cohort Consortium (OPICO) project addresses this critical gap by bringing together data from 25 sources in the USA, Europe, Asia, and Australia, including 13 prospective cohorts, 6 medication prescription records, and 6 cancer registries. By harmonizing high-quality data from almost 2 million individuals and applying advanced epidemiological methods, OPICO aims to rigorously investigate the extent to which specific cancer sites are associated with opioid use. This programme builds on more than two decades of research led by IARC that resulted in identifying the carcinogenicity of opium consumption and its classification by the *IARC Monographs* (Volume 126) in Group 1 (carcinogenic to humans). This classification raised concerns about prescription opioids that are made from opium or synthesized to mimic its structure and effects, and consequently the OPICO programme was built to address this global concern. Examples of our publications in this area include Sheikh et al. (2020, PMID:32353313), Shrestha et al. (2025, PMID:40498363), and Sheikh et al. (2025, eClinicalMedicine, in press).

The expertise in assessing the impact of medication developed within the OPICO programme will also be leveraged for other emerging risk factors, most notably in the context of obesity-related cancers. Obesity is an established carcinogen, accounting for at least 4–8% of global cancers, and is expected to overtake smoking as the leading cause of cancer in some countries. Understanding the impact of obesity on cancer risk is a long-standing research priority at IARC, and the Obesity-related Cancer Epidemiology Programme (OCEP) is a newly funded CRUK programme that will investigate how obesity and its biological effects contribute to cancer risk, with the aim of developing targeted prevention strategies. A key focus is evaluating the cancer-preventive potential of obesity medications, including GLP-1 receptor agonists such as semaglutide and tirzepatide. Using in silico modelling, molecular epidemiology, and pharmacoepidemiology, OCEP will assess how these drugs affect pro-tumorigenic metabolic pathways. Recognizing the uncertainty around long-term cancer protection, especially after treatment, OCEP also investigates mechanistic biomarkers, drug repurposing opportunities, and the cost–effectiveness of risk-based targeted interventions. This work supports a precision prevention approach to reduce obesity-related cancer incidence in high-risk populations. Examples of our publications in this area include Carreras-Torres et al. (2018, PMID:29769355), Johansson et al. (2019, PMID:30605491), and Mariosa et al. (2022, PMID:35438160).

In parallel, there is growing concern about the long-term health effects of addictive substances that are increasing in popularity, including cannabis, electronic cigarettes (e-cigarettes), and waterpipe. Although cannabis use is expanding globally due to medical legalization and recreational acceptance, limited research has assessed its potential carcinogenicity. Similarly, although e-cigarettes are often marketed as safer alternatives to conventional tobacco, emerging evidence suggests that they may induce DNA damage, inflammation, and other biological changes relevant to cancer development. As part of this project, we will explore these exposures using the infrastructure, networks, and expertise developed in our team through leading international studies on addictive substances and cancer in the past decade. Importantly, most of these exposures were identified as priorities for the *IARC Monographs* during 2025–2029. Examples of our publications in this area include Nemati et al. (2023, PMID:35895382) and Nemati et al. (2025, in press).

Outputs of the project:

- Robust evidence on potential cancer causation by multiple emerging addictive and pharmaceutical exposures, including opioid medications, cannabis, e-cigarettes, and waterpipe.
- Improved understanding of the most effective means to reduce incidence of obesity-related cancers, including the potential impact of GLP-1 receptor agonists.
- Use of results in *IARC Monographs* evaluations and, as relevant, Codes Against Cancer.
- Use of results in WHO Q&A pages and information sheets addressing risks associated with these emerging exposures.
- Maintenance of IARC's position as an independent, trustworthy authority on substances that may or may not cause cancer.

Programme #2: Improving cancer early detection and survival		
Pillar III – Prevention **Programme Tree Path: 3.2**	**Leading Branch:** EPR	**Contributing Branches:** ENV, CSU, LCB, ESC

General objectives of the Programme:

1. Evaluation of efficacy, effectiveness, and cost–effectiveness of technologies and approaches for cancer early detection.
2. Evaluation of organization and performance of cancer screening programmes.
3. Understanding common barriers and facilitators to improving quality of and access to cancer early detection.
4. Studying quality of early detection and treatment services and its impact on cancer stage and survival.

Research Teams and their contribution to the overall objective of the Programme:

Multiple Research Teams will contribute to this programme. The IARC Cervical Cancer Elimination Initiative Team (CCEI) and the IARC Global Breast Cancer Initiative Team (GBCI) will share outcomes of different research projects with their corresponding teams at WHO. The Gastric Cancer Prevention Team (GCP) will also generate evidence on gastric cancer screening. The Public Health Decision Science Team (PHDS) and the Research for Implementation Team (RFI) will also collaborate to use the evidence generated from the programme to design models for cost–effectiveness and impact as well as context-appropriate strategies for implementation.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:

EPR scientists apply for competitive funding to various international donor agencies that have grant opportunities aligned with EPR objectives. Major funding agencies that have supported various research activities in this programme are the European Commission either through direct grants (e.g. third European Screening Report) or research funding, NCI/NIH, USA (e.g. EASTER), INCa, France (e.g. MIRABELLE and AppDate-You), UICC (e.g. CanScreen5 and INSTINCT), and the MRC UK (e.g. CanScreen5). Many of the funding agencies provide technical support to the projects as well (e.g. NCI/NIH and UICC).

Concrete outcomes of the programme:	**Key Performance Indicators:**

➔ Evidence generated on efficacy, effectiveness, and cost–effectiveness of new tests and strategies ➔ Organization, access barriers, and performance of screening programmes reported from different countries ➔ Quality of care, stage distribution, and survival reported from different countries ➔ Guidance to countries for improved cancer control planning	➔ Number of projects ➔ Total extramural funding ➔ Number of Participating States and other countries included in the collaborations ➔ Number of publications ➔ Guidelines/recommendations (national/international) using evidence generated

Improving breast cancer outcomes in the African setting		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:**

Breast cancer is the most common cancer type and cause of cancer death in women in most LMICs. Improving survival aligns with the WHO Global Breast Cancer Initiative.

Outputs of the project:
Within ENV's role as the principal investigator and central coordinator of the African Breast Cancer–Disparities in Outcomes (ABC-DO) cohort study, ENV continues to gain insight into improving breast cancer survival rates in the African setting. We will assist WHO and the WHO Regional Office for Africa in using ABC-DO to inform the Global Breast Cancer Initiative technical documents. We will assess the reasons for low survival among particularly young (< 40 years) women. Within a newly developing programme on cancer survivorship, we will comprehensively characterize the quality of life of breast cancer survivors in Africa, including the determinants and longitudinal profiles, and by phase of care including during the end-of-life phase. Finally, for breast cancer awareness, we will conduct formative work on using menstrual hygiene products as a dissemination route to increase breast cancer awareness in LMICs, and if funded, we will conduct a randomized controlled trial of this route.

An affordable, point-of-care, and artificial intelligence-supported system for screening, triaging, and treatment selection for cervical precancer and cancer		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** ENV

General objectives of the project:
1. Train, validate, and field-test an artificial intelligence (AI)-supported system of cervical image capture and interpretation
2. Evaluate spectroscopic analysis of urine samples followed by AI interpretation of spectral images for the detection of high-risk HPV
3. Evaluate trust in and acceptability of AI-supported decision-making among women undergoing evaluation and among the health professionals applying the technology

Following the WHO recommendation (2021), all countries are gradually introducing HPV detection tests. A critical need for LMICs (as well as for some HICs) is an objective, affordable, and point-of-care triaging technology. The preliminary results of our study demonstrate that AI models can accurately interpret cervical images from HPV-positive women collected with the device that we have developed through an NCI-supported project. The model is being trained to guide the health provider on whether the woman can be treated with an ablative technique. We are planning field-testing in Zimbabwe, India, and the USA.
The project is also developing an AI model capable of interpreting spectral images generated through analysis of urine samples from women using infrared spectroscopy. The model is expected to differentiate samples positive for high-risk HPV from those negative for HPV. Because spectroscopy is

readily available, provides results immediately, and requires very few consumables, our technology can be used as a screening test for cervical cancer in LMICs.

Outputs of the project:
- An integrated AI-driven system that is capable of capturing high-quality cervical images and interpreting the images for detection of cervical precancers and cancers in HPV-positive women
- Evidence on the test accuracy (sensitivity, specificity, predictive values) of the AI-supported system to detect cervical intraepithelial neoplasia grade 2+ (CIN2+) lesions
- Addressing various biases of AI – generalizability, repeatability, explainability, etc.
- Level of trust in and acceptability of an AI-based solution among women and health professionals and their determinants
- Evidence on accuracy (agreement, sensitivity, specificity) of AI-supported interpretation of spectroscopy images to detect high-risk HPV in urine samples

Access Cancer Care India (ACCI)		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:**

General objectives of the project:
To improve access to early detection and timely referral for oral, breast, and cervical cancer in rural and underserved populations in India by embedding evidence-informed, people-centred strategies into the existing public health system. Specific objectives include:
- To assess the readiness and gaps in the public health system for delivering early cancer detection services.
- To co-design, with stakeholders and communities, tailored interventions to strengthen cancer screening, referral, and follow-up pathways.
- To implement and evaluate these interventions using a hybrid implementation effectiveness approach grounded in the PRISM/RE-AIM framework.

Outputs of the project:
- System readiness and situational analyses across rural Tamil Nadu, Rajasthan, and Kerala
- Co-developed intervention strategies including community communication tools, patient navigation, and community health worker capacity-building
- Implementation of trials and observational evaluations
- Evidence on implementation outcomes (acceptability, feasibility, fidelity, reach) and health outcomes (earlier stage at diagnosis, referral adherence)
- Recommendations and scalable models for integration into National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS) and state cancer control plans

CHRONOS – Centre of Excellence for monitoring impact of HPV vaccination towards cervical cancer elimination		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** LCB

General objectives of the project:
Since the 2018 launch of WHO's Cervical Cancer Elimination Initiative, more than half of all LMICs have begun national HPV vaccination programmes in alignment with the first pillar of the elimination strategy (achieve 90% vaccination coverage). Monitoring population-level vaccine impact is crucial to support long-term stakeholder commitment to HPV vaccination, understand effective implementation strategies, and inform future cervical cancer control policies. Over the past 20 years, the Public Health Decision Science Team (PHDS) has designed and led various HPV-prevalence-based vaccine impact assessment studies in several LMICs, such as Armenia, Bhutan, the Lao People's Democratic Republic, Rwanda, and Zimbabwe. Each of these settings had distinct HPV vaccine

programme designs and implementation conditions, which could ultimately affect population impact. From the number and variety of completed field studies, PHDS has developed deep relationships and well-known expertise in this area. As a key element of WHO's framework for monitoring cervical cancer elimination, demand for such impact assessments is increasing in LMICs, presenting an opportunity to consolidate expertise and share these capabilities more broadly using a partnership model.

Based on our experience leading these HPV-prevalence-based vaccine impact studies, we recently established the IARC/WHO International Centre of Excellence for monitoring the impact of HPV vaccination in LMICs (CHRONOS). CHRONOS will develop standardized procedures to plan, conduct, monitor, and analyse findings from repeated cross-sectional HPV prevalence surveys adaptable to most LMIC contexts. The role of the Centre of Excellence will be to monitor the implementation of the studies, ensure adequate quality standards, and centralize the collection of acquired data to allow for comprehensive, transparent, and standardized data analyses. The necessary skills and tools to perform the different phases of the cross-sectional surveys will be transferred to local personnel from partner institutions in selected countries through in-depth "train-the-trainer" sessions. This initiative is conducted in collaboration with LCB.

The CHRONOS survey and training will be piloted in three LMICs, currently planned to be Bangladesh, Eswatini, and Indonesia. For each country, we will assess HPV prevalence in the population, thus providing direct and early measures of the impact of vaccination. Based on the available information, we will further conduct model-based assessments of the HPV-related cancer burden and the progress towards cervical cancer elimination in these countries. Through our networks, we are already having preliminary conversations with partners in multiple countries (including China and India) who may be interested in implementing the next round of studies once this pilot phase is complete.

Outputs of the project:

- Training of local study coordination teams, and fieldwork and laboratory personnel of the three pilot countries.
- Preparation, implementation, and monitoring of fieldwork and laboratory activities.
- Evaluation of training and material through the experience in the three pilot countries.
- Based on the above evaluation: IARC technical publication comprising standardized resources, documents, and manuals (study protocols, standard operating procedures for fieldwork and laboratory work for HPV testing), and training and implementation material to perform HPV-prevalence-based vaccination impact surveys.
- Local monitoring data of HPV prevalence and model-based assessment of HPV vaccination impact.
- Stakeholder symposium at IARC for dissemination of CHRONOS output and lessons learned.

METHIS – Public Health Decision Modelling to support cervical cancer elimination initiatives in HICs and LMICs		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** CSU

General objectives of the project:

Over time, the Public Health Decision Science Team (PHDS) has consolidated its expertise in quantitative modelling of cervical cancer to design and evaluate prevention programmes and to support local decision-making processes for cervical cancer elimination. We have developed a modular METHIS modelling platform (ModElling Tools for HPV Infection-related cancers) that can be tailored to specific contexts to assess the population-level impact/effectiveness of HPV vaccination and cervical cancer screening. These effectiveness estimates can subsequently be combined with costs or resource estimates to provide health-economic evaluations of cervical cancer elimination policies. The METHIS platform is adaptable to evaluate policies in various geographical sites (e.g. in both HICs and LMICs) and in specified population groups (e.g. general population or hard-to-reach vulnerable subpopulations). The overarching aim of this initiative is to evaluate the health impact and resource demands of context-specific cervical cancer elimination policies in partnership with public health decision-makers. Our approach and methodology are currently being expanded to the control

of other preventable cancers, such as, but not limited to, gastric cancer and breast cancer, which are major public health problems at a global scale.

Main activities:
Our scope includes the model-based design and evaluation of cancer prevention policies targeted to specific contexts, including (a) integrated and expanded HPV vaccination and cervical cancer risk-stratified screening policies to accelerate cervical cancer elimination, and (b) policies to eliminate cervical cancer in highly vulnerable and hard-to-reach populations.
(a) Accelerating cervical cancer elimination:
In collaboration with local public health decision-makers, we plan to assess the expected health and economic impact of a range of HPV vaccine delivery approaches (e.g. school- or facility-based) and schedules (e.g. single dose or delayed second dose), strategies for efficient vaccine dose reallocation to expand the target of vaccination (by age, sex, geography, or target subpopulation), and the integration of HPV vaccination with HPV-based cervical cancer screening. Activities are under way or planned for a wide range of countries, including LMICs and HICs (such as, but not limited to, Armenia, Bangladesh, Bhutan, Brazil, China, Eswatini, India, the Lao People's Democratic Republic, Indonesia, Rwanda, Zimbabwe, Italy, Japan, and Sweden). Moreover, we will contribute to dedicated international consortia that aim to develop guidelines and recommendations for integrated HPV vaccination and cervical cancer screening approaches.
(b) Reaching vulnerable populations:
Policies designed for the general population often do not perform optimally among vulnerable and hard-to-reach populations. Given the highly specific data needs of these evaluations, we will rely on collaborations with key local partners to inform METHIS model inputs, as we have already done through our close relationships with international consortia including the European Network of Cancer Registries and the International Association of Cancer Registries, carried out in collaboration with CSU. We plan to adapt the METHIS platform to design and evaluate policies aimed towards specific vulnerable populations (e.g. migrants, commercial sex workers), to be piloted in a set of European countries (such as, but not limited to, Belgium, Italy, the Netherlands, Poland, Spain, Sweden, and Switzerland).
(c) Creation and maintenance of live databases:
To ensure valid outputs at a local level, the models in METHIS need to be informed by local data. Therefore, we have established multiple databases with available country-specific data from both HICs and LMICs, as well as for some specific populations, to ensure standardized procedures of parameterization and validation of the platform as well as realistic and credible projections of the impact of HPV vaccination and cervical cancer screening. These databases of relevant epidemiological (e.g. sexual behaviour and HPV prevalence) and economic (e.g. resources and costs of cervical cancer management and HPV vaccination) indicators are set up through primary collected data and literature searches. We will continue to update, maintain, and expand these databases.
(d) Open Science and knowledge transfer:
There is a well-known mismatch between access to cancer models and training (concentrated in HICs) versus where the cervical cancer burden is highest (in LMICs). Accordingly, we plan to prepare METHIS models pre-calibrated to a set of typical epidemiological settings and develop user-friendly interfaces of our publicly available models to smooth the transfer of skills to local researchers and improve the equity and long-term sustainability of modelling for cervical cancer elimination.

The proposed project is aimed at supporting local public health authorities in LMICs and HICs, many of which are also IARC Participating States, to design and evaluate impactful, resource-efficient, and context-responsive policies for cervical cancer elimination both in the general population and in specific vulnerable populations. The proposed approach is currently being expanded to other preventable cancers, such as, but not limited to, breast cancer and gastric cancer. In few years, we expect to be able to support a range of countries, including both IARC Participating States and LMICs, in their own public health decision-making processes to achieve their cancer control goals.
The availability of a comprehensive, yet flexible, modelling platform in combination with standardized protocols to collect local data to inform the models gives PHDS a unique ability to provide outputs based on the local priorities and available resources. Priorities and access to resources are inevitably shaping the needs of local public health authorities and must be accounted for to design and assess

realistic and feasible context-specific elimination policies. The outputs of the proposed activities include (a) estimated long-term societal, medical, and economic benefits of vaccination and screening, with (b) estimates of the resources necessary for implementation. These outputs will enable the local authorities to make informed decisions on the advantages and disadvantages of the implementation of selected elimination policies.

Outputs of the project:
- A set of up-to-date and regularly updated databases of (a) local epidemiological data, necessary to inform the modelling platform, and (b) local costing data attached to cervical cancer control and management, necessary to conduct context-specific health-economic assessments.
- A set of METHIS models pre-calibrated to a wide range of settings, representative of general and vulnerable populations in HICs and LMICs and configurable to respond to the public health decision questions of local stakeholders and end users.
- User-friendly interactive visualization tools/interface of the above-mentioned METHIS models adapted for easy use by public health stakeholders.
- Model-based evaluation of the health and economic impact of cervical cancer control policies to inform public health stakeholders across HIC and LMIC settings, such as EU guidelines on cervical cancer screening, and recommendations on integrated vaccination and cervical cancer interventions in LMICs.
- For vulnerable populations, more specifically for migrants: (a) a synthesis of available data on cancer by migration background from cancer registries across Europe, (b) a quantification of the cancer risks and disparities among migrants by host country/cancer registry region, (c) estimates of the future expected and preventable burden of cancer cases among migrants and of the resources needed to control and eliminate cervical cancer in that population.
- Online documentation and tutorial of the METHIS modelling platform for supervised and self-learning.

Improving Cancer Screening, Surveillance, and Communication Plan (multicountry)		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** CSU, COM, DIR

General objectives of the project:
The general objective is to enable collaborating countries to design, pilot, and institutionalize sustainable, quality-assured cancer control interventions (starting with early detection and surveillance) through a co-developed health systems approach.

Specific objectives:
- Conduct a comprehensive capacity and readiness assessment across governance, leadership, workforce, service delivery, information systems, financing, and stakeholder engagement.
- Co-develop, with national stakeholders, evidence-based action and implementation plans tailored to the local context (policies, protocols, quality assurance [QA], IT, capacity-building, communications).
- Strengthen programme governance and leadership (steering and operational working groups, terms of reference, roles and responsibilities, decision rights, monitoring).
- Establish/upgrade IT systems for cancer screening registries, data flow and coding, dashboards, QA indicators, and link to population-based cancer registries.
- Integrate evidence-based interventions into the health system.
- Build national capacity for economic evaluation and policy dialogue to support implementation, scale-up, and sustainability.
- Pilot priority interventions in representative regions, iterate, and plan national rollout.

Outputs of the project:
- Country-endorsed action and implementation plan for cancer screening and early diagnosis (approved, funded, sequenced).
- Operational screening registry and QA dashboard (functional and used in decision meetings).

- Institutionalized governance and leadership (steering committee/working groups functioning with terms of reference).
- Measured improvements in access, quality, and timeliness (country-specific targets).

A multicentre study to evaluate the effectiveness of OraCLE, a pre-screening risk-stratification tool for oral cancer screening		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:** CSU

General objectives of the project:
- Evaluate how well OraCLE separates high-risk individuals (based on exposure profiles) from others.
- Describe exposure profiles for additional oral carcinogenesis risk factors.

Outputs of the project:
- Validated estimates of OraCLE sensitivity/specificity to triage high-risk individuals for screening oral cancer.
- Effect estimates for key exposures/combinations; finalized multicentre dataset.
- Pilot feasibility and usability of the OraCLE tool and plans for scaling up.

A novel AI-based tool deployed via a federated learning platform to assist in the screening, diagnosis, prevention, and therapy evaluation of breast cancer (CERN)		
Tier 4	**Coordinating Branch:** NME	**Contributing Branches:** EPR

General objectives of the project:
- Design, develop, and implement a data-driven federated learning platform to infer risk factors for breast cancer from clinical, diet, lifestyle, and environmental data, to guide adaptive screening, using a novel AI-based tool.
- Benchmark and validate algorithms (including CERN augmented evolutionary methods) and deliver a field-tested proof-of-principle.
- Open Science outputs: open access repository of the platform/algorithms; scientific article; PhD thesis; business plan for scale-up.

Outputs of the project:
- Open access repository of the platform and algorithms (sharing methods, not data).
- Plan for future deployment with proof-of-principle and specifications.
- Peer-reviewed article and at least one PhD thesis.
- Field implementation with performance evaluation; proposal for scalability and clinical validation.

Prostate Cancer Awareness and Initiative for Screening in the European Union (PRAISE-U)	
Coordinating Branch: EPR	**Contributing Branch:** NME

General objectives of the project:
PRAISE-U aims to enable EU Member States to implement population-based risk-stratified prostate cancer screening strategies. The project will identify needs and assess capacities across EU countries, develop screening and diagnostic algorithms that move beyond PSA-only testing, pilot risk-based screening strategies, and evaluate implementation outcomes.
IARC's role focuses on implementation research, particularly assessing readiness, feasibility, and sustainability of screening pathways. IARC is responsible for:
- WP2: Capacity and needs assessment for risk-stratified screening
- WP5: Monitoring and evaluation of pilot implementations

- WP6: Sustainability and scale-up planning, using implementation frameworks.

Outputs of the project:
- Development and implementation of risk-based screening algorithms for prostate cancer, combining PSA, PSA density, MRI, and clinical factors.
- Pilot implementation of tailored screening strategies in 5 countries.
- Capacity-building, training, and readiness assessments at national and site levels.
- Development of KPIs for prostate screening.
- Decision tools to support policy adoption and national scale-up.

Implementation research to assess capacity and feasibility to implement a pilot risk-stratified population-based prostate cancer screening programme in Slovenia (Pro-Screen Slovenia)	
Coordinating Branch: EPR	**Contributing Branch:** NME

General objectives of the project:
To assess the feasibility of a risk-stratified population-based prostate cancer screening strategy tailored to Slovenia's health system context. Specific objectives include:
- To assess the health system capacity and readiness for implementing a risk-stratified, population-based prostate cancer screening pilot in Slovenia.
- To co-develop and implement a context-adapted screening protocol through multi-level stakeholder engagement.
- To evaluate the reach, effectiveness, adoption, implementation, and scalability of the protocol using the RE-AIM framework.

Outputs of the project:
- Co-designed, context-adapted, and risk-stratified prostate cancer screening protocol for Slovenia.
- Pilot implementation report evaluating RE-AIM dimensions.
- Data on screening reach, risk prediction performance, and health system readiness.
- Recommendations for national scale-up based on stakeholder feedback and real-world performance.
- Knowledge transfer products including toolkits, policy briefs, and publications for national and EU audiences.

Reducing the Lung Cancer Burden through Optimized Smoking Cessation and Risk Assessment for Screening		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** NME

General objectives of the project:
This large, well-established research programme contributes to Pillar III by generating robust scientific evidence on the effectiveness and implementation of primary, secondary, and tertiary lung cancer prevention interventions. The overarching aims are to provide evidence on efficient reduction in lung cancer incidence and mortality by developing strategies based on impact modelling of smoking cessation interventions and individual- and population-level risk stratification. By leveraging international cohort data and national screening initiatives, the programme will (i) generate evidence to inform national and international policy on tobacco control in the context of lung cancer screening and oncological care, and (ii) identify populations at high risk of lung cancer to guide targeted prevention and screening. We also plan to develop an IARC-coordinated Network for Lung Cancer Prevention Research by gathering stakeholders around the world to identify research priorities and opportunities to reduce the burden of lung cancer.
An important focus will be to provide evidence for smoking cessation strategies for primary and tertiary lung cancer prevention. This will involve intervention modelling to evaluate how different smoking cessation strategies can reduce lung cancer burden by leveraging data from the IMPULSION

screening pilot in France, national health surveys, and international cohort studies. In collaboration with the Cancer Intervention and Surveillance Modeling Network (CISNET) consortium, we will use microsimulation models to evaluate the long-term impact in number of lung cancer cases and deaths averted by implementing different smoking cessation strategies within lung cancer screening programmes or in oncological care. We will also quantify the impact of age at cessation, develop risk- and age-based public health messaging to encourage earlier quitting, and translate findings into policy scenarios and communication strategies to support national tobacco control goals. Examples of our publications in this area include Sheikh et al. (2023, PMID:36989465), Sheikh et al. (2021, PMID:34310171), and Nemati et al. (2023, PMID:35895382).
Using the Lung Cancer Cohort Consortium (LC3, https://lc3.iarc.who.int/), a global consortium involving 26 population cohorts and 3 million longitudinally followed up research participants (database hosted at IARC), we will characterize the changing epidemiology of lung cancer across smoking categories, regions, and socioeconomic groups. An important and urgent area of work will focus on lung cancer in people who never smoked, who represent an increasing share of lung cancer cases. To facilitate risk assessment and identification of individuals who are at high risk and may benefit from screening, we will model relative and absolute lung cancer risk by age, sex, geographical region, family history of lung cancer, personal history of respiratory diseases or cancer, and body size. A complementary area of work will focus on incorporating occupational exposures and geospatial data into lung cancer risk assessment for people with and without tobacco exposure. This work will incorporate complementary consortia and data sources, such as the SYNERGY project (ENV) and geospatial information on air pollution and radon. We will also leverage data from LC3 to study early-onset lung cancer, to improve our understanding of risk factors and identify molecular predictors. Since 2020, LC3 has an established an access policy that has been a model IARC initiative in Open Science. Examples of our publications in this area include Feng et al. (2024, PMID:39179310), Feng et al. (2025, PMID:39968190), and Onwuka et al. (2025, PMID:40212049).

Outputs of the project:
- Development and validation of new risk assessment tools to identify people who could benefit from lung cancer screening, including for people who never smoked.
- Provide policy-relevant evidence for optimized smoking cessation interventions for implementation in lung cancer screening programmes.
- Provide policy-relevant evidence for the impact and implementation of smoking cessation interventions in oncological care.
- Provide evidence on the impact of implementing optimized tobacco control policies worldwide.
- Strengthening of IARC's reputation internationally in providing evidence for prevention of tobacco-related cancer.

Assessment of regional colorectal cancer screening programmes in Spain		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:**

General objectives of the project:
Evaluation of organization and performance of colorectal cancer screening programmes in Spain.

Outputs of the project:
Evidence generated on the organization of the colorectal screening programmes, their performance, and suggestions for improvement.

INTERVENER: a web-based tool that matches barriers to cancer screening to interventions that can potentially overcome these barriers		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:**

General objectives of the project:

Understanding common barriers and facilitators to improve the quality of and access to cancer early detection.

Outputs of the project:
Evidence generated on the barriers and evidence-based interventions to overcome them, which can facilitate the preparation of an action plan.

Cervical cancer screening and triage in women living with HIV in Cameroon: a cross-sectional study nested in the OptiTri cohort study (STRING)		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** ENV

General objectives of the project:
- To assess and compare clinical performance of high-risk HPV (hrHPV) testing in the three sample types for the detection of CIN3+: the clinical performance (sensitivity, specificity, positive predictive value, and negative predictive value) for detection of CIN3+ of the sample collection methods (urine, self-collected vaginal samples, and provider-collected cervical samples).
- To estimate concordance of hrHPV detection between urine, self-collected, and provider-collected samples using the GeneXpert platform.
- To calculate the CIN2+ detection rate of the three sample collection methods (urine, self-collected vaginal samples, and provider-collected cervical samples).
- To assess the diagnostic performance (sensitivity, specificity, positive predictive value, and negative predictive value) of S5 methylation for triage of hrHPV-positive women for CIN3+ in urine and provider-collected samples, compared with that of HPV genotyping and VIA.
- To determine women's perceptions of and preferences for sampling methods, including urine sampling.

Outputs of the project:
- Clinical performance of hrHPV testing in the three sample types for the detection of CIN2+: the clinical performance (sensitivity, specificity, positive predictive value, and negative predictive value) for detection of CIN2+ of the sample collection methods (urine, self-collected vaginal samples, and provider-collected cervical samples) will be determined and compared.
- Agreement assessment between different sampling methods using the GeneXpert platform.
- Women's experiences and acceptability evaluation of urine sampling for HPV detection.
- Performance evaluation of S5 DNA methylation classifier in cervicovaginal and urine samples for triaging hrHPV-positive women living with HIV.
- Comparative analysis of S5 DNA methylation classifier with HPV genotyping and VIA for triage of hrHPV-positive women.

Effectiveness of artificial intelligence-assisted decision-making to improve vulnerable women's participation in cervical cancer screening in France: a cluster-randomized controlled trial (AppDate-You)		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** ENV

General objectives of the project:
The main objectives of this study are to co-develop a personalized chatbot-based decision aid specifically designed for women from disadvantaged areas who are non-compliant with cervical cancer screening, and to evaluate its effectiveness in improving women's participation in the cervical cancer screening care pathway offering HPV self-sampling (HPVss) in a randomized controlled trial.

Outputs of the project:
- The study has two primary outcomes: (1) the proportion of screening participation within 12 months among women recalled for cervical cancer screening, and (2) the proportion of HPVss-positive women who are "well managed" as stipulated in the French guidelines. Both proportions

will be compared between experimental and control groups, considering the stratification by age group, place of residence, and type of health insurance.
- Proportion of women providing valid vaginal samples.
- Detection rate of CIN2+ in the two groups.
- Median intervals between the date of the reminder letter and the date of the HPVss test report, and between the dates of sending a positive HPV test result and performing liquid-based cytology will be compared between groups, stratified by age group, place of residence, and health insurance type.

HPV self-sampling in the general population in France: Efficacy, feasibility, acceptability and cost–effectiveness (MIRABELLE)		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:**

General objectives of the project:
The objectives of this study are to evaluate whether access to HPV self-sampling (HPVss) will improve participation in the cervical cancer screening programme, and whether navigation will improve the compliance rate with triage cytology in France.

Outputs of the project:
- Estimate the participation rate after sending an HPVss test to women at home with an invitation letter. Compare this rate with two other scenarios: (a) providing women the option to either receive an HPVss test at home or visit their health-care provider, and (b) the standard of care.
- Evaluate the acceptability of HPVss testing among women, assessing their preferences and comfort with this screening method.
- Estimate the cost–effectiveness of mailing HPVss tests to women at home compared with other screening strategies.

Encouraging Smoke-free Parenthood and Optimizing Individualized Recruitment and Risk Assessment in Lung Cancer Prevention (ESPOIRR)		
Tier 3	**Coordinating Branch:** EPR	**Contributing Branch(es):** NA

General objectives of the project:

ESPOIRR aims to accelerate lung cancer prevention in Slovenia by shifting smoking cessation from a passive, self-enrolment model to an organized, proactive approach.

Outputs of the project:

- Active recruitment infrastructure for smoking cessation (primary care, mail-based, media).
- Digital risk assessment platform with personalized lung cancer risk and cessation guide.
- Targeted recruitment of priority groups (ages 25–35 families; persistent smokers 50–80).
- Baseline and follow-up data on smoking behaviours, motivation, and barriers.
- Nurse navigator–supported, repeated referrals to a stepped ladder of cessation services.
- Evidence on effectiveness of recruitment strategies to inform scale-up.

Risk- and biomarker-based strategies for early cancer detection		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:** GEM, NME, ENV

General objectives of the project:
This project contributes to strategic Pillar III by generating robust scientific evidence on the effectiveness and implementation of secondary cancer prevention interventions. The overarching aims are (i) to develop risk-based approaches for effective and efficient use of biomarkers in early cancer detection, and (ii) to establish standards of evidence for evaluation of multicancer early detection tests (MCEDs).
A long-standing and successful component of this project is a large-scale initiative to develop and validate protein-based biomarkers to optimize risk-based eligibility and nodule management in lung cancer screening. By leveraging study resources amassed within the Lung Cancer Cohort Consortium (LC3) over the past 7 years, this work has resulted in a novel and clinically valid biomarker tool superior to existing risk assessment tools in diverse populations that is affordable for wider implementation. Future (funded) work will involve implementation and acceptability studies, evaluation of the added value of serial measurements over time, assessing utility for follow-up of screen-detected lung nodules, and extension of the panel to include biomarkers specific to lung cancer among people who never smoked. Examples of our publications in this area include the LC3 (2023, PMID:37264016), Moez et al. (2023, PMID:37369027), Feng et al. (PMID:37260165), and Robbins et al. (2023, PMID:36404465).
Parallel efforts will focus on early detection of HPV-related cancers, including oropharyngeal and anal cancers. These studies will evaluate the clinical utility of blood-based biomarkers such as HPV16 E6 antibodies and circulating HPV DNA. Projects will include analyses of existing consortia, including the HPV Cancer Cohort Consortium (HPVC3) and new intervention studies, notably the SCREEN-HPV trial, to assess the population-level impact of HPV-based screening strategies. Examples of our publications in this area include Kreimer et al. (2019, PMID:31185496) and Robbins et al. (2022, PMID:35700419).
We will also address the rapid emergence of MCEDs, which aim to identify multiple cancer types through blood-based biomarkers such as circulating tumour DNA. This will involve developing standards of evidence within the OVERCAST project, in which we will evaluate proposed alternative trial end-points (e.g. reductions in late-stage cancer) as potential surrogates for mortality using data from 15 randomized cancer screening trials. In parallel, we will develop strategies for efficient implementation of MCEDs by targeting individuals who are most likely to benefit using risk-based strategies based on multicancer risk models. Examples of our publications in this area include Robbins et al. (2024, PMID:39037048) and Feng et al. (2024, PMID:38583868).

Outputs of the project:
- Validation of the protein-based INTEGRAL-Risk model, ready for implementation studies.
- Demonstration of acceptability, feasibility, and added efficacy for the protein-based INTEGRAL-Risk model in screening programmes.
- Validated multicancer risk and risk-based strategies for efficient implementation of MCEDs.
- Generation of data supporting the use of biomarkers for early detection of HPV-related cancers.
- Establish standards of evidence focusing on valid end-points for evaluation of MCEDs.

Programme #3: Infection and cancer		
Pillar III – Prevention **Programme Tree Path: 3.3**	**Leading Branch:** EPR	**Contributing Branches:** ENV, NME, GEM

General objectives of the Programme:
- Evaluate the global infection-attributable cancer burden, considering the most recent cancer causality assessments and estimates of cancer incidence, at the country, regional, and global levels
- Understand the global burden of gastric cancer attributable to *Helicobacter pylori* infection and the preventable fraction and costs by its eradication
- Estimate the impact of various *H. pylori* test-and-treat scenarios on gastric cancer burden through public health decision modelling
- Investigate the role of *H. pylori* treatment and endoscopic surveillance for gastric cancer prevention in high-incidence areas

- Investigate the anal cancer incidence, and perform large collaborative individual-level re-analyses and meta-analyses to elucidate natural history and risk-based prevention strategies, mainly in HIV-positive men.
- Assess long-term immune response to a single dose of HPV vaccine after vaccination, and determine the immune correlate of protection against HPV infection.

Research Teams and their contribution to the overall objective of the Programme:
The Gastric Cancer Prevention Team (GCP) contributes to reducing the global burden of gastric cancer by producing robust evidence to increase the understanding of its causes and the efficacy and effectiveness of population-based interventions and prevention programmes, and ultimately to implement evidence-based interventions for the prevention and control of gastric cancer and to support their practical application worldwide.
The IARC Cervical Cancer Elimination Initiative (CCEI) Team was formed with the purpose of enhancing communication and coordination with the WHO Cancer Team, as well as facilitating the exchange of knowledge and expertise related to the CCEI.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
EPR scientists apply for competitive funding to various international donor agencies that have grant opportunities aligned with EPR objectives. Major funding agencies that have supported various research activities in this programme are the European Commission (e.g. TOGAS, EUROHELICAN); Bill and Melinda Gates Foundation (BMGF), USA (e.g. HPV vaccine); Royal Australian and New Zealand College of Obstetricians and Gynaecologists, Australia (e.g. ZCEPTRE); National Cancer Center Korea, Republic of Korea (e.g. HELPER); and INCa, France (e.g. Meta-GC). Many of the funding agencies provide technical support to the projects as well (e.g. European Commission, BMGF).

Concrete outcomes of the programme:
- ➔ Evaluate the global cancer burden of infection-related cancers (viruses, bacteria, and parasites that are established causes of cancers, and their contribution to the global cancer burden).
- ➔ Evidence generated on efficacy, effectiveness, and cost–effectiveness of strategies to prevent/treat infections that lead to cancer (cervical, gastric, liver, anal, etc.)

Key Performance Indicators:
- ➔ Number of projects
- ➔ Total extramural funding
- ➔ Number of Participating States and other countries included in the collaborations
- ➔ Number of publications
- ➔ Guidelines/recommendations (national/international) using evidence generated

InfectoCAN: Molecular epidemiological studies on infections and cancer

Tier 2	**Coordinating Branch:** ENV	**Contributing Branches:** GEM, EPR

Outputs of the project:
Over the past 5 years, numerous collaborative case–control studies have been conducted in partnership with IARC groups and research institutes worldwide, focusing on the role of infectious agents in human cancers using the ENV Luminex platform and the proprietary screening panel. In 2026–2030, ENV will continue its close collaboration in epidemiological studies at IARC and globally, providing laboratory assays and expertise to further investigate the contribution of infections to human cancers.
Future findings will offer (i) new insights into the roles of infections and co-infections in various cancers, and (ii) localized epidemiological data to support the use of the HPV vaccine for the primary prevention of cervical cancers.
This research programme aligns with ENV's objective to establish the role of infectious agents in human cancers and their effects on epigenetic mechanisms. Our work will:
- enhance understanding of HPV prevalence in LMICs, particularly in regions like sub-Saharan Africa, where data are still limited;

- align with the WHO global 90–70–90 strategy to prevent and treat cervical cancer;
- contribute evidence to the high-priority evaluation of several biological agents, such as β-HPV and *Fusobacterium nucleatum* by the *IARC Monographs* Programme.

In sum, the programme addresses critical gaps in understanding how infections contribute to cancer, particularly in regions with limited epidemiological data. It supports global cervical cancer prevention strategies and strengthens evidence for evaluating biological agents. Leveraging established laboratory platforms and international collaborations, the project is mature, operationally ready, and capable of generating measurable outcomes, including biomarkers and prevalence data. By building local research capacity, fostering cross-Pillar integration, and informing policy, it enhances IARC's reputation, promotes scalable interventions, and ensures relevance to global cancer control priorities and equity goals.

HPVMicroIMPL: Integrating microbiome studies for implementation		
Tier 2	**Coordinating Branch:** ENV	**Contributing Branches:** EPR

Outputs of the project:

The project will establish the correlation among HIV status, HPV infection, and the microbiota composition at different body sites. It will provide novel information on the complexity of microbial communities and expand our understanding of the interplay between different types of biological agents, which is a novel and rapidly growing area of research. The project will:

- Generate data on the profile of microbial communities in HIV-positive versus HIV-negative individuals, shedding light on the impact of HIV status on human microbiota. In collaboration with EPR (PI: Dr Basu) and as a continuation of a microbiome study conducted in Zambia, we will examine the role of the vaginal microbiome in cervical disease dynamics and its association with treatment failure in women living with HIV (WLWH) in Zimbabwe. Recent findings have shown that treating cervical precancer in WLWH is significantly less effective than in HIV-negative women (Basu et al, 2024; Pinder et al, 2020).
- Examine the effectiveness of using urine samples to detect high-risk HPV/CIN2 for screening and triage of WLWH.

Taken together, our findings may provide a baseline for further research into the relationship between the microbiome and infections. The composition of the microbiome and HPV infection will be studied using the most cutting-edge technologies, all of them already established in ENV. The findings of this project may also lead to developing a specific approach to maintain and restore the microbial communities by topical microbiota modulators that may reverse or prevent HPV infection at different body sites. In addition, findings from these microbiome studies can directly inform cervical cancer screening practices and be highly relevant for WLWH.

This project addresses critical gaps in understanding the interplay between HIV, HPV, and the human microbiome in WLWH, particularly in LMICs. Leveraging established ENV expertise, infrastructure, and cutting-edge technologies, it is fully implementation-ready and aligned with IARC's mission. Collaborations with EPR strengthen cross-Pillar integration, external partnerships, and local research capacity. Expected outcomes include actionable data to inform cervical cancer screening and microbiome-based interventions, supporting WHO global initiatives on cancer, evidence-based policy, and scalable, replicable approaches for equity in cancer control.

Evaluation of single dose of a quadrivalent HPV vaccine (Gardasil) in India		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** ENV

General objectives of the project:

- Follow-up of a cohort of women who received one dose, two doses, and three doses of Gardasil quadrivalent vaccine at age 10–18 years in India.

- Estimate vaccine efficacy by number of doses against persistent cervical infections from vaccine-targeted HPV genotypes at 20 years after vaccination.
- Estimate vaccine efficacy by number of doses against high-grade cervical precancers and cancers (CIN2+) associated with vaccine-targeted HPV genotypes at 20 years after vaccination.
- Estimate durability of total and neutralizing antibody response at 15 years and 20 years after vaccination.

Evidence generated from the project, initiated in 2009, has already been instrumental to the WHO recommendation for a single dose of HPV vaccine and > 70 countries switching to or introducing single-dose HPV vaccination programmes. The durability of protection beyond 15 years after vaccination against disease end-points is very much required to give confidence to the population, health professionals, and policy-makers on the single-dose recommendation. This project will generate very important data on the first and second round of screening of vaccinated populations to inform guidelines on risk-based screening of vaccinated and unvaccinated women.

Outputs of the project:

- Estimates of vaccine efficacies against persistent HPV16/18/6/11 infections in the female recipients of a single dose, two doses, and three doses of Gardasil.
- Estimates of vaccine efficacies against CIN2+ disease associated with HPV16/18 in the female recipients of a single dose, two doses, and three doses of Gardasil.
- All efficacy results will be obtained 15–20 years after vaccination.
- Durability of antibody levels after a single dose, two doses, and three doses of Gardasil at 15- and 20-year time points.

A randomized trial to establish non-inferiority of immunogenicity of a single dose of CERVAVAC quadrivalent HPV vaccine compared with Gardasil among females aged 9–20 years and males aged 9–14 years in Zambia		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:**

General objectives of the project:

The randomized study in Zambia will evaluate the quadrivalent HPV vaccine (CERVAVAC) indigenously produced in India compared with Gardasil quadrivalent vaccine in populations with high HIV prevalence in Zambia, with the following primary objectives:

- Compare the immune response to HPV genotypes 16 and 18 induced by a single dose of CERVAVAC quadrivalent HPV vaccine at 12 and 24 months after vaccination among girls aged 9–14 years with that induced by a single dose of Gardasil quadrivalent HPV vaccine among girls aged 9–14 years.
- Compare the immune response to HPV genotypes 16 and 18 induced by a single dose of CERVAVAC quadrivalent HPV vaccine at 12 and 24 months after vaccination among boys aged 9–14 years with that induced by a single dose of Gardasil quadrivalent HPV vaccine among boys aged 9–14 years.
- Compare the immune response to HPV genotypes 16 and 18 induced by a single dose of CERVAVAC quadrivalent HPV vaccine at 12 and 24 months after vaccination among girls/women aged 15–20 years with that induced by a single dose of Gardasil quadrivalent HPV vaccine among girls/women aged 15–20 years.

A significant number of LMICs (including India) have not yet introduced HPV vaccination in their national immunization programme. The primary reasons are the high cost of the vaccine and the crisis of regular supply of vaccines. The Serum Institute of India, one of the largest producers of vaccines globally, has obtained market authorization for their new HPV vaccine, CERVAVAC. However, the authorization (and expected WHO prequalification) is for two or three doses. Not having single-dose data is a major hindrance for countries (including India) to adopt a single dose of the new vaccine, which has the potential to mitigate the supply crisis.

Outputs of the project:

- Comparative data on the antibody levels at 6 months, 12 months, and 24 months among girls aged 9–14 years receiving CERVAVAC or Gardasil.
- Comparative data on the antibody levels at 6 months, 12 months, and 24 months among girls/women aged 15–20 years receiving CERVAVAC or Gardasil.
- Comparative data on the antibody levels at 6 months, 12 months, and 24 months among boys aged 9–14 years receiving CERVAVAC or Gardasil.
- Any adverse events after either of the vaccines.

➔ **IARC FLAGSHIP**

Cancer Screening in Five Continents (CanScreen5)		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** CSU

General objectives of the project:
CanScreen5 is one of the flagship projects of the Agency, with the core objective to encourage and support countries to collect and use cancer screening data for effective programme evaluation and quality improvement. The CanScreen5 website is a global repository of information on cancer screening programmes (https://canscreen5.iarc.fr). The specific objectives of the project are:

- Collect, analyse, and disseminate information on the policies, protocol, and organization of cancer screening programmes in different countries.
- Encourage and support countries to collect and use cancer screening performance data for programme evaluation and quality improvement on a continuous basis.
- Provide the required data collection tools and the standardized methodology and definitions for estimating the performance indicators in different countries.
- Build capacity of the cancer screening programmes to understand the value of quality assurance in cancer screening and implement it.
- Provide a freely accessible platform to visualize the performance data analysed with a common set of indicators for the screening programmes to compare their performance over time and with other programmes.

Quality assurance is essential for any cancer screening programme to be effective. Implementation of quality assurance requires systematic collection of performance data to estimate the key performance indicators. CanScreen5 directly contributes to improved implementation of cancer screening through training of cancer screening programme managers/coordinators, providing appropriate data collection tools to measure indicators in a harmonized way, and disseminating the screening performance through an open access data visualization website.

Outputs of the project:

- The project will report the policies, protocol, and organization of breast, cervical, colorectal, and lung cancer screening from different countries.
- The key performance indicators are estimated for breast, cervical, colorectal, and lung cancer screening from different countries.
- The CanScreen5 website serves as a repository of information and data of cancer screening programmes across the globe.

Developing the guidelines and quality assurance schemes for population-based organized cervical cancer screening programmes in the EU		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:** CSU, ESC, LCB

General objectives of the project:

- Review and update the existing guidance (2020) on HPV vaccination for the EU.
- Update evidence-based clinical guidelines on secondary prevention of cervical cancer for European countries with recommendations for risk-stratified screening and improving coverage for

specific subgroups of the population (e.g. different age groups, women living with HIV, other immune-compromised women, and socially vulnerable populations).
- Incorporate use of indicators, benchmarks, and user-friendly tools for monitoring and evaluating cervical screening and diagnosis in the updated guidelines, based on findings from the IARC-led CanScreen-ECIS project (an EC-funded project).
- Develop a voluntary quality assurance scheme and the accreditation of cervical cancer services covering the full continuum of cervical prevention and care (primary, secondary, and tertiary prevention of cervical cancer).
- Publish manuals incorporating requirements and indicators for services and scheme owners to implement the quality assurance scheme, certification process, and accreditation.
- Provide guidance to countries for measuring and addressing inequalities in cervical cancer prevention and care using the indicator framework developed by the European Cancer Inequalities Registry.

The project is designed to support the Europe's Beating Cancer Plan, and to support the HPV vaccination and cervical screening targets (90–70–90 targets) set out in the WHO Global Cervical Cancer Elimination Strategy. The cervical cancer screening guidelines will be updated for the EU after 10 years and will have a huge impact on the Member States who have or are planning to introduce HPV detection-based screening. We will also provide the much-required guidance to the countries on how to screen the population based on the status of HPV vaccination.

Outputs of the project:
- Updated guidelines on cervical cancer screening, triaging, and precancer treatment for the general population and for the HPV-vaccinated population in the EU and EEA countries.
- Updated guidelines on HPV vaccination for the EU and EEA countries.
- A new quality assurance scheme for cervical cancer covering all services related to screening, management of precancers, management of cancers, palliative care, and survivorship for the EU and EEA countries.

Examining the role of the vaginal microbiome in cervical disease dynamics and associations with treatment failure among women living with HIV		
Tier 3	**Coordinating Branch:** EPR	**Contributing Branches:** ENV

General objectives of the project:
This study aims to evaluate whether vaginal microbiome signatures can guide triage and treatment decisions for HPV-positive women, building on existing cohorts across New Zealand, South Africa, and Zimbabwe. Preliminary findings from the study show an association between the vaginal microbiome and the success of cervical precancer treatment in HIV-positive women. By generating more evidence on the association, we may be able to find a solution to the high treatment failure rates in HIV-positive women. The project may thus contribute to cervical cancer elimination.
The primary objectives are:
- To evaluate whether specific vaginal microbiome profiles are associated with high-grade cervical disease (CIN2+) among HPV-positive women, with or without partial genotyping.
- To evaluate whether specific vaginal microbiome profiles are associated with treatment outcomes (clearance of HPV-related cervical disease or persistence).

The secondary objectives are:
- To characterize vaginal microbiome profiles across different sample types (e.g. ThinPrep vs vaginal swabs).
- To compare the vaginal microbiome composition across diverse populations, including different countries, racial/ethnic groups, and age categories.
- To compare vaginal microbiome profiles between HIV-positive and HIV-negative women and women who have precancer treatment success and failure.

Outputs of the project:

- Including diverse geographical sites and both HIV-positive and HIV-negative participants will increase the generalizability and statistical power to detect clinically meaningful associations between microbiome signatures and HPV-related cervical disease.
- The study will generate preliminary data to support a larger, hypothesis-driven intervention trial.
- The project will contribute to capacity-building in microbiome research within IARC and in collaborating African countries.

Patterns-of-care studies to document the delays in care pathways, their determinants, and their impact on survival of common cancers in LMICs		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:**

General objectives of the project:
- To assess the pre-diagnostic, diagnostic, and treatment delays in the care pathways for common cancer types (including paediatric cancers) and their social and structural determinants.
- To identify disparities in the quality of care among different subgroups of patients with cancer (e.g. by age, race/ethnicity, socioeconomic status).
- To assess compliance of care delivered to patients with cancer with the national/international protocols.
- To assess impact of delays in care on survival of patients with cancer.
- To assess impact of delays in care on quality of life of patients with cancer.

By objectively documenting the avoidable delays in care pathways and their socioeconomic and structural determinants, this study aims to provide robust evidence to identify key priority areas and find better ways to organize cancer care services, and a guide to develop a national cancer control programme by identifying the factors affecting the delays that occur throughout the cancer continuum. By identifying barriers to timely diagnosis and treatment, the study supports IARC's goal of translating research into practical improvements in cancer care systems.

Outputs of the project:
- Estimates of pre-diagnostic, diagnostic, and treatment delays for patients with common cancer types.
- Estimates of the determinants of the delays.
- Estimates of the impact of such delays on cancer survival and quality of life.
- Suggestions for policy-makers on improving the quality of cancer care.

Global burden of infection-attributable cancer		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** CSU

Outputs of the project:
- Provide regular evidence-based estimates of the global and regional burden of cancers attributable to the 13 established carcinogenic infections (including viruses, bacteria, and parasites).
- Continuously refine and improve methodological approaches, incorporating the most up-to-date causality assessments (e.g. new classifications from recent *IARC Monographs*, such as hepatitis D virus and Merkel cell polyomavirus, and findings from key etiological studies).
- Integrate with existing IARC cancer burden platforms (e.g. GLOBOCAN, Cancer Incidence in Five Continents).
- Generate data-driven indicators to:
  - Raise awareness among stakeholders,
  - Support resource prioritization,
  - Build the case for investment in primary and secondary cancer prevention,

- Model and anticipate the potential impact of prevention policies – this is particularly relevant given the preventability of infection-attributable cancers.

Blood-based biomarkers for early cancer diagnosis in people living with HIV		
Tier 3	**Coordinating Branch:** EPR	**Contributing Branches:**

Outputs of the project:

- Through scientific leadership of a unique, large European consortium of cohorts of people living with HIV (PLHIV) – including EuroSIDA, the Swiss HIV Cohort Study, and Swedish InfraHIV – which combine extensive clinical data with well-established blood biobanks, we aim to assess the clinical utility of:
  (a) Circulating HPV DNA (ctHPVDNA) as a promising pre-diagnostic biomarker for early detection of anal cancer and other HPV-related cancers.
  (b) Blood-based biomarkers to improve early detection of lung cancer in PLHIV, a population in which most lung cancer cases occur outside the eligibility criteria of current lung cancer screening guidelines based on age and smoking behaviour.
- Building on promising proof-of-concept results from retrospective biobank analyses, we will transition towards prospective intervention studies to generate real-world evidence for early cancer detection strategies. These studies will initially focus on PLHIV – a population with frequent blood sampling and elevated risk of these cancers – but the findings are expected to be translatable to broader high-risk populations.

Understanding risk factors in diverse populations with variable gastric cancer risks using standardized multicentre protocols (Epidemiological iNvestigatIon of Gastric Malignancies/ENIGMA)		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:** NME, LSB

Outputs of the project:

The ENIGMA study consists of a series of international prevalence surveys of *H. pylori* and potential gastric cancer cofactors and a prevalence study of gastric histological changes in high- and low-risk areas in the world. ENIGMA elucidates the population-based prevalence of *H. pylori* and cofactors of gastric cancer, which are crucial to understand their etiological role and possible prevention measures, thus contributing to the reduction in gastric cancer burden globally. ENIGMA countries include Chile, the Islamic Republic of Iran, New Zealand, and LMICs such as Uganda and Zambia. We have initiated discussions with Portugal, our new Participating State, for potential implementation of the study in the high-risk area. ENIGMA provides essential information for decision modelling exercises for predicting future gastric cancer risk and the impact of various prevention strategies in various populations.

- Collaborative/material and data transfer agreements between IARC and the collaborating institutions.
- Biomarker analyses of the ENIGMA I and II samples (*H. pylori*, pepsinogen I and II, urinary sodium/potassium, metabolomics, and clarithromycin resistance data) for identification of novel biomarkers for risk factors and gastric cancer using samples from Antofagasta and Valdivia (Chile), Ardabil and Shiraz (Islamic Republic of Iran), Uganda, Zambia, and New Zealand.
- Decision modelling analyses on age-specific impact of *H. pylori* screen-and-treat strategies using the ENIGMA datasets.

Circulating metabolites as novel risk biomarkers for gastric cancer: a large multicentre prospective investigation (Meta-GC, INTL-CC)

Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:** NME, LSB

Outputs of the project:
These projects aim to generate robust evidence on gastric cancer risk factors by applying a cutting-edge metabolomics technique as a potential means of identifying numerous novel biomarkers that may interact with modifiable risk factors. The projects are expected to be the first and the largest studies to investigate the impact of perturbation of the blood metabolome on gastric cancer risk in prospective settings. Involving extensive international (institutions from 10 Participating States involved) and cross-IARC Teams collaborations (OMB, HorM, LSB), these are perfectly in line with the MTS to enhance global understanding of unidentified causes of cancer and their respective pathways.
Meta-GC:
- Creation of database of untargeted metabolomic data for the EPIC-nested case–control cohort.
- Completion of ELISA analyses and generation of a new database with *H. pylori* and pepsinogen I/II.

International Cohort Consortium Project (INTL-CC):
- Collaborative/material and data transfer agreements between IARC and the collaborating institutions.
- Provision of the EPIC samples from the biobanks to the coordinator.
- Targeted LC-MS analysis for the validation phase and creation of the database containing metabolomic data.
- Transfer of the database containing epidemiological data for the EPIC case–control set.

Investigating the role of *H. pylori* treatment and endoscopic surveillance for gastric cancer prevention in high-incidence areas (HELPER, GISTAR)		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:**

Outputs of the project:
The Republic of Korea has the third highest gastric cancer incidence in the world. IARC and the National Cancer Center Korea initiated in 2013 a large clinical trial (HELPER) to investigate the effect of eradication of *H. pylori*, the major risk factor, on gastric cancer. The Republic of Korea, an IARC Participating State since 2006, has made a substantial investment in this collaboration and has expressed its commitment to continue supporting the study over the next 10 years, with the goal of informing both national and international public health policy on gastric cancer prevention based on its long-term follow-up data. HELPER is the largest trial to date that evaluates *H. pylori* eradication as a strategy to reduce gastric cancer, using endoscopic follow-up, and the results are expected to redefine global approaches to gastric cancer prevention. The key follow-up research plans are outlined below. GISTAR is the largest and only available gastric cancer prevention trial in Europe and was initiated in 2012 to address considerable geographical variations in gastric cancer burden in Europe, particularly in eastern European regions and the Baltic states. By co-leading these two landmark trials – both anticipated to have major global impact – IARC's leadership in the field of cancer prevention and public health policy is further strengthened.
- Organization of meetings with the HELPER and GISTAR Data Safety and Monitoring Boards.
- Monitoring and study site visits.
- Interim analysis of HELPER results.
- Follow-up rates of HELPER and GISTAR.
- Protocol development for the Post-HELPER study as major follow-up studies for risk stratification and decision modelling for optimization and prioritization of preventive strategies to tailor the current Korean National Gastric Cancer Screening Program.
- Data from HELPER and GISTAR will be used to derive the most appropriate prevention strategies applicable in various global contexts, and to systematically evaluate the risks, benefits, resource demands, and costs associated with each strategy, and will be used as a basis to ensure the feasibility and sustainability of the strategies.

Gastric cancer prevention in Europe (TOGAS/EUGastScreen/EU4Health)		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:**

Outputs of the project:
In response to the recently announced Europe's Beating Cancer Plan and subsequent recommendations on cancer screening, population-based *H. pylori* test-and-treat programmes are emphasized as an important tool for gastric cancer prevention in EU countries, especially those with a high gastric cancer burden. After successful completion of EUROHELICAN and its major outputs, IARC is taking an important role in three additional European projects to evaluate various prevention strategies in Europe. These projects will aid policy-makers to implement the population-based *H. pylori* screen-and-treat strategies and screening programmes into their health-care priorities for gastric cancer prevention while balancing the effectiveness, feasibility, and acceptability with the short- and long-term potential adverse effects.
TOGAS:
- Participation in the pilot studies in the Netherlands, Slovenia, Portugal, Germany, Lithuania, France, Ireland, Spain, and Latvia for evaluation and analyses of the data.
- Leading development of the quality indicators for gastric cancer screening in collaboration with the Joint Research Centre (JRC).

EUGastScreen:
- Development of a study protocol.
- Evaluation of the pilot studies in Estonia, Italy, Latvia, and Portugal and other additional study sites.

EU4Health gastric cancer screening implementation:
- Key role in upcoming EU4Health call for proposals to pilot and implement gastric cancer screening programmes.

Programme #4: Implementation for impact		
Pillar III – Prevention **Programme Tree Path: 3.4**	**Leading Branch:** EPR	**Contributing Branches:** LCB, CSU, ENV

General objectives of the Programme:
- Investigate how research outcomes are effectively implemented in real-world settings and translated into effective health policies, addressing key priorities outlined by IARC.
- Inform public health decision-making at a global and local level on the basis on predictive models combining high-quality empirical data and advanced algorithms.
- Generate valuable knowledge, and also actively translate it into actionable policies that will significantly improve public health outcomes.

Research Teams and their contribution to the overall objective of the Programme:
- The Public Health Decision Science Team (PHDS) focuses on cancers related to infectious agents in both HICs and LMICs, working in both settings to accelerate knowledge and technology transfer from high-resource to low-resource settings. PHDS is also conducting field studies aimed at assessing the actual impact of HPV vaccination in selected countries.
- The Research for Implementation Team (RFI) focuses on 4 key areas: Research, Innovation in implementation, Training and education, and Evidence to inform policy (RITE), to strengthen research for implementation and practice at IARC and through its networks.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
The dedicated Teams will maintain regular exchanges of information and collaborative ideas. IARC scientists will share information from the research projects for the development of guidelines and recommendations by WHO. This programme also interacts with all levels of WHO offices (headquarters, regional and country offices) and with IAEA, providing alignment between research evidence and policies, as well as supporting countries in implementing evidence-based interventions.

Concrete outcomes of the programme:	**Key Performance Indicators:**
➔ Evidence generated on the feasibility, acceptability, outreach, adoption, effectiveness and cost–effectiveness, and sustainability of implementing evidence-based interventions in real-world settings. ➔ Supporting health systems and policy-making to identify context-adapted, evidence-based interventions as the cornerstone to inform and shape policy decisions, fostering effective strategies that strengthen health care and promote sustainable improvements in public health outcomes.	➔ Number of projects ➔ Total extramural funding ➔ Number of Participating States and other countries included in the collaborations ➔ Number of publications ➔ Guidelines/recommendations (national/international) using evidence generated

Multicentre pilot studies for lung cancer screening		
Tier 1	**Coordinating Branch:** EPR	**Contributing Branches:** CSU

General objectives of the project:
The general objectives are: Evaluate the feasibility, performance, quality, and harms of risk-stratified low-dose computed tomography (LDCT) for lung cancer screening across health systems, to inform national pilots, rollout decisions, and global guidance.
The specific objectives are: (1) Quantify the uptake and yield under a risk-based eligibility approach; (2) Describe the LDCT findings, nodule characteristics, diagnostic accuracy, and inter-reader concordance; (3) Monitor the harms (false positives, overdiagnosis proxies, procedures, radiation); (4) Assess stage shift and proportion eligible for radical treatment at diagnosis; (5) Cost–effectiveness and cost analysis; (6) Planning for scale-up.

Outputs of the project:
Measuring the RE-AIM for implementation research:
- Reach: who were included and how representative they are.
- Effectiveness: clinical benefit and harms.
- Adoption: settings and providers that take up the programme.
- Implementation: fidelity, quality, timeliness, and cost.
- Maintenance: sustainability and scale-up.

Offering combined HPV vaccination and HPV test-based cervical screening to vulnerable populations: a hybrid efficacy and implementation study (HPV-FASTER-Implement)		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:**

General objectives of the project:
Co-design of tailored strategies to deliver combined HPV vaccination and HPV-based screening to unvaccinated vulnerable populations (HPV-FASTER strategy), thereby reducing the cervical cancer burden in Europe. The HPV-FASTER-Implement consortium will identify and develop strategies that meet the diverse and specific needs of vulnerable women and transgender men, advocate for policy adoption, and promote solutions.
IARC is mainly involved in investigating the implementation research outcomes of the HPV-FASTER strategy in real-world settings and the translation of this strategy into effective health policies.

Outputs of the project:
Evidence generated on the feasibility, acceptability, outreach, adoption, effectiveness and cost–effectiveness, and sustainability of implementing the HPV-FASTER strategy in 5 intervention countries

among several vulnerable population groups: migrants, female sex workers, women living with HIV, transgender men, women living in prison, and women living in socioeconomically deprived areas.

Development of European guidelines and quality assurance scheme for gastric cancer prevention, screening, and care (EC-GaC)		
Tier 2	**Coordinating Branch:** EPR	**Contributing Branches:** ESC (Handbooks)

Outputs of the project:
The key elements of the European Commission Initiative on Gastric Cancer (EC-Gac) are the development of the European guidelines and the European quality assurance scheme for gastric cancer prevention, screening, and care. The first set of guidelines to be developed for EC-GaC will address primary prevention, focusing on *H. pylori* screen-and-treat strategies for gastric cancer, and on identifying target populations within the diverse European landscape to screen and treat for *H. pylori* while advocating for its successful eradication and ensuring antimicrobial stewardship. These efforts are expected to continue to expand the aim to cover screening, diagnosis, and treatment, addressing the entire care pathway as in other established guidelines in the next work programmes. Active collaboration with the *IARC Handbooks* Programme is expected for its Volume 22 on gastric cancer prevention.

- Constitution of an operational steering group, stakeholder and expert pool, and advisory board.
- Formation of experts working group.
- Interim progress reports of action-level indicators.
- Development of evidence-based guidelines and quality assurance schemes on the JRC web hub and other dissemination channels.

➔ **IARC FLAGSHIP**

Codes Against Cancer and personalized prevention		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:** EPR

This project started with the EU commissioning IARC for the European Code Against Cancer in 2012, and was expanded by IARC into the World Code Against Cancer Framework and became a flagship of IARC.

Outputs of the project:
ENV is the founder and leader of the World Code Against Cancer Framework, which includes two main types of activities to be carried out in 2026–2027.
(1) Development of Regional Codes Against Cancer:
- Asian Code Against Cancer: the output will be the Asian Code Against Cancer, divided by two subregions.
- Other Codes Against Cancer (Africa, Middle East): the output will be an epidemiological and contextual mapping and conceptualization exercise to decide the subregions and countries included in future Codes by regions of the world.
(2) Implementation and dissemination research studies to measure the impact of Regional Codes Against Cancer:
- In Latin America: the outputs will be a national scale-up of the Brazil feasibility study, which will be carried out to measure the impact of the Latin America and the Caribbean Code Against Cancer at the level of the general public, health professionals, and policy-makers; and a cross-sectional baseline study to be implemented in the general public of several countries to measure cancer prevention literacy and progress of implementation of the Latin America and the Caribbean Code Against Cancer.
- In the EU: the outputs will be a systems thinking project to be carried out in Romania to build capacity of local stakeholders on the systems thinking methodology and to apply it with local policy-makers in relation to the implementation of the European Code Against Cancer 5th edition; and a cross-

sectional baseline study implemented in the general public of several countries to measure cancer prevention literacy and progress of implementation of the European Code Against Cancer 5th edition.

Cancer Prevention Europe		
Tier 1	**Coordinating Branch:** ENV	**Contributing Branches:** CSU, EPR

This project was created by the IARC Director in 2017 and handed over to ENV in 2019. It was established based on agreements with key cancer research institutions across Europe (all in IARC Participating States). IARC was requested to chair and coordinate the consortium.

Outputs of the project:
The outputs of Cancer Prevention Europe are planned and decided by the steering group members of the consortium on an annual basis. ENV provides the chair and scientific secretariat of the consortium, which is supported by membership fees of the steering group members. Among the usual outputs of the consortium is consulting the health authorities and cancer prevention organizations of the EU and European countries in terms of primary and secondary cancer prevention, increasing the visibility of cancer prevention, fostering collaboration in cancer prevention between countries, and informing countries about new developments in cancer prevention.
The outputs are reviews on new developments in cancer prevention and projects submitted and conducted by Cancer Prevention Europe members, as well as tutorials and webinars.

Peer-Led Brief Alcohol Risk-Reduction Intervention		
Tier 2	**Coordinating Branch:** ENV	**Contributing Branch(es): NA**

General objectives of the project:
Alcohol consumption is classified as a carcinogen and is a major modifiable risk factor. The Republic of Moldova has a high age-standardised cancer incidence rate (232 per 100,000 population) and one of the highest per-capita alcohol consumption levels in Europe, where alcohol accounted for 8% of all cancers in 2020 - the highest proportion in Europe. Europe's Beating Cancer Plan identifies primary prevention as a core pillar, highlighting the potential to reduce cancer burden through interventions targeting modifiable risk factors such as alcohol use. Young adults, particularly university students, represent a critical population for prevention, as the transition to university is often associated with binge drinking and the establishment of long-term drinking behaviours.

Outputs of the project:
This project aims to reduce alcohol-related cancer risk among university students in Moldova through the adaptation and pilot implementation of an effective, low-cost, peer-led alcohol Screening and Brief Intervention (SBI) promoted under the WHO SAFER initiative.
The project will generate evidence on feasibility, acceptability, fidelity, reach, and early behavioural outcomes, and develop actionable recommendations to support scale-up and integration into university and national health promotion programmes, aligned with Europe's Beating Cancer Plan and the EU Mission on Cancer.

Tertiary prevention and cancer survivorship research		
Tier 3	**Coordinating Branch:** ENV	**Contributing Branches:**

The cancer survivorship research domain is deservedly being given more research attention and research funding with the growing population of cancer survivors worldwide. IARC is well positioned to bring LMICs into this research portfolio.

Outputs of the project:
With the large expansion of the cancer survivor population and the long years of life lived after cancer, the impact of cancer and its treatment on the health and quality of life of cancer survivors is being given increasing attention, especially in HICs. In 2025, ENV secured full funding for a 4-year project to study the late effect of cancers in French cancer survivors, i.e. survivors of any type or previous cancer type. This collaboration with the Constances and Gazel cohorts will initiate collection of new information on the quality of life of cancer survivors using the latest EORTC questionnaire. The range of quality-of-life impacts and their determinants across cancer types, time since cancer, and age are being investigated. We have also secured separate funding for a breast cancer survivorship focus on disadvantaged populations.

PILLAR IV – KNOWLEDGE

Leading Branches:
- **Evidence Synthesis and Classification (ESC)**
- **Learning and Capacity-Building (LCB)**

Programme #1: *IARC Monographs on the Identification of Carcinogenic Hazards to Humans* **(IMO)**		
Pillar IV – Knowledge **Programme Tree Path: 4.1**	**Leading Branch:** ESC	**Contributing Branches:** CSU, ENV, EPR, GEM, NME

General objectives of the Programme:
The main objective of the *IARC Monographs* Programme is to convene expert Working Groups to systematically review, synthesize, and integrate the published scientific evidence on carcinogenic hazards to which humans are exposed. These include chemicals, physical and biological agents, pharmaceuticals and medical interventions, complex mixtures, occupational exposures, dietary factors, and personal habits. Other objectives are to conduct evaluations of agents for which public health impact is likely to be high, particularly in LMICs; to achieve the highest degree of scientific authority and trust in these evaluations; and to disseminate the evaluations as widely as possible to diverse stakeholders.

Research Teams and their contribution to the overall objective of the Programme:
IARC Monographs scientists actively participate in Research Teams for occupational cancer epidemiology (OCE) and childhood cancer (GICC). The work of these and some other cancer-specific Teams contributes valuable evidence for evaluation by the *IARC Monographs* Programme in its reviews of related agents.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
The cancer hazard evaluations of the *IARC Monographs* are often used by WHO headquarters and regional offices to guide development and implementation of initiatives to prevent cancer. For example, the WHO initiative on HPV prevention began decades ago with the *IARC Monographs* determination that HPV causes cervical cancer and other cancers. The latest *IARC Monographs* evaluation of hepatitis D virus (HDV) as carcinogenic to humans (Group 1) offers collaboration opportunities with WHO regions where HDV infection is high. The WHO Regional Office for Europe developed new air quality guidelines based in part on *IARC Monographs* evaluations of outdoor air pollution and particulate matter in outdoor air as carcinogens (Group 1) causing lung cancer in humans. Collaborations with the WHO headquarters Division of Nutrition and Food Safety have jointly examined aspartame and have coordinated work on various pesticides.

Concrete outcomes of the programme:
Two or three published *Monographs* volumes per year evaluating the cancer hazard posed by one or several agents accorded priority for evaluation. Dissemination products to scientific and public health communities (articles in high-impact journals; newsletters; infographics). Manuscripts describing methodological innovations and meta-evaluations of *Monographs* information to advance fuller understanding of the causes of cancer.

Key Performance Indicators
- Number of *Monographs* meetings annually
- Number of published volumes annually
- Number of downloads of information from *Monographs* and IARC Publications websites
- Number of subscribers to triannual newsletter
- Number of published meta-evaluations of the *Monographs*
- Impact assessments for previous *Monographs* evaluations

➔ **IARC FLAGSHIP**

IARC Monographs on the Identification of Carcinogenic Hazards to Humans		
Tier 1	**Coordinating Branch:** ESC	**Contributing Branches:** CSU, ENV, EPR, GEM, NME (as warranted, depending on topic)

Outputs of the project:

- Fourteen *IARC Monographs* meetings (to develop Volumes 141–154).
- Publication of short scientific summaries for meetings 141–154 in *The Lancet Oncology* or other high-impact journal.
- Dissemination of results of meetings 141–154 via website, newsletter, and other channels.
- Publication of full *Monographs* Volumes 137–151.
- Scientific Workshop to identify research gaps and recommendations for high-priority agents whose carcinogenicity is unresolved.
- Research article and report describing results of Scientific Workshop.

Programme #2: ***IARC Handbooks of Cancer Prevention***		
Pillar IV – Knowledge **Programme Tree Path: 4.2**	**Leading Branch:** ESC	**Contributing Branches:** CSU, EPR, ENV, GEM, NME, ESC

General objectives of the Programme:

The mission of the *IARC Handbooks* Programme is to provide comprehensive reviews and consensus evaluations on the effectiveness of cancer prevention interventions and strategies. The interventions cover primary and secondary cancer prevention and vary from lifestyle changes to community-wide interventions. In developing the *IARC Handbooks*, the Programme strives to achieve the highest degree of scientific authority and trust and to disseminate the outcomes as widely as possible to diverse stakeholders. In addition, scientists from the Programme also lead or contribute to projects related to previous or current *IARC Handbooks* volumes.

Research Teams and their contribution to the overall objective of the Programme:

The Oral Cancer Team (OCT) emerged as an outcome of *IARC Handbooks* Volume 19 on oral cancer prevention. The Head of the Programme is a co-lead of this Research Team.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:

The Programme has close collaborations with WHO headquarters and regional offices; WHO Officers contribute to *Handbooks* meetings, and the content of *Handbooks* volumes matches WHO's needs.

Concrete outcomes of the programme:	**Key Performance Indicators**
➔ Evaluations of interventions for primary and secondary cancer prevention. ➔ Publication of the results in peer-reviewed journals. ➔ Full *Handbooks* volume published online and in print.	➔ Number of consultations and downloads of the peer-reviewed publications ➔ Number of downloads of information from *Handbooks* and IARC Publications websites ➔ Media coverage of the publications ➔ Coverage in social media networks ➔ Impact of *Handbooks* on public health policies

➔ **IARC FLAGSHIP**

IARC Handbooks of Cancer Prevention		
Tier 1	**Coordinating Branch:** ESC	**Contributing Branches:** CSU, EPR, ENV, GEM, NME, ESC

Outputs of the project:

- Publication of the results of Volume 21 as a Special Report in the *New England Journal of Medicine* or a high-impact peer-reviewed journal.
- Publication of the full report of Volume 21 online and in print.
- Communication and dissemination of the results through various media channels.
- Development of an evidence and gap map for the epidemiological data in Volume 20A.
- Updating of the evidence and gap map for primary and secondary prevention data in Volume 19.

Programme #3: ***WHO Classification of Tumours* (WCT)**		
Pillar IV – Knowledge Programme Tree Path: 4.2	**Leading Branch:** ESC	**Contributing Branches:** CSU, GEM, NME, LSB, ENV, EPR

General objectives of the Programme:

The *WHO Classification of Tumours* Programme aims to provide internationally recognized and globally applicable evidence-based classification for tumours (WHO Blue Books) and cytopathology reporting systems. The *WHO Classification of Tumours* (WCT) is the standard against which all tumours – including pre-invasive and invasive cancers – are correctly diagnosed across the globe, underpinning the treatment, prognosis/prediction, and optimal patient management. The International Classification of Diseases for Oncology (ICD-O), based on WCT, facilitates collection of epidemiological data on cancer. This and information provided by WCT on pre-invasive carcinomas facilitates cancer prevention and early diagnosis strategies. Without the ability to refer to correctly diagnosed tumours, cancer research, which includes comparison of cancers of one diagnostic group with controls, drug trials, cancer registration, and epidemiological investigations, will be adversely affected, with far-reaching implications. The cytopathology reporting systems provided by the programme are especially useful in LMIC settings.

The International Collaboration for Cancer Classification and Research (IC^{3}R) aims to promote evidence-based practice in pathology, to set standards for tumour classification and research harmonization, and to underpin successful translation of tumour pathology research into clinical practice. Inter-professional research teams, including pathologists, epidemiologists, systematic reviewers, and cancer researchers have been formed under the IC^{3}R umbrella. An EU Horizon grant has funded the innovative WCT Evidence Gap Map project (EVI MAP) and includes a group of European and international partner institutions, coordinated by the programme, aiming to identify evidence gaps in tumour classifications and to build a solid framework for future evidence-based pathology practice and research on tumour classification. It also aims to inform the WCT editorial process for the next editions of WCT volumes by creating dynamic interactive evidence maps for tumours.

Research Teams and their contribution to the overall objective of the Programme:

- The Communications team contributes to the communication of information related to WCT publications, IC^{3}R, and EVI MAP.
- The Computational Cancer Genomics team (CCG) contributes to the WCT Computational and Molecular Genomics subcommittees to set up a digital image library linked with AI diagnostic tools and to develop standardized molecular genetic images for the WCT 6th edition. CCG also contributes to the IC^{3}R computational and molecular genetic work streams.

The following Research Teams have ongoing collaborations with the histopathology laboratory to produce high-quality data pertaining to cancer, some of which may be translated into practice through the WCT volumes.

- Oesophageal Cancer Team (ECA) – Projects: Mutographs, PROMINENT, Mutographs-2 (MUT-2), international studies on mutational signatures and tumour molecular profiles; BRiDGE, development of biological resources for international genomic epidemiology. Collaborations: GEM.
- IARC Cervical Cancer Elimination Initiative Team (CCEI) – Projects: HPV diagnostics and genotyping; p16 IHC on cervical cancer blocks. Collaborations: Biobank, Laboratory Services, ENV, EPR.
- Hormones and Metabolism Team (HorM) – Projects: PROMINENT_WP3, characterization of breast, endometrial, and colorectal biopsies from RNAlater and FFPE samples; Metabo-3NEG, metabolic profiling in triple-negative breast cancer; PRECAMA, molecular subtypes of premenopausal breast cancer in Latin American women (upcoming). Collaborations: NME, GEM, ENV.
- Onco-Metabolomics Team (OMB) – Projects: DISCERN, causes of rare cancers in Europe. Collaboration: GEM.
- IARC Global Breast Cancer Initiative Team (GBCI) – Project: African Breast Cancer – Disparities in Outcomes (ABC-DO). Collaborations: ENV.
- Oral Cancer Team (OCT) – Projects: HEADSpAcE, head and neck cancer in South America and Europe; OTSCC, oral tongue squamous cell carcinoma; 3D Oral Tissue Model, organoid development. Collaborations: GEM, ENV.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:

- The WCT 5th edition published a new volume on Paediatric Tumours, supporting the WHO Global Initiative for Childhood Cancer, and the Female Genital Tumours volume was updated, providing support to the WHO Cervical Cancer Elimination Initiative.
- ICD-O coding provided by WCT is being aligned with the WHO ICD-11, aimed at facilitating the collection of correct epidemiological data on cancer. WCT closely coordinates with the ICD-11 team on this. An ICD-11 team member is also represented in the WCT ICD-O committee.
- The current Head of WCT is a member of the WHO Medical and Scientific Advisory Committee, contributing to its work.
- WCT closely coordinates with WHO Press at WHO headquarters regarding the sales of printed books.

Concrete outcomes of the programme:

- ➔ *WHO Classification of Tumours* series, comprising 14 volumes in its 6th edition.
- ➔ Cytopathology Reporting Systems, comprising 8 volumes in its 1st edition.
- ➔ Translation of research into practice by IC^{3}R and EVI MAP through the *WHO Classification of Tumours* series, Cytopathology Reporting Systems, and promoting evidence-based practice in pathology through journal publications.
- ➔ IARC research output is supported through the work of the histopathology laboratory, which provides histopathology support to WCT.

Key Performance Indicators:

WHO Blue Books and Cytopathology Reporting Systems:

- ➔ Number of WCT and Cytopathology Reporting Systems editorial board meetings held annually
- ➔ Number of new volumes published annually for both WHO Blue Books and Cytopathology Reporting Systems
- ➔ Annual book sales
- ➔ Annual individual and institutional web subscriptions
- ➔ Adoption of *WHO Classification of Tumours* for the development of data sets on reporting cancers by professional organizations
- ➔ Adoption of ICD-O coding based on *WHO Classification of Tumours* by global cancer registries

IC^{3}R and EVI MAP:

- ➔ Translation of IC^{3}R and EVI MAP research output through *WHO Classification of Tumours*

Histopathology laboratory:

	➔ Growth of the digital image library ➔ Number of IARC research groups provided with pathology support ➔ Contributions to research publications and translation of that research into practice

➔ **IARC FLAGSHIP**

WHO Classification of Tumours (WHO Blue Books) and Cytopathology Reporting Systems		
Tier 1	**Coordinating Branch:** ESC	**Contributing Branches:** CSU, GEM
KPIs of the project: • Editorial board meetings held for the WHO Blue Books and Cytopathology Reporting Systems • WHO Blue Books and Cytopathology Reporting Systems published online and in print • Journal publications on WCT and Cytopathology Reporting Systems • Scientific presentations on WCT and Cytopathology Reporting Systems • Speaker invitations received from scientific forums to deliver keynote addresses, lectures, seminar presentations, etc. pertaining to the project		

International Collaboration for Cancer Classification and Research (IC^3R) and Evidence Gap Map project (EVI MAP)		
Tier 3	**Coordinating Branch:** ESC	**Contributing Branches:** GEM, NME, LSB
KPIs of the project: • IC^3R membership • Completed, ongoing, and initiated scientific projects through the IC^3R collaboration • EVI MAP progress, deliverables through EU project portal, and EU review reports where relevant • Journal publications produced on IC^3R and EVI MAP • Scientific presentations on IC^3R and EVI MAP • Speaker invitations received from scientific forums to deliver keynote addresses, lectures, seminar presentations, etc. pertaining to the project		

Programme #4: IARC Research Training and Fellowship Programme		
Pillar IV – Knowledge Programme Tree Path: 4.4	**Leading Branch:** LCB	**Contributing Branches:** All Branches
General objectives of the Programme: To contribute to the development of the next generation of cancer prevention researchers through training at IARC at different levels of their career, as well as participation in collaborative research projects.		
Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer: Collaborations are being explored with some regional offices (e.g. WHO Regional Office for South-East Asia) to set up bilateral Fellowships. Collaboration with the WHO Academy is being explored, to set up their own programme. Collaboration with WHO on health insurance for Early Career and Visiting Scientists (ECVS). Some ECVS contribute to the WHO global initiatives on cancer.		
Concrete outcomes of the programme:		**Key Performance Indicators:**

A new cohort of > 300 researchers trained, moving to the next step of their careers while addressing the most urgent research questions relevant to cancer prevention.	➔ Transferable skills to beneficiaries' subsequent position(s) ➔ Perceived impact on career development ➔ Overall satisfaction about the programme Note: collected through periodic outcome surveys targeting former postdoctoral scientists (including IARC Fellows) and doctoral students

Early Career and Visiting Scientists policy, onboarding, and support		
Tier 1	**Coordinating Branch:** LCB	**Contributing Branches:** All Branches
Outputs of the project: ➔ > 100 new ECVS per year processed, with a similar number of extensions; policy of the programme reviewed.		

Early Career Scientists career development		
Tier 2	**Coordinating Branch:** LCB	**Contributing Branches:** All Branches
Outputs of the project: ➔ Catalogue with internal and external courses available; 60 internal courses organized; mentoring network expanded; alumni set up.		

IARC Fellowships		
Tier 1	**Coordinating Branch:** LCB	**Contributing Branches:** All Branches
Outputs of the project: 10–15 Postdoctoral Fellowships awarded; 6–9 Mid-Career Scientist Awards granted; 6–9 short-term Fellowships awarded to IARC Summer School participants.		

➔ **IARC FLAGSHIP**

Programme #5: IARC Learning		
Pillar IV – Knowledge Programme Tree Path: 4.5	**Leading Branch:** LCB	**Contributing Branches:** All Branches
General objectives of the Programme: To contribute to lifelong learning of researchers and health professionals worldwide, with the aim of stimulating research for cancer prevention, as well as building capacities in priority areas of the Agency, such as cancer surveillance, cancer early detection, implementation research, or cancer epidemiology.		
Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer: Collaborations with the WHO Academy and with some WHO regional offices. Some learning resources contribute to the WHO global initiatives on cancer (e.g. cervical cancer early detection learning programme).		

Concrete outcomes of the programme: Knowledge/skills enhanced on priority areas for cancer prevention research, for > 5000 scientists and health professionals from many countries, in particular LMICs.	**Key Performance Indicators:** ➔ Self-perceived level of confidence with regard to knowledge/skills acquired ➔ Self-perceived level of knowledge/skills improvement in the workplace Note: collected through periodic outcome surveys of a few learning resources/events (e.g. the IARC Summer School)

IARC e-learning and teaching resources		
Tier 1	**Coordinating Branch:** LCB	**Contributing Branches:** All Branches
Outputs of the project: IARC online learning portal maintained on the WHO Academy LXP; 20 new online learning resources developed and/or hosted; 10 existing modules updated and/or translated into at least one other language; 5 modules accredited; IARC Learning members doubled.		

Learning events and IARC Summer School		
Tier 1	**Coordinating Branch:** LCB	**Contributing Branches:** All Branches
Outputs of the project: 140 professionals trained through the IARC Summer School, including regional IARC learning centre organizers/key players; knowledge/skills of > 1000 professionals enhanced through 15 webinars and other collaborative learning events.		

Partnerships for dissemination and impact		
Tier 1	**Coordinating Branch:** LCB	**Contributing Branches:** All Branches
Outputs of the project: Learning needs assessment for research for cancer prevention updated; 4–8 learning events organized by IARC regional learning centres; > 200 professionals trained through these learning events; 4 additional university curricula integrating IARC learning resources.		

RESEARCH INFRASTRUCTURE

Leading Branches:
- **Genomic Epidemiology (GEM)**
- **Laboratory Support, Biobanking, and Services (LSB)**
- **Nutrition and Metabolism (NME)**
- **Evidence Synthesis and Classification (ESC)**
- **Services to Science and Research (SSR)**

Research infrastructure #1: Scientific IT Platform		
Research infrastructure Programme Tree Path: 5.4	**Leading Branch:** GEM	**Contributing Branches:** All Branches are users
General objectives of the Programme: The IARC Scientific IT (SIT) platform was developed with the ambition to provide IARC investigators with a centralized and secure platform to store and analyse scientific data. The platform also aims to facilitate remote access to IARC-held scientific data for external investigators without necessitating transfer of individual-level data. The SIT platform allows storage of confidential data in a secure fashion that is compliant with worldwide data protection standards.		
Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer: The SIT platform currently does not facilitate specific interactions with WHO headquarters. However, interactions with the WHO Global Initiative on AI for Health are anticipated in the next MTS, as the team is investing in computing infrastructure for AI, including GPU servers.		
Concrete outcomes of the programme: • Computational capacity for advanced analytics • Secure remote access to IARC-held data for external investigators • Compliance with worldwide data protection standards • Strengthened infrastructure for Open Science		**Key Performance Indicators:** ➔ Number of IARC personnel using the platform for their data storage and analysis ➔ Number of projects stored on SIT platform ➔ Number of hours of computing performed, and the number of terabytes stored and backed up

Scientific IT Platform – Data analysis		
Tier 1	**Coordinating Branch:** GEM	**Contributing Branches:** All Branches
Outputs of the project: • Upgraded and modernized computing infrastructure. • Operational secured portal for external collaborators. • Expanded portfolio of analytical applications available on the platform.		

Scientific IT Platform – Back-office and data management		
Tier 1	**Coordinating Branch:** GEM	**Contributing Branches:** All Branches
Outputs of the project: • Operational CRM tool for managing external collaborations, and project/consortium folders. • Research Data Catalogue established. • Operational Data Transfer Tool for secure data exchange.		

Scientific IT Platform – Data storage and security		
Tier 1	**Coordinating Branch:** GEM	**Contributing Branches:** All Branches

Outputs of the project:
- Centralized system for logs and data access tracking.
- Evaluate feasibility of a disaster recovery site with remote data replication.
- Increased storage capacity to meet growing data needs.

Research infrastructure #2: Biobank – Providing biobanking and pre-analytical laboratory services for the Agency's needs and programmes		
Research infrastructure Programme Tree Path: 5.1	**Leading Branch:** LSB	**Contributing Branches:** All Branches

General objectives of the Programme:
Cancer research is increasingly reliant on using large collections of samples from well-defined population cohorts. These samples, collected over several years, are kept in the biobank until such time that they are analysed for the purposes of the specific project. As scientific questions become more complex, the requirements for high-throughput analyses and experimentation also increase, providing a predictable pressure on biobanking services to manage efficient centralized facilities for sample reception, quarantine, and shipment from IARC.
The general objective of the programme is 3-fold:
- to develop and manage the IARC Biobank according to best practice principles and achieve ISO accreditation as an internationally recognized mark of guaranteed quality;
- to ensure the legal compliance of the existing and future collections and laboratory activities according to the latest requirements; and
- to ensure the linking of the provided biobanking services with the wider services environment at IARC (e.g. other laboratory services), as well as capacity-building activities in biobanking for IARC international partners.

The samples at the IARC Biobank have associated data, and requests for accessing only data by collaborators are steadily increasing. Thus, the IARC Biobank also has the task to maintain up-to-date catalogues of existing collections using an existing, in-house-developed LIMS (SAMI), updated and streamlined in 2023–2024. A detailed, Agency-wide consultation was conducted in 2024 on SAMI future requirements, so that the next update is as well informed as possible.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
- Collaboration with the WHO Global Initiative for Childhood Cancer (WHO headquarters/NCD)
- Collaboration with the WHO Europe Office (WHO Europe Athens) on childhood obesity (in collaboration with the NME nutrition, lifestyle factors, and childhood cancer group
- Collaboration with the WHO national offices in the Philippines and Nepal for the development of biobanking capacity nationally.
- Collaboration with the WHO Academy (Lyon) for the course "Managing Medical Research Infrastructures".

Concrete outcomes of the programme:	**Key Performance Indicators:**
The smooth, uninterrupted running of the IARC Biobank, pre-analytical laboratory, laboratory maintenance, and safety services, supporting the needs of the Agency locally and internationally. The increase in sample processing volume for the IARC Biobank.	➔ Scientific publications in international, peer-reviewed journals (8 or more per year). ➔ Grant applications for further capacity-building and biobanking development (2 or more per year).

Increase the visibility and usage of the IARC Biobank locally and international through collaborations and scientific work.	➔ Update of existing biobanking guidelines and safety manuals (complete by the end of 2027). ➔ Achieve ISO 20387:Biobanking accreditation by the end of 2026. ➔ Increase in processing volume, 10% to the end of the biennium.

Biobank and Cohort Building Network (BCNet) – Building sustainable biobanking and cohort research capacity in LMICs		
Tier 1	**Coordinating Branch:** LSB	**Contributing Branches:** GEM, NME, LSB, ENV, EPR

General objectives of the project:
BCNet was established in 2013 by IARC to address the inequities in biobanking and cohort studies between HICs and LMICs. The network's objectives are to:

1. Support LMIC institutions in developing and strengthening biobanking and cohort infrastructures through shared resources, training, and expertise.
2. Provide a collaborative platform for LMIC members to address common challenges such as ethical, legal, and social issues (ELSI), governance, quality management, and sustainability.
3. Enhance the visibility and scientific impact of LMIC biobanking and cohort initiatives by linking them with global research infrastructures and collaborative projects.

Outputs of the project:

- Expansion of BCNet membership and increased LMIC representation in global research projects. The membership has doubled since 2018, from 27 to 54 institutional facilities.
- Delivery of > 60 in-person training workshops in 10 years, > 30 virtual lectures on biobanking, cohort governance, and sustainability, and 4 webinars.
- A minimum of 2 publications per year on policy and technical guidance, tailored to LMIC settings.
- Increased inclusion of LMIC biobanks and cohorts in international grant-funded projects.

(See Pillar IV – Knowledge, programme #3 for scientific programme)

Histopathology laboratory		
Tier 1	**Coordinating Branch:** ESC	**Contributing Branches:** GEM, NME, LSB, ENV, EPR

KPIs of the project:

- Completed, ongoing, and initiated scientific projects at the histopathology laboratory
- Journal publications produced from histopathology laboratory work
- Scientific presentations produced from histopathology laboratory work
- Speaker invitations received for scientific forums (keynote, lecture, seminar presentation, etc.) from histopathology laboratory work
- Technical training in pathology provided to visiting scientists

Research infrastructure #5: Digital research support: Publishing, Library, and Web Services		
Research infrastructure Programme Tree Path: 5.5	**Leading Branch:** SSR	**Contributing Branches:** All Branches

General objectives of the Programme:
Publishing, Library, and Web Services enable the dissemination of research findings and support ongoing knowledge-sharing within the scientific community. The library provides access to the latest

scientific journals and resources, while the publishing services facilitate the production of high-quality research outputs. The web services team ensures that the Agency's online presence is professional, informative, and accessible to both the scientific community and the public. Together, these integrated services foster a collaborative and efficient research environment, enabling the Agency to advance cutting-edge cancer research and drive progress in the fight against cancer.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
The Programme collaborates closely with WHO Press at WHO headquarters on publishing activities related to the WHO Classification of Tumours (Blue Books) and on negotiating the IARC–WHO distribution contract.

Concrete outcomes of the programme:	**Key Performance Indicators:**
- Increased global access to IARC's research - Higher publishing efficiency - Improved resource accessibility - Effective e-commerce and publication sales	➔ Number of downloads, citations, or views of IARC publications and research materials ➔ Number of unique visitors, page views, and average session duration on the IARC website

IARC Publishing, Library, and Web Services		
Tier 1	**Coordinating Branch:** SSR	**Contributing Branches:** All Branches

Outputs of the project:

- Expansion of Open Access publications
- Collaboration with external publishers
- Enhanced visibility and impact of research
- Centralized digital repository
- Preservation of institutional knowledge
- User access and training
- Review and revision of the IARC website; incorporation of modern web technologies
- Consistent branding and visual identity

LEADERSHIP, GOVERNANCE, AND SERVICES TO SCIENCE

Leading Branches:
- **Director's Office**
- **Services to Science and Research (SSR)**

Programme #1: Governance, direction, and strategic leadership		
Leadership, Governance, and Services to Science	**Leading Branch:** Director's Office	**Contributing Branches:** All Branches

General objectives of the Programme:
This programme supports the governance structures of IARC and manages strategic partnerships with Participating States, as well as with WHO and other UN entities. This programme also provides strategic leadership by setting scientific and managerial priorities, by defining, implementing, and evaluating the IARC Medium-Term Strategy (MTS), within the overall framework of its mission and Statute, being advised in these functions by the Senior Advisory Team (SAT) on operational policy and management matters for decision-making. Success of the public health impact of the Agency depends on the further strengthening of key strategic partnerships with Participating States, WHO headquarters, WHO regional offices, UN entities, and governmental and nongovernmental partners in order to influence the development of cancer control policy by providing a reliable evidence base.

The general objectives of the Programme are:
- To act as Secretary to the IARC Scientific and Governing Councils.
- To liaise with and report to IARC Participating States on IARC's scientific activities and strategic management.
- To provide strategic leadership by setting scientific and managerial priorities, by defining, implementing and evaluating the IARC MTS 2026–2030.
- To oversee the planning and implementation of the scientific programme, in accordance with the MTS 2026–2030 and through allocation of resources already described in the Programme Budget 2026–2027, as endorsed by the Governing Council in May 2025, and the upcoming Programme Budget 2028–2029 and 2030.
- To strengthen cooperation with WHO headquarters, WHO regional offices, and UN entities.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
The Director is responsible for strengthening cooperation with WHO headquarters, including advancing the IARC–WHO strategic workplan 2026–2030, with a strong emphasis on supporting the WHO global initiatives on cancer.

Concrete Outcomes of the Programme:	**Key Performance Indicators:**
➔ Director's Reports 2026, 2027, 2028, 2029, and 2030 ➔ Biennial Reports 2026–2027 and 2028–2029 ➔ MTS 2026–2030 ➔ MTS 2026–2030 evaluation and monitoring framework ➔ IARC Biennial Ethics Committee Reports 2025–2026, 2027–2028, and 2029–2030 ➔ IARC–WHO strategic workplan 2026–2030	➔ Adoption of the MTS 2026–2030 by the GC (2026) and the accompanying prioritized scenario including a call to action ➔ Adoption of the MTS evaluation framework and KPIs (2027) ➔ Signed MoU, MoA, and CRA 2026–2030 ➔ Publications (number, public health impact through Overton) ➔ Implementation of the IARC–WHO workplan 2026–2030 to support WHO global initiatives on cancer and the 2030 Agenda for Sustainable Development

Secretary to the IARC Scientific and Governing Councils		
Tier 1	**Coordinating Branch:** Director's Office	**Contributing Branches:** All Branches

Outputs of the project:

- Director's Reports 2026, 2027, 2028, 2029, and 2030
- Biennial Reports 2026–2027 and 2028–2029
- Definition of the MTS 2026–2030 and the accompanying prioritized scenario including a call to action (2026)
- Definition of the MTS evaluation framework and KPIs (2027)
- High-level conferences/meetings in Participating States

Implementation of the Medium-Term Strategy 2026–2030		
Tier 1	**Coordinating Branch:** Director's Office	**Contributing Branches:** All Branches

Outputs of the project:

- Definition of the MTS 2026–2030 according to the results-based management model and the accompanying prioritized scenario including a call to action (2026)
- Definition of the MTS 2026–2030 evaluation and monitoring framework and KPIs (2027)
- Development of communication tools on the MTS 2026–2030
- Development of progress reports on the implementation of the MTS 2026–2030 for the period 2026–2030
- Development of new IARC Research Teams related to the MTS 2026–2030.

Cooperation with WHO and UN entities		
Tier 1	**Coordinating Branch:** Director's Office	**Contributing Branches:** All Branches

Outputs of the project:

- Definition and implementation of IARC–WHO strategic workplan 2026–2030
- Implementation of the updated standard operating procedures (SOP) governing the mechanisms of coordination between IARC and WHO (the *IARC Monographs* Programme, the *IARC Handbooks* Programme)
- Strengthened collaboration with WHO headquarters, WHO regional offices, and UN entities
- Strengthened synergies with the WHO Academy

Ethics		
Tier 1	**Coordinating Branch:** Director's Office	**Contributing Branches:** All Branches

Outputs of the project:

- Ethical evaluation of all IARC scientific project proposals
- Monitoring of potential conflicts of interest
- Due diligence evaluation and risk assessment on each project

Programme #2: Strategic engagement and external relations		
Leadership and Governance	**Leading Branch:** Director's Office	**Contributing Branches:** All Branches

General objectives of the Programme:
This programme focuses on strengthening the Agency's engagement with a wide range of stakeholders, including but not limited to the scientific community, donors, partners, governments, public health decision-makers, other relevant entities in cancer research and public health, the media, and the general public. The main objective is to position IARC as the leading agency for cancer prevention research, thus ensuring the possibility to mobilize more sustainable resources for the Agency to deliver on its mandate.
The general objectives of the Programme are:

- To contribute to the integration of new Participating States and deepen our current relationships with existing Participating States by demonstrating the added value that IARC membership bring at global and national levels.
- To promote coherent resource mobilization and partnership-building efforts across the Agency, towards an ambitious goal of significantly increasing the Agency's available financial resources in a sustainable manner.
- To raise awareness of the Agency's profile and mission and highlight the importance of cancer prevention research among all relevant stakeholders.
- To enhance IARC's public health impact in line with the Medium-Term Strategy (MTS) 2026–2030 outcomes by disseminating further the results of the Agency's scientific projects to specific audiences (policy-makers, the research community, civil society organizations, etc.).

Research Teams and their contribution to the overall objective of the Programme:
The Communication Team. The objective of this Team is to facilitate the identification of opportunities to communicate about the Agency and disseminate scientific knowledge.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
Objective and action plan covered in programme #1 with the IARC–WHO workplan 2026–2030.

Concrete Outcomes of the Programme:	Key Performance Indicators:
➔ Increase the number of new Participating States ➔ Broaden and diversify IARC's funder base to enable the Agency to fulfil its mission ➔ Increase the visibility and reputation of the Agency among relevant stakeholders ➔ Disseminate IARC scientific knowledge to specific audiences	➔ Integration of new Participating States (one per biennial budget) ➔ Evolution and proportion of direct funding and innovative fundraising activities (2 new direct funding agreements per biennium) ➔ Media releases and social media presence (50% increase of followers per biennium)

Strengthening cooperation with existing Participating States (PS) and attracting new PS		
Tier 1	**Coordinating Branch:** Director's Office	**Contributing Branches:** All Branches

Outputs of the project:

- Engage strategically with existing PS. Define and implement road maps or action plans with the most active PS, especially the newest PS: Egypt, Saudi Arabia, and Portugal.
- Open and strengthen new communication channels with existing PS, especially with Permanent Missions in Geneva (and also with embassies in Paris, consulates in Lyon, etc.).
- Support the creation of an investment case for IARC.

- Create a tailored approach with a strong value proposition for identified potential new PS (focus on Greece, Poland, Kazakhstan, New Zealand, Indonesia, Malaysia, Mexico, South Africa, Czechia, Colombia, Luxembourg, United Arab Emirates, and Kuwait).

Resource mobilization and partnership-building efforts		
Tier 1	**Coordinating Branch:** Director's Office	**Contributing Branches:** All Branches

Outputs of the project:

- Broaden and diversify IARC's funder base to enable the Agency to continue to fulfil its mission
- Engage and mobilize funding from Non-State Actors and non-traditional donors for the Agency
- Retain current top donors (key accounts) and ensure that they increase their contribution to the Agency (EU, WCRF, MRC, Gulf CDC, etc.)
- Promote IARC legacy programme widely in Lyon
- IARC@60 Conference (May 2026)
- Use the IARC@60 anniversary campaign to organize fundraising events locally and globally
- Tailored strategies from Sustainable Financing dialogues with PS

Project #3: Institutional communication and dissemination for impact		
Tier 1	**Coordinating Branch:** Director's Office	**Contributing Branches:** All Branches

Outputs of the project:

- Increase the visibility of the Agency by creating and coordinating content production to be published on the main institutional platforms (website, IARC social media platforms) of the Agency.
- "Dissemination for impact": dissemination of information regarding the Agency's specific scientific activities. This dissemination of IARC research will help IARC fulfil its mission in line with MTS 2026–2030 outcomes and enhance its public health impact.
- Promote the IARC@60 scientific conference in May 2026 to highlight the importance of cancer prevention research and the crucial role played by IARC as the leading cancer research organization.

Programme #3: Secretariat for Governance and Strategic and Operational Support to Scientific Programmes		
Leadership, Governance, and Services to Science	**Leading Branch:** SSR	**Contributing Branches:** All Branches

General objectives of the Programme:

To ensure effective governance and strategic alignment of IARC's scientific programmes. The Programme provides essential support to the Governing Bodies of the Agency, advises on governance matters, and ensures compliance with organizational policies. It further aims to ensure compliance with legal and data protection standards within the Agency's research activities and operations, safeguard the organization from risks, and promote efficient administrative processes. Ultimately, the Programme helps align scientific programmes with broader organizational goals while advancing IARC's mission.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:

The Programme collaborates closely with WHO at all levels on a wide range of topics, including via close liaison and regular contacts with colleagues in WHO headquarters/BOS, WHO/DG, the WHO

Legal Office, Ethics, IOS and the Auditors, etc., and participation in the various subject matter networks (WHO DAF's meetings, GSMC, etc.).

Concrete outcomes of the programme:	**Key Performance Indicators:**
➔ Effective governance and strategic alignment leading to timely decision-making and implementation of the Agency's scientific programmes. ➔ Risk mitigation and legal compliance to protect the Agency's interests, preserve the Agency's mission and its status as an international organization, and keep reputational and financial risks to the minimum. ➔ Streamlined administrative processes to reduce administrative burden and ensure effective resource allocations.	➔ Timely implementation of GC/SC resolutions and recommendations ➔ Timely strategic and legal support to scientific programmes

Support to Governing Bodies and interaction with Participating States		
Tier 1	**Coordinating Branch:** SSR	**Contributing Branches:** All Branches
Outputs of the project: • Successful conduct of GC and SC meetings, as well as meetings of the working groups and subcommittees, and comprehensive reports documenting the proceedings, recommendations, resolutions, and action items for future reference. • Well-prepared and timely distribution of meeting agenda, presentations, background documents, and any relevant materials to the Participating States to allow meaningful discussions during the sessions. • Regular communication briefs and updates to Participating States regarding the Agency's financial and strategic needs, ensuring alignment and fostering continued support for IARC's programmes.		

Administrative policy management and coordination		
Tier 1	**Coordinating Branch:** SSR	**Contributing Branches:** All Branches
Outputs of the project: • A set of clearly defined and regularly updated administrative policies that support operational efficiency and compliance. • A collection of standardized procedures and guidelines that simplify administrative tasks, reduce inefficiencies, and ensure smooth operations across the Agency. • Formal and informal training and briefing programmes ensuring staff awareness and adherence to administrative policies and regulatory requirements.		

Legal and data protection support		
Tier 1	**Coordinating Branch:** SSR	**Contributing Branches:** All Branches
Outputs of the project:		

- A set of clearly defined and regularly updated policies and guidelines, as well as a comprehensive library of contract templates, ensuring compliance with legal and data protection standards.
- Clear and detailed legal and data protection guidance, tailored to the specific needs of the respective projects or programmes.
- Negotiation and conclusion of contracts/agreements with funders, collaborators, and other contractors, in line with the IARC regulatory and statutory framework, while safeguarding IARC's mission, status, privileges, and immunities, and mitigating risks.
- Formal and informal training and briefing programmes, ensuring staff awareness of regulatory requirements and legally sound course of action.

Programme #4: Integrated Services to Science and Research		
Leadership, Governance, and Services to Science	**Leading Branch:** SSR	**Contributing Branches:** All Branches

General objectives of the Programme:
Integrated Services to Science and Research are essential for the efficient operation and success of scientific programmes within a cancer research agency. These services encompass a broad range of functions designed to create a seamless and collaborative environment for researchers and scientific staff. The Human Resources (HR) team plays a crucial role in recruiting and retaining top talent, managing staff development, and ensuring that personnel needs are met in line with the Agency's scientific goals. The Budget and Finance Office is responsible for the effective allocation and management of resources, ensuring that research projects are adequately funded and financial operations remain transparent and compliant with regulations. Through careful financial planning and oversight, this office helps maximize the impact of the Agency's research investments. The IT Services department supports the Agency's scientific programmes by providing robust technological infrastructure, managing data systems, and ensuring cybersecurity, which is crucial in a research environment dealing with sensitive data. Administrative and security services are also fundamental, ensuring smooth operational workflows, safeguarding facilities, and providing logistical support to research activities and personnel.

Collaborations with WHO (including headquarters, regional offices, country offices) and/or contribution to the WHO global initiatives on cancer:
All the SSR teams maintain strong collaborations with their respective counterparts at WHO headquarters, the WHO office in Lyon, and now the WHO Academy, to ensure alignment with organizational priorities, as well as generating economic synergies. These teams work together to share best practices, streamline processes, and ensure consistency in financial planning, resource management, human resources development, and operational support.

Concrete Outcomes of the Programme:	**Key Performance Indicators:**
➔ Improved access to resources, talent, and infrastructure to support high-quality cancer research. ➔ Effective facilitation for acquiring external funding as well as grant administration. ➔ Streamlined support services that ensure compliance and long-term sustainability.	➔ Staff retention and development ➔ Compliance with financial policies, rules, and regulations ➔ Operational compliance

HR services to science and research		
Tier 1	**Coordinating Branch:** SSR	**Contributing Branches:** All Branches

Outputs of the project:
- Effective talent acquisition and retention

- Workforce development
- Respectful workplace

Budget and financial services to science and research		
Tier 1	**Coordinating Branch:** SSR	**Contributing Branches:** All Branches

Outputs of the project:
- Efficient resource allocation and management
- Timely financial reporting and transparency
- Cost optimization and budget control

IT services to science and research		
Tier 1	**Coordinating Branch:** SSR	**Contributing Branches:** All Branches

Outputs of the project:
- Enhanced IT infrastructure
- Enhanced data security and compliance
- Optimized information systems and collaborative platforms

Administrative services to science and research		
Tier 1	**Coordinating Branch:** SSR	**Contributing Branches:** All Branches

Outputs of the project:
- Effective facilities management
- Staff security and safety
- Logistical support for research activities

Annex #2. IARC Strategic Prioritization Framework – Categorization grids

Categorization grid – IARC Scientific projects (2026–2030)

Project name: **Leading Branch/Office:**

	Value Criteria	Scoring
 **IARC's distinctive strengths & mission fit**	**Was the project initiated in direct response to a request from one or more Participating States?** ☐ Yes ☐ No **Does the project address a challenge where IARC has unique scientific authority and added value?** ☐ Yes, IARC is the only institution worldwide performing this research ☐ Other organisations address it, but IARC's scope/neutrality makes its contribution distinctive ☐ No, others already address it with little added value from IARC **Which of IARC's modes of engagement does the project primarily represent? IARC is a…** *(tick one)* ☐ Global cancer data compass, producing authoritative global cancer statistics to guide cancer control ☐ Independent authority on cancer risks, delivering trusted, impartial evaluations of carcinogens through the *IARC Monographs* ☐ Catalyst for global collaboration, convening multidisciplinary research partnerships across countries to tackle cancer together ☐ Instrument of Science Diplomacy, promoting peaceful international cooperation through neutral, science-based collaboration ☐ Knowledge translation hub, converting scientific findings into actionable tools and guidance for public health decision-making ☐ Laboratory of innovation, driving discovery and early-stage research to uncover cancer causes and new prevention methods ☐ Curator of trusted knowledge, maintaining essential reference resources like Blue Books and *IARC Handbooks* ☐ Builder of capacity and resilience, strengthening national systems, especially in LMICs, through training, technical support, and institutional development	
 **Priority research areas** *(Only apply to criteria that are explicitly stated in the project design or expected outcomes, not side effects or indirect benefits.)*	**Does the project contribute to MTS 2026-2030 Outcome-level result #1: Evidence-informed policy?** *(tick all that apply)* ☐ Yes, it supports WHO Global Cancer Initiatives (breast, cervical, childhood) ☐ Yes, it does not support WHO Global Cancer Initiatives but includes collaboration with WHO in other areas ☐ Yes, it generates tools for policymakers/policy translation ☐ Yes, implements and evaluates real-world interventions **Does the project contributes to MTS 2026-2030 Outcome-level result #2: Global equity in cancer?** ☐ Yes, it engages LMICs directly (leadership roles, participation in study design, capacity-building) ☐ Yes, it addresses health inequalities relevant to LMICs but without direct engagement **Does the project contribute to MTS 2026-2030 Outcome-level result #3: Future preparedness** *(tick all that apply)* ☐ Yes, it addresses environmental or planetary health challenges ☐ Yes, it investigates early-onset cancers ☐ Yes, it examines commercial determinants of health (harmful industries, regulatory gaps) ☐ Yes, it explores crisis management, urbanisation, or lifestyle/exposure changes ☐ Yes, it advances digital tools/AI ☐ Yes, it focuses on combating misinformation ☐ No contributions for all the three outcome-level results cited above **Does the project contributes to other identified focus areas of relevance for MTS 2026-2030** *(tick all that apply)* ☐ Yes, it explores mechanisms of cancer causation (molecular pathways) ☐ Yes, it targets lung cancer prevention and control ☐ Yes, it identifies epigenetic drivers of cancers ☐ Yes, it generates evidence on cancer survival ☐ Yes, it explicitly promotes Open Science	

Effort criteria			
 **Operational considerations** *(If criterion not applicable to the project, leave blank)*	**Time-sensitivity/Strategic window**	☐ Critical: Immediate action required to respond to external drivers or deadlines ☐ Strong: Needs action in 2026-2030 to seize opportunity or respond to threat ☐ Moderate: Could be postponed with limited impact ☐ Low: No urgency	
	Availability of internal expertise & infrastructure	☐ Low: Requires major new infrastructure/staff ☐ Moderate: Requires some staff/funding additions, new collaborations ☐ High: Uses existing IARC expertise, platforms, or networks	
	Potential for measurable public health outcomes *(indicators/KPIs)*	☐ Low: Primarily academic outputs with limited or no measurable public health indicators ☐ Moderate: Some indicators defined, but limited scope for population-level monitoring ☐ High: Robust indicators and KPIs linked to measurable, population-level outcomes	
	Partnerships & networks leveraged	☐ Mainly internal or limited bilateral collaborations ☐ Moderate: Primarily academic or research-focused partnerships ☐ Strong: Collaborations with national authorities, UN agencies, or international consortia	
	Training potential	☐ None ☐ Moderate (some training or mentoring included) ☐ High (strong contribution to next-generation researchers or LMIC hubs)	
	Interdisciplinary collaboration (across IARC Branches/Pillars)	☐ None ☐ Some on minor aspects or support activities ☐ Substantive collaboration with multiple Branches, including contributions to Research Teams	
	Potential to enhance IARC's visibility & influence	☐ Limited visibility; niche or highly technical relevance ☐ Moderate: Raises IARC's profile within the scientific community or regional policy circles ☐ High: Positions IARC as a global authority in cancer prevention, major international visibility	
	Scalability & replicability	☐ Narrow population/context only ☐ Potential for replication in multiple settings but with substantial investment required ☐ Scalable to diverse contexts including LMICs with minimal investment required	
Other considerations			
Use this space to note any project-specific factors not captured by the criteria (e.g. high innovation potential, indirect but significant strategic benefits). These inputs will be reviewed during the SAT-restricted session and may be used to inform scoring in cases where consensus is not reached.			X
Funding	**How likely is the project to attract external funding for implementation?** *(This criterion will not be scored, as IARC is not donor-driven. The information will be used once the prioritization list is finalized, to inform resource mobilization strategies.)* ☐ High: External funding already secured for the full duration of the project ☐ Strong: High likelihood of securing major external funding (e.g. governments, multilateral donors, foundations) ☐ Moderate: Some potential for targeted or partial support (e.g. project-specific grants, philanthropic contributions) ☐ Low: Unlikely to attract external funding; primarily dependent on IARC core resources		X
		Provisional score: *(To be filled by the SAT retreat organizing team)*	

Categorization grid – Director's Office projects (2026–2030)

Project name: **Leading Branch/Office:**

Value Criteria		Scoring
 **IARC's distinctive strengths & mission fit**	**Is the project aligned with IARC's mission and governance priorities?** ☐ Yes, it is core to IARC's statutory mandate (e.g. Councils, MTS, ethics) ☐ Yes, it strongly advances strategic priorities (e.g. WHO initiatives, new PS integration) ☐ No, it is mportant but not essential to governance or statutory functions under funding constraints **Does the project strengthen IARC's institutional positioning and influence?** ☐ Yes, it strengthens IARC's global leadership role (WHO, UN, high-level diplomacy) ☐ Yes, it expands IARC's visibility with Participating States or other health authorities ☐ Yes, it expands IARC's visibility with the broader public ☐ No, It makes only a limited contribution to institutional positioning or influence **Does the project help secure resources that enable IARC to deliver its mission?** ☐ Yes, it advances sustainable financing models for IARC ☐ Yes, it unlocks major funding streams or donors, diversifies income ☐ Yes, it generates targeted but smaller-scale or short-term funding ☐ No, it has no or very limited fundraising potential **Does the project reinforce IARC's governance systems and engagement with current or potential Participating States?** ☐ Yes, it advances transparent and participatory governance through improved governance mechanisms (e.g. Governing and Scientific Councils) ☐ Yes, it improves collaboration and exchanges with current Participating States through bilateral engagement ☐ Yes, it stimulates collaboration with, or potential adhesion of, new Participating States ☐ No, it does not make a meaningful contribution to governance or Participating State engagement	
 **Priority focus areas** *(Only apply to criteria that are explicitly stated in the project design or expected outcomes, not side effects or indirect benefits.)*	Contribution to **MTS 2026-2030 Outcome-level result #1: Evidence-informed policy** *(tick all that apply)* ☐ Supports WHO Global Cancer Initiatives (breast, cervical, childhood) ☐ Includes direct collaboration with WHO in other areas ☐ Directly influences national or regional cancer control policies through coordination with relevant health authorities ☐ Generates tools for policymakers/policy translation ☐ Indirectly contributes to policy/impact through engagement, visibility or dissemination Contribution to **MTS 2026-2030 Outcome-level result #2: Global equity in cancer** ☐ Strengthens participation of LMICs in governance, funding, or dissemination ☐ Includes some LMIC participation/benefit Contribution to **MTS 2026-2030 Outcome-level result #3: Future preparedness** *(tick all that apply)* ☐ Builds institutional resilience to economic volatility and shifting political landscapes ☐ Addresses sustainability and green practices ☐ Strengthens IARC's ability to address commercial determinants of health by reinforcing institutional safeguards and managing conflicts of interest ☐ Advances digital tools/AI for governance and outreach ☐ Focuses on combating misinformation ☐ No contributions for all the three outcome-level results cited above	

Effort criteria			
 **Operational considerations** *(If criterion not applicable to the project, leave blank)*	**Time-sensitivity/Strategic window**	☐ Critical: Immediate action required to respond to external drivers or deadlines ☐ Strong: Needs action in 2026-2030 to seize opportunity or respond to threat ☐ Moderate: Could be postponed with limited impact ☐ Low: No urgency	
	Availability of internal expertise & infrastructure	☐ High: Builds on existing capacity, infrastructure, staff expertise, and networks ☐ Moderate: Requires moderate adjustments or new collaborations ☐ Low: Requires major new resources/staff/facilities	
	Risk mitigation	☐ Strong: Strengthens ethical, compliance, or governance safeguards ☐ Moderate: Provides some indirect risk-mitigation benefits ☐ Low: No clear contribution	
	Partnerships & networks leveraged	☐ Strong: Direct collaboration with national authorities, WHO/UN, global donors ☐ Moderate: Primarily academic, technical or bilateral partnerships ☐ Weak: Limited or internal scope	
Other considerations			
Use this space to note any project-specific factors not captured by the criteria (e.g. opportunities to shape political momentum, reputational sensitivities, unique timing considerations). These inputs will be reviewed during the SAT-restricted session and may be used to inform scoring in cases where consensus is not reached.			X
Funding	**How likely is the project to attract external funding for implementation?** *(This criterion will not be scored, as IARC is not donor-driven. The information will be used once the prioritization list is finalized, to inform resource mobilization strategies.)* ☐ High: External funding already secured for the full duration of the project ☐ Strong: High likelihood of securing major external funding (e.g. governments, multilateral donors, foundations) ☐ Moderate: Some potential for targeted or partial support (e.g. project-specific grants, philanthropic contributions) ☐ Low: Unlikely to attract external funding; primarily dependent on IARC core resources		X
		Provisional score: *(To be filled by the SAT retreat organizing team)*	

Categorization grid – SSR projects (2026–2030)

Project or service name: **Leading Branch/Office:**

Value Criteria		Scoring
 **IARC's distinctive strengths & mission fit**	**Is the service aligned with IARC's mission and essential for research programmes?** ☐ Yes, it is mission-critical and provides a core service without which scientific work cannot be delivered ☐ Yes, it provides essential infrastructure for safety or security (e.g., physical security, lab safety systems, occupational health, fire safety, secure access) ☐ Yes, it strongly supports research efficiency, compliance, or quality (strategic but not mission-critical) ☐ No, it is useful but peripheral **Does the service enhance scientific productivity and quality?** ☐ Yes, it directly enables or safeguards scientific work (e.g., secure data systems, publishing, ethics, grant support) ☐ Yes, it measurably reduces manual administrative workload for scientists and support staff ☐ No, it has limited impact on day-to-day science delivery **What is the added value of providing this service at IARC (vs externally)?** ☐ High: Requires IARC's neutrality, unique infrastructure, or reputation: outsourcing would materially reduce quality, continuity or security ☐ Moderate: Could be partly outsourced, but IARC involvement ensures integrity, security, or global legitimacy ☐ Low: Could be delivered more efficiently/cheaply by external providers, with limited loss of value **Does this service have the potential to leverage funds during the MTS period?** ☐ Yes: Strong contribution to securing external grants or resources ☐ Yes: Strong contribution to generating internal efficiencies that reduce costs ☐ Partly: Some contribution to funding opportunities or limited internal efficiencies ☐ No: Limited or no contribution to funding or cost-savings **Is there a clear demand and agency-wide reach (current and projected usage)?** ☐ Yes, it serves all Pillars and has broad agency-wide demand ☐ Yes, it supports several Branches but not the whole Agency ☐ No, it mainly benefits a single Branch or a narrow user group	
 **Priority focus areas** *(Only apply to criteria that are explicitly stated in the project design or expected outcomes, not side effects or indirect benefits.)*	Support **Outcome-level Result #1: Evidence-informed policy** *(tick all that apply)* ☐ Expands data sharing, open access publishing, or dissemination of outputs at global level ☐ Improves cross-Pillar collaboration and strengthens the research-to-prevention pipeline ☐ Focuses mainly on internal operations Support **Outcome-level Result #2: Global equity in cancer** ☐ Enhances LMIC access to IARC infrastructure, services or training ☐ Provides indirect benefits to LMICs through collaborations, shared resources, or partial access ☐ Mainly benefits HQ/internal users Support **Outcome-level Result #3: Future preparedness** *(tick all that apply)* ☐ Strengthens business continuity (cybersecurity, back-up power, disaster recovery) ☐ Improves sustainability and green practices ☐ Reinforces compliance (legal, financial, conflicts of interests, data protection) ☐ Advances digital transformation, interoperability, and AI-enabled services ☐ Contributes to combating misinformation ☐ No contributions for all the three outcome-level results cited above	

Effort criteria			
 **Operational considerations** *(If criterion not applicable to the project, leave blank)*	**Time-sensitivity/Strategic window**	☐ Critical: Immediate action required to respond to external drivers or deadlines ☐ Strong: Needs action in 2026-2030 to seize opportunity or respond to threat ☐ Moderate: Could be postponed with limited impact ☐ Low: No urgency	
	Availability of internal expertise & infrastructure	☐ High: Builds on existing capacity, staff expertise, and infrastructure ☐ Moderate: Requires moderate upgrades, new collaborations, or additional staffing ☐ Low: Needs major new resources, facilities, or staff	
	Lifecycle & sustainability plan	☐ Strong: Clear plan for long-term maintenance, upgrades, or decommissioning ☐ Moderate: Partial plan, risks around obsolescence ☐ Weak: No clear sustainability or lifecycle plan	
	Partnerships & networks leveraged *(Technical/operational level)*	☐ Strong: Engages WHO, UN, national authorities, or major technical consortia ☐ Moderate: Engages local or bilateral technical service partners ☐ Weak: Limited or internal scope	
	User experience and service-quality uplift	☐ High: Expected measurable improvements in user satisfaction and service performance indicators ☐ Moderate: Some improvement likely, but less measurable ☐ Low: Limited or no impact on users	
Other considerations			
Use this space to note any specific factors not captured by the criteria (e.g. urgent infrastructure replacement, alignment with WHO-wide policies, reputational sensitivities). These inputs will be reviewed during the SAT-restricted session and may be used to inform scoring in cases where consensus is not reached.			X
Funding	**How likely is the service to attract external funding for implementation?** *(This criterion will not be scored, as IARC is not donor-driven. The information will be used once the prioritization list is finalized, to inform resource mobilization strategies.)* ☐ High: External funding already secured for the full duration of the project ☐ Strong: High likelihood of securing major external funding (e.g. governments, multilateral donors, foundations) ☐ Moderate: Some potential for targeted or partial support (e.g. project-specific grants, philanthropic contributions) ☐ Low: Unlikely to attract external funding; primarily dependent on IARC core resources		X
		Provisional score: *(To be filled by the SAT retreat organizing team)*	

Categorization grid – Research infrastructure projects (2026–2030)

Project name: **Leading Branch/Office:**

	Value Criteria	Scoring
 **IARC's distinctive strengths & mission fit**	**Is the project aligned with IARC's mission and research priorities?** ☐ Yes, it is mission-critical and provides a core infrastructure essential for scientific programmes across all Pillars ☐ Yes, it strongly supports research outputs or needs (strategic but not mission-critical) ☐ No, it is useful but peripheral **Does the project materially enhance scientific productivity and quality?** ☐ Yes, it directly enables scientific discovery or dissemination (e.g. biobank samples, secure data platforms) ☐ Yes, it improves efficiency, quality, or reproducibility of research (e.g. lab safety, workflows, publishing) ☐ No, it has limited impact on day-to-day science delivery **What is the added value of delivering/hosting this project at IARC (vs externally)?** ☐ High: Requires IARC's neutrality, unique infrastructure, or reputation: outsourcing would materially reduce value ☐ Moderate: Could be partly delivered elsewhere, but IARC involvement adds quality, impartiality, or global legitimacy ☐ Low: Could be delivered more efficiently/cheaply by external providers, with limited loss of impact **Is there a clear demand and agency-wide reach (current and projected usage)?** ☐ Yes, it serves all Pillars and has broad agency-wide demand ☐ Yes, it supports several Branches but not the whole Agency ☐ No, it mainly benefits a single Branch or a narrow user group **Does the project raise IARC's profile or influence through external visibility and collaboration with key stakeholders?** ☐ Yes, it advances collaboration with WHO or UN ☐ Yes, it strengthens engagement with Participating States ☐ Yes, it raises visibility locally or within professional networks ☐ No, minimal external visibility or engagement	
 **Priority focus areas** *(Only apply to criteria that are explicitly stated in the project design or expected outcomes, not side effects or indirect benefits.)*	Support scientific Pillars to achieve **MTS 2026-2030 Outcome-level result #1: Evidence-informed policy** *(tick all that apply)* ☐ Provides open access, data sharing, or publishing that strengthens policy translation ☐ Develops guidelines, methodologies, or reference standards that can be adopted in national/regional practices ☐ Improves cross-Pillar collaboration and strengthens the research-to-prevention pipeline ☐ No, it focuses mainly on internal operations Support scientific Pillars to achieve **MTS 2026-2030 Outcome-level result #2: Global equity in cancer** *(tick all that apply)* ☐ Provides sustainable capacity-building by offering infrastructure, tools, or platforms that LMIC researchers can directly access and use ☐ Builds capacity in LMICs by training researchers at IARC who will transfer and apply new skills in their home institutions ☐ Provides indirect benefits to LMICs through collaborations, shared resources, or partial access ☐ Minimal or no relevance to equity Support scientific Pillars to achieve **MTS 2026-2030 Outcome-level result #3: Future preparedness** *(tick all that apply)* ☐ Improves sustainability and green practices ☐ Advances digital transformation, interoperability, and AI-enabled services ☐ No contributions for all the three outcome-level results cited above	

Effort criteria			
 **Operational considerations** *(If criterion not applicable to the project, leave blank*	**Time-sensitivity/Strategic window**	☐ Critical: Immediate action required to respond to external drivers or deadlines ☐ Strong: Needs action in 2026-2030 to seize opportunity or respond to threat ☐ Moderate: Could be postponed with limited impact ☐ Low: No urgency	
	Availability of internal expertise & infrastructure	☐ High: Builds on existing capacity, staff expertise, and infrastructure ☐ Moderate: Requires moderate upgrades, new collaborations, or additional staffing ☐ Low: Needs major new resources, facilities, or staff	
	Risk mitigation	☐ Strong: Improves legal/data-security/safety/compliance governance ☐ Moderate: Provides some indirect risk-mitigation benefits ☐ Low: No clear contribution	
	Partnerships & networks leveraged *(Technical/operational level)*	☐ Strong: Engages WHO, UN, national authorities, or major technical consortia ☐ Moderate: Engages local or bilateral technical service partners ☐ Weak: Limited or internal scope	
Other considerations			
Use this space to note any project-specific factors not captured by the criteria (e.g. urgent infrastructure replacement, reputational sensitivities, unique political opportunity). These inputs will be reviewed during the SAT-restricted session and may be used to inform scoring in cases where consensus is not reached.			X
Funding	**How likely is the project to attract external funding for implementation?** *(This criterion will not be scored, as IARC is not donor-driven. The information will be used once the prioritization list is finalized, to inform resource mobilization strategies.)* ☐ High: External funding already secured for the full duration of the project ☐ Strong: High likelihood of securing major external funding (e.g. governments, multilateral donors, foundations) ☐ Moderate: Some potential for targeted or partial support (e.g. project-specific grants, philanthropic contributions) ☐ Low: Unlikely to attract external funding; primarily dependent on IARC core resources		X
		Provisional score: *(To be filled by the SAT retreat organizing team)*	

Annex #3. Proposed programme and budget 2026-2027

The proposed 2026–2027 budget is presented in the following 12 summary and information tables, of which three tables include the 2024–2025 approved budget for comparison purposes. Due to a change in the Programme Tree structure aligning with the proposed MTS 2026–2030, and adoption of the Results-Based Budgeting methodology of budget preparation, not all comparison tables that were prepared in the 2024–2025 Programme and Budget document are valid for the current budget presentation.

The budget tables are changed without the change in the total budget due to finalisation of the MTS 2026-2030 and the related organisational changes. The main changes have happened in the budgets of pilla

BUDGET TABLES

- **Table A - Proposed budget for the biennium 2026–2027:** Provides the overall proposed budget including a breakdown at the Level 2 objectives (Pillars/outcomes) of the IARC Programme Tree for the biennium. Unlike the previous biennium, this table now includes the full IARC programme budget, not just the assessed contributions/regular budget-funded part of the budget.
- **Table B - Summary of biennial budget by Pillars and Programmes, and proposed funding source:** Includes a breakdown of the budget at the Pillar and Programme level by the proposed funding source, i.e. AC (Assessed Contributions) and VC (Voluntary Contributions, PSC and GCSF). The comparison to the previous biennium is not available due to substantial changes in the Programme Tree structure.
- **Table C - Summary of biennial budget by Pillars and Programmes, split by staff and activity components:** Presents further details of the proposed budget allocations by year, broken down by staff and activity budget and by proposed sources of funding.
- **Table D - Summary of biennial regular budget from assessed contributions by Pillars, split by staff and activity components:** Presents further details of the proposed budget allocations by year, broken down by staff and activity budget, compared with the biennium 2024–2025.
- **Table E - Summary of budgeted staff and ECVS by Level 2/3 objectives and by category:** Summarizes the planned staff and Early Career and Visiting Scientists (ECVS) in person-years, by objectives at Level 2 and Level 3 of the IARC Programme Tree. Number of staff is grouped according to staff categories, i.e. General Service and Professional and above. New information about planned person-years of ECVS is also included for the first time.
- **Table F - Summary of regular budget staff, by Level 2 objectives:** Summarizes the planned staff in person-years, by objective at Level 2 of the IARC Programme Tree. Number of staff is grouped according to staff categories, i.e. General Service and Professional and above, and is compared with the biennium 2024–2025. Due to changes in the Programme Tree structure, Objectives 5 and 6 data for 2026–2027 are combined to allow comparison between the two biennia.
- **Table G - Summary of IARC budget by component:** Presents the proposed IARC budget by components of expenditure.
- **Table H - Summary of IARC budget, proposed financing and the funding gap:** Provides a summary of the IARC budget 2026–2027 by year, proposed funding sources and the funding gap (currently unfunded portion of the total budget).
- **Table I - Summary of budget, proposed financing and the funding gap by IARC Flagship:** Provides the current overview of financing and funding gap for each of the IARC Flagships. Participating States can fund Flagships via the Core Voluntary Contributions Account (CVCA) mechanism.
- **Table J - Summary of proposed financing from assessments on 29 Participating States:** Provides the details of assessments on Participating States required to fund the proposed budget, including comparison with those approved for the 2024–2025 budget.

- **Table K - Group classification of countries and assigning units for assessed contributions:** Provides supplementary information to Summary Table I for comparison of the group classification and unit assignment of IARC Participating States in the proposed budget 2024–2025 with three prior approved biennial budgets.
- **Table L - United Nations accounting rates of exchange: euros to US dollars:** Contains the monthly exchange rates set by the United Nations for euros to US dollars from January 2014 to December 2024.

Summary Table A **PROPOSED BUDGET FOR THE BIENNIUM 2026-2027** (expressed in euros)		
LEVEL 2 PILLARS	2026-2027 BUDGET	%
1 Data for Action	11 890 665	10.39
2 Understanding the Causes	23 138 630	20.21
3 Prevention for Impact	28 054 436	24.50
4 Knowledge Mobilization	18 147 685	15.85
5 Research Infrastructures	9 967 952	8.71
6 Leadership, Governance, and Services to Science	23 298 321	20.35
TOTAL BUDGET	**114 497 688**	**100.00**

Summary Table B

SUMMARY OF BIENNIAL RESOURCES BY PILLARS, PROGRAMMES, AND PROPOSED FUNDING SOURCE

(expressed in euros)

Level 2 / Level 3	Pillars / Programmes	Regular Budget/ Assessed contributions 2026-2027 Budget Amount	%	Extra-Budgetary / Voluntary contributions (note i) 2026-2027 Budget Amount	%	Total IARC budget 2026-2027 Budget Amount	%
1	**Data for Action**						
1.1	Cancer data and statistics	1,543,680		1,044,309		2,587,989	
1.2	Cancer registration	2 545 280		2 091 742		4,637,022	
1.3	Descriptive epidemiology	1 634 240		3 031 413		4,665,653	
		5 723 200	11%	6 167 465	10%	11 890 665	10%
2	**Understanding the Causes**						
2.1	Causes of cancer & omics	3 801 360		5 629 126		9 430 486	
2.2	Mechanisms of etiology/carcinogenesis	3 864 490		6 819 497		10 683 987	
2.3	Biomarkers for early detection	633 960		765 948		1 399 908	
2.4	Multimorbidity and mortality	506 960		1 117 288		1 624 248	
		8 806 770	16%	14 331 860	24%	23 138 630	20%
3	**Prevention for Impact**						
3.1	Environment, occupation & lifestyle	2,235,590		5,576,241		7,811,831	
3.2	Improving early detection and survival	1 755 120		6 685 141		8 440 261	
3.3	Infection and cancer	1 679 635		2 630 418		4 310 053	
3.4	Implementation for impact	2 518 655		4 973 636		7 492 291	
		8 189 000	15%	19 865 436	33%	28 054 436	25%
4	**Knowledge Mobilization**						
4.1	Monographs on carcinogenic hazards to humans	2 782 650		3 930 082		6 712 733	
4.2	Handbooks of Cancer Prevention	523 698		1 432 853		1 956 551	
4.3	Classification of tumours	672 500		5 111 093		5 783 593	
4.4	Research training & fellowships	1 069 400		1 113 339		2 182 739	
4.5	IARC Learning Programme	518 200		993 869		1 512 069	
		5 566 449	10%	12 581 236	21%	18 147 685	16%
5	**Research Infrastructures**						
5.1	Biobank	1,086,830		330,790		1,417,620	
5.2	Histopathology laboratory	221 800		187 896		409 696	
5.3	Laboratory services	4 711 700		307 260		5 018 960	
5.4	Scientific IT platform	244 500		496 050		740 550	
5.5	Digital Research Support: Publishing, Library, and Web Services	1 519 126		862 000		2 381 126	
		7 783 956	15%	2 183 996	4%	9 967 952	9%
6	**Leadership, Governance, and Services to Science**						
6.1	Governance, direction & strategic leadership	2 180 056		138 100		2 318 156	
6.2	Strategic engagement and external relations	1 405 188		1 685 700		3 090 888	
6.3	Secretariat for Governance, and Strategic Support to Scientific Programme	1 803 000		458 000		2 261 000	
6.4	Integrated Services to Science and Research	12 064 796		3 563 480		15 628 276	
		17 453 041	33%	5 845 280	10%	23 298 321	20%
	TOTAL	53 522 415	100%	60 975 273	100%	114 497 688	100%

Notes:

i. Extra-budgetary / Voluntary Contributions include Programme Support Cost Account and the Governing Council Special Fund.

Summary Table C
SUMMARY OF IARC STAFF AND ACTIVITY BUDGET BY PILLARS, PROGRAMMES AND PROPOSED FUNDING SOURCE
(expressed in euros)

Level 2 / Level 3	Pillars / Programmes	Regular Budget/ Assessed contributions			Extra-Budgetary / Voluntary contributions			IARC total budget		
		Staff Budget	Activity Budget	Total	Staff Budget	Activity Budget	Total	Staff Budget	Activity Budget	Total
1	**Data for Action**									
1.1	Cancer data and statistics	2 331 280	118 000	2 449 280	499 820	544 489	1 044 309	2 831 100	662 489	3 493 589
1.2	Cancer registration	2 331 280	214 000	2 545 280	986 780	1 104 962	2 091 742	3 318 060	1 318 962	4 637 022
1.3	Descriptive epidemiology	1 510 440	123 800	1 634 240	922 000	2 109 413	3 031 413	2 432 440	2 233 213	4 665 653
		6 173 000	455 800	6 628 800	2 408 600	3 758 865	6 167 465	8 581 600	4 214 665	12 796 265
2	**Understanding the Causes**									
2.1	Causes of cancer & omics	3 628 360	173 000	3 801 360	1 977 000	3 652 126	5 629 126	5 605 360	3 825 126	9 430 486
2.2	Mechanisms of etiology/carcinogenesis	3 636 190	228 300	3 864 490	2 853 500	3 965 997	6 819 497	6 489 690	4 194 297	10 683 987
2.3	Biomarkers for early detection	619 960	14 000	633 960	420 600	345 348	765 948	1 040 560	359 348	1 399 908
2.4	Multimorbidity and mortality	490 960	16 000	506 960	926 050	191 238	1 117 288	1 417 010	207 238	1 624 248
		8 375 470	431 300	8 806 770	6 177 150	8 154 710	14 331 860	14 552 620	8 586 010	23 138 630
3	**Prevention for Impact**									
3.1	Environment, occupation & lifestyle	2 041 990	193 600	2 235 590	2 574 350	3 001 891	5 576 241	4 616 340	3 195 491	7 811 831
3.2	Improving early detection and survival	1 540 020	215 100	1 755 120	2 396 170	4 288 971	6 685 141	3 936 190	4 504 071	8 440 261
3.3	Infection and cancer	1 669 635	10 000	1 679 635	1 016 900	1 613 518	2 630 418	2 686 535	1 623 518	4 310 053
3.4	Implementation for impact	2 360 655	158 000	2 518 655	4 035 130	938 506	4 973 636	6 395 785	1 096 506	7 492 291
		7 612 300	576 700	8 189 000	10 022 550	9 842 886	19 865 436	17 634 850	10 419 586	28 054 436
4	**Knowledge Mobilization**									
4.1	Monographs on carcinogenic hazards to humans	2 538 650	244 000	2 782 650	3 113 400	816 682	3 930 082	5 652 050	1 060 683	6 712 733
4.2	Handbooks of Cancer Prevention	425 000	98 698	523 698	1 053 600	379 253	1 432 853	1 478 600	477 951	1 956 551
4.3	Classification of tumours	572 200	100 300	672 500	3 143 400	1 967 693	5 111 093	3 715 600	2 067 993	5 783 593
4.4	Research training & fellowships	601 400	468 000	1 069 400	195 800	917 539	1 113 339	797 200	1 385 539	2 182 739
4.5	IARC Learning Programme	344 600	173 600	518 200	695 800	298 069	993 869	1 040 400	471 669	1 512 069
		4 481 850	1 084 599	5 566 449	8 202 000	4 379 236	12 581 236	12 683 850	5 463 835	18 147 685
5	**Research Infrastructures**									
5.1	Biobank	823 830	263 000	1 086 830	230 790	100 000	330 790	1 054 620	363 000	1 417 620
5.2	Histopathology laboratory	221 800	0	221 800	37 600	150 296	187 896	259 400	150 296	409 696
5.3	Laboratory services	790 500	3 921 200	4 711 700	306 260	1 000	307 260	1 096 760	3 922 200	5 018 960
5.4	Scientific IT platform	244 500	0	244 500	235 200	260 850	496 050	479 700	260 850	740 550
5.5	Digital Research Support: Publishing, Library, and Web Services	1 024 000	495 126	1 519 126	572 000	290 000	862 000	1 596 000	785 126	2 381 126
		3 104 630	4 679 326	7 783 956	1 381 850	802 146	2 183 996	4 486 480	5 481 472	9 967 952
6	**Leadership, Governance, and Services to Science**									
6.1	Governance, direction & strategic leadership	1 537 000	643 056	2 180 056	99 600	38 500	138 100	1 636 600	681 556	2 318 156
6.2	Strategic engagement and external relations	1 184 400	220 788	1 405 188	801 000	884 700	1 685 700	1 985 400	1 105 488	3 090 888
6.3	Secretariat for Governance, and Strategic Support to Scientific Programme	1 513 000	290 000	1 803 000	366 000	92 000	458 000	1 879 000	382 000	2 261 000
6.4	Integrated Services to Science and Research	9 267 600	2 797 196	12 064 796	2 788 500	774 980	3 563 480	12 056 100	3 572 176	15 628 276
		13 502 000	3 951 041	17 453 041	4 055 100	1 790 180	5 845 280	17 557 100	5 741 221	23 298 321
	TOTAL	43 249 250	11 178 765	54 428 015	32 247 250	28 728 023	60 975 273	75 496 500	39 906 788	115 403 288

Summary Table D

SUMMARY OF REGULAR BUDGET/ ASSESSED CONTRIBUTIONS PILLARS

(expressed in euros)

Level 2	Pillars	2024-2025 Staff Budget	2024-2025 Activity Budget	2024-2025 Total	2026-2027 Staff Budget	2026-2027 Activity Budget	2026-2027 Total	% increase/ (decrease) Staff Budget	% increase/ (decrease) Activity Budget	% increase/ (decrease) Total
1	Data for Action	3,517,890	551,000	4,068,890	6,173,000	455,800	6,628,800	75%	-17%	63%
2	Understanding the Causes	8,564,342	1,250,500	9,814,842	8,375,470	431,300	8,806,770	-2%	-66%	-10%
3	Prevention for Impact	5,005,104	982,500	5,987,604	7,612,300	576,700	8,189,000	52%	-41%	37%
4	Knowledge Mobilization	5,344,936	1,283,400	6,628,336	4,481,850	1,084,599	5,566,449	-16%	-15%	-16%
5 - 6	Research Infrastructures	13,580,056	8,603,585	22,183,641	16,606,630	8,630,367	25,236,997	22%	0%	14%
	TOTAL	36,012,328	12,670,985	48,683,313	43,249,250	11,178,765	54,428,015	20%	-12%	12%

Notes:

i. Pillars 5 and 6 are combined in this table due to substantive changes between these pillars from 2024-2025 to 2026-2027

Summary Table E
SUMMARY OF TOTAL BUDGETED STAFF AND ECVS BY LEVEL 2/3 OBJECTIVES AND CATEGORY
(expressed in person years)

Level 2 / Level 3	Pillars / Programmes	2026-2027 Activity (person years) Professional and above	General Service	ECVS [1]	Total Staff and ECVS
1	**Data for Action**				
1.1	Cancer data and statistics	3.2	4.0	1.4	8.5
1.2	Cancer registration	6.9	3.6	4.4	14.9
1.3	Descriptive epidemiology	6.0	1.8	17.2	25.0
		16.0	9.4	23.0	48.4
2	**Understanding the Causes**				
2.1	Causes of cancer & omics	10.6	12.6	13.7	36.9
2.2	Mechanisms of etiology/carcinogenesis	15.1	11.6	17.3	44.0
2.3	Biomarkers for early detection	2.4	1.7	2.4	6.5
2.4	Multimorbidity and mortality	3.8	1.5	0.7	6.0
		31.8	27.4	34.1	93.3
3	**Prevention for Impact**				
3.1	Environment, occupation & lifestyle	13.0	6.3	15.3	34.6
3.2	Improving early detection and survival	11.5	4.0	14.4	29.8
3.3	Infection and cancer	5.5	5.9	4.0	15.4
3.4	Implementation for impact	18.2	6.0	10.5	34.7
		48.2	22.2	44.2	114.5
4	**Knowledge Mobilization**				
4.1	Monographs on carcinogenic hazards to humans	13.4	5.5	3.3	22.1
4.2	Handbooks of Cancer Prevention	3.5	2.2	1.5	7.2
4.3	Classification of tumours	5.8	9.5	6.0	21.3
4.4	Research training & fellowships	0.6	3.1	0.3	4.0
4.5	IARC Learning Programme	1.4	3.3	1.3	6.0
		24.7	23.6	12.4	60.6
5	**Research Infrastructures**				
5.1	Biobank	0.7	4.3	0.0	5.0
5.2	Histopathology laboratory	0.2	1.0	1.0	2.2
5.3	Laboratory services	0.3	5.2	0.0	5.5
5.4	Scientific IT platform	0.5	1.7	0.0	2.2
5.5	Digital Research Support: Publishing, Library, and Web Services	3.0	3.0	0.0	6.0
		4.7	15.2	1.0	20.9
6	**Leadership, Governance, and Services to Science**				
6.1	Governance, direction & strategic leadership	3.0	1.9	0.0	4.9
6.2	Strategic engagement and external relations	3.0	3.1	1.0	7.1
6.3	Secretariat for Governance, and Strategic Support to Scientific Programme	3.0	3.0	0.0	6.0
6.4	Integrated Services to Science and Research	14.5	38.1	2.0	54.6
		23.5	46.1	3.0	72.6
	TOTAL annual budgeted person years	148.8	143.8	117.6	410.2

Note (1) ECVS include Early Career and Visiting Scientists, such as Doctoral Students and Post-Doctoral Fellows

Summary Table G

SUMMARY OF IARC BUDGET BY COMPONENT

(expressed in euros)

COMPONENT	2026-2027 Budget		
	2026	2027	2026-2027
Staff Budget:			
Professional	23 799 400	24 079 400	47 878 800
General Service	13 081 400	13 630 700	26 712 100
Total Staff Costs	36 880 800	37 710 100	74 590 900
Activity Budget:			
Other contractual arrangements (APWs, SSAs and consultants)	1 435 895	1 116 799	2 552 694
Meetings (temporary advisors and participants)	1 682 600	1 268 750	2 951 350
Duty travel (all categories of staff including fellows)	779 600	752 300	1 531 900
Collaborative research agreements	3 434 542	3 168 966	6 603 508
Supplies	131 011	152 459	283 470
Equipment and furniture	340 814	317 584	658 397
Fellowships	6 463 019	6 414 930	12 877 949
Office services	236 600	237 648	474 248
Publications (including printing)	569 700	550 275	1 119 975
Library books & periodicals	198 844	93 658	292 502
Laboratory maintenance and supplies	1 362 743	1 365 134	2 727 877
IT maintenance and licences	957 590	904 587	1 862 177
Building services	2 556 000	2 577 000	5 133 000
Staff Development & Training	164 150	159 240	323 390
Director's Development Provision	311 599	91 252	402 851
Others	54 750	54 750	109 500
Total Activity Costs	20 679 457	19 225 331	39 904 788
Unprogrammed reserve	0	0	0
TOTAL IARC BUDGET	57 560 257	56 935 431	114 495 688

Note: Due to the transition to Results-Based Budgeting the comparison to the previous biennium is not available. Comparison to the previous biennium will return in the next biennium.

Summary Table H

SUMMARY OF IARC BUDGET, PROPOSED FINANCING AND FUNDING GAP

(expressed in euros)

LEVEL 2 PILLARS	IARC BUDGET 2026-2027 (A)	%	PROPOSED FINANCING Regular Budget / Assessed contribution	Extra-budgetary/ voluntary contributions	Total secured funding (B)	FUNDING GAP (i) Funding gap (C) A - B = C	Funding gap % (D) C / A = D
1 Data for Action	11 890 665	10.4%	5 723 200	1 967 593	7 690 793	4 199 872	35.3%
2 Understanding the Causes	28 019 329	24.5%	9 187 220	8 648 932	17 836 152	10 183 177	36.3%
3 Prevention for Impact	23 082 737	20.2%	7 711 550	5 825 139	13 536 689	9 546 048	41.4%
4 Knowledge Mobilization	18 236 685	15.9%	5 663 449	6 496 693	12 160 142	6 076 543	33.3%
5 Research Infrastructures	9 967 952	8.7%	7 783 956	1 072 193	8 856 149	1 111 804	11.2%
6 Leadership, Governance, and Services	23 298 321	20.3%	17 453 041	3 684 574	21 137 615	2 160 706	9.3%
Total Budget	114 495 688	100.0%	53 522 415	27 695 124	81 217 539	33 278 149	29.1%

(i) Funding gap presents the situation at the time of the budget preparation.
IARC is continuously raising funds, including competitive and non-competitive scientific grants.

PROPOSED FINANCING of the ASSESSED CONTRIBUTION/ REGULAR BUDGET: (see Summary Table I)		
Governing Council Special Fund	2 058 554	3.85%
Participating States Assessments	51 463 861	96.15%

Summary Table I

SUMMARY OF BUDGET, PROPOSED FINANCING AND FUNDING GAP BY IARC FLAGSHIP

(expressed in millions euros)

Unique value proposition	FLAGSHIP	BUDGET	PROPOSED FINANCING			FUNDING GAP (i)	
		2026-2027 (A)	Regular Budget / Assessed contribution	Extra-budgetary/ voluntary contributions	Total secured funding (B)	Funding gap (C) A - B = C	Funding gap % (D) C / A = D
Global database on cancer	Global Cancer Observatory	2.59	1.54	0.19	1.73	0.86	33.2%
	CanScreen5	0.58	0.24	0.00	0.24	0.33	57.8%
Large scale epidemiology and lab research on the causes of cancer	Mutographs	6.38	3.65	0.33	3.98	2.40	37.7%
	EPIC	0.72	0.20	0.25	0.44	0.27	38.1%
Cancer encyclopaedias	Classification of tumours	5.78	0.67	4.99	5.66	0.12	2.1%
	Monographs	6.14	2.46	0.62	3.08	3.06	49.9%
	Handbooks of cancer prevention	1.96	0.52	0.53	1.05	0.91	46.3%
Training, capacity building and empowering cancer research ecosystems	GICR	4.64	2.55	0.97	3.52	1.12	24.1%
	Summer school	1.51	0.52	0.36	0.88	0.63	42.0%
	Codes against cancer	1.53	0.33	0.32	0.65	0.88	57.4%
	TOTAL	31.8	12.7	8.5	21.2	10.6	33.3%

Note: project cost include only the direct costs, as budgeted under the relevant pillar/ programme, without any indirect costs, or costs budgeted to pillars 5 and 6

Summary Table J

SUMMARY OF PROPOSED FINANCING FROM ASSESSMENTS ON 29 PARTICIPATING STATES

(expressed in euros)

Participating States	Number of units assigned (see Note 1 & 2)	YEAR 2026			YEAR 2027			BIENNIUM 2026-2027	BIENNIUM 2024-2025	2026-2027 / 2024-2025	2026-2027 / 2024-2025
		70% of the assessed budget borne equally	30% of the assessed budget in accordance with the unit system	TOTAL	70% of the assessed budget borne equally	30% of the assessed budget in accordance with the unit system	TOTAL	TOTAL	TOTAL	% increase/ (decrease) (see Note 3)	Amount increase/ (decrease)
Australia	2	620 603	265 973	886 576	621 628	266 414	888 042	1 774 618	1 774 616	0.0	2
Austria	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
Belgium	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
Brazil	2	620 603	265 973	886 576	621 628	266 414	888 042	1 774 618	1 774 616	0.0	2
Canada	2	620 603	265 973	886 576	621 628	266 414	888 042	1 774 618	1 774 616	0.0	2
China	8	620 603	1 063 891	1 684 494	621 628	1 065 649	1 687 277	3 371 771	3 311 984	1.8	59 787
Denmark	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
Egypt	0	620 603	0	620 603	621 628	0	621 628	1 242 231	0	100.0	1 242 231
Finland	0	620 603	0	620 603	621 628	0	621 628	1 242 231	1 262 160	-1.6	(19 929)
France	4	620 603	531 946	1 152 549	621 628	532 824	1 154 452	2 307 001	2 287 071	0.9	19 930
Germany	4	620 603	531 946	1 152 549	621 628	532 824	1 154 452	2 307 001	2 287 071	0.9	19 930
Hungary	0	620 603	0	620 603	621 628	0	621 628	1 242 231	1 262 160	-1.6	(19 929)
India	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
Iran (Islamic Republic of)	0	620 603	0	620 603	621 628	0	621 628	1 242 231	1 262 160	-1.6	(19 929)
Ireland	0	620 603	0	620 603	621 628	0	621 628	1 242 231	1 262 160	-1.6	(19 929)
Italy	2	620 603	265 973	886 576	621 628	266 414	888 042	1 774 618	1 774 616	0.0	2
Japan	8	620 603	1 063 891	1 684 494	621 628	1 065 649	1 687 277	3 371 771	3 311 984	1.8	59 787
Morocco	0	620 603	0	620 603	621 628	0	621 628	1 242 231	1 262 160	-1.6	(19 929)
Netherlands	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
Norway	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
Qatar	0	620 603	0	620 603	621 628	0	621 628	1 242 231	1 262 160	-1.6	(19 929)
Republic of Korea	2	620 603	265 973	886 576	621 628	266 414	888 042	1 774 618	1 774 616	0.0	2
Russian Federation	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
Saudi-Arabia	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	0	100.0	1 508 422
Spain	2	620 603	265 973	886 576	621 628	266 414	888 042	1 774 618	1 774 616	0.0	2
Sweden	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
Switzerland	1	620 603	132 986	753 589	621 628	133 205	754 833	1 508 422	1 518 388	-0.7	(9 966)
United Kingdom	4	620 603	531 946	1 152 549	621 628	532 824	1 154 452	2 307 001	2 287 071	0.9	19 930
United States of America	8	620 603	1 063 891	1 684 494	621 628	1 065 649	1 687 277	3 371 771	3 311 984	1.8	59 787
TOTAL FUNDING	58	17 997 487	7 713 209	25 710 696	18 027 212	7 725 953	25 753 165	51 463 861	48 683 313	5.7	2 780 548

Notes:

1. The method of assessment of contributions of Participating States is detailed in Resolutions GC/15/R9, GC/54/R18, and GC/56/R6.
2. Group classification of countries for the purpose of assigning units in accordance with the applicable GC resolutions is based on the WHO scale of assessments as adopted by the World Health Assembly in May 2023 (Resolution WHA76.8).
3. Full contribution from Egypt and Saudi-Arabia allows 5.7% increase in the regular budget and the overall assessed contributions from Participating States for 2026-2027. Budget is proposed at Zero Nominal Growth (ZNG) on the overall assessment of all 29 Participating States compared to the 2024-2025 budget.

Table K

GROUP CLASSIFICATION OF COUNTRIES AND ASSIGNING UNITS FOR ASSESSED CONTRIBUTIONS

From 2020 to 2026

GROUP CLASSIFICATION OF COUNTRIES AS PER RESOLUTION GC/15/R9

WHO's % Contribution	IARC Group	IARC Scale (# units)
8% and above	1	8
4% and above; below 8%	2	4
2% and above; below 4%	3	2
0.5% and above; below 2%	4	1
less than 0.5%	5	0

GROUP AND UNIT ASSIGNED TO EACH PARTICIPATING STATE

	SCALE for 2026-2027 PROPOSED BUDGET			SCALE for 2024-2025 APPROVED BUDGET			SCALE for 2022-2023 APPROVED BUDGET			SCALE for 2020-2021 APPROVED BUDGET		
Participating State	WHO's % Contribution (WHA75.9)	IARC Group	IARC Scale (# units)	WHO's % Contribution (WHA72.12)	IARC Group	IARC Scale (# units)	WHO's % Contribution (WHA72.12)	IARC Group	IARC Scale (# units)	WHO's % Contribution (WHA70.9)	IARC Group	IARC Scale (# units)
Australia	2.1111	3	2	2.1111	3	2	2.2101	3	2	2.2101	3	2
Austria	0.6790	4	1	0.6790	4	1	0.6770	4	1	0.6770	4	1
Belgium	0.8281	4	1	0.8281	4	1	0.8211	4	1	0.8211	4	1
Brazil	2.0131	3	2	2.0131	3	2	2.9482	3	2	2.9482	3	2
Canada	2.6282	3	2	2.6282	3	2	2.7342	3	2	2.7342	3	2
China	15.2550	1	8	15.2550	1	8	12.0058	1	8	12.0058	1	8
Denmark	0.5530	4	1	0.5530	4	1	0.5540	4	1	0.5540	4	1
Egypt	0.1390	5	0									
Finland	0.4170	5	0	0.4170	5	0	0.4210	5	0	0.4210	5	0
France	4.3183	2	4	4.3183	2	4	4.4273	2	4	4.4273	2	4
Germany	6.1114	2	4	6.1114	2	4	6.0904	2	4	6.0904	2	4
Hungary	0.2280	5	0	0.2280	5	0	0.2060	5	0	0.2060	5	0
India	1.0441	4	1	1.0441	4	1	0.8341	4	1	0.8341	4	1
Iran (Islamic Republic of)	0.3710	5	0	0.3710	5	0	0.3980	5	0	0.3980	5	0
Ireland	0.4390	5	0	0.4390	5	0	0.3710	5	0	0.3710	5	0
Italy	3.1892	3	2	3.1892	3	2	3.3072	3	2	3.3072	3	2
Japan	8.0335	1	8	8.0335	1	8	8.5645	1	8	8.5645	1	8
Morocco	0.0550	5	0	0.0550	5	0	0.0550	5	0	0.0550	5	0
Netherlands	1.3771	4	1	1.3771	4	1	1.3561	4	1	1.3561	4	1
Norway	0.6790	4	1	0.6790	4	1	0.7540	4	1	0.7540	4	1
Qatar	0.2690	5	0	0.2690	5	0	0.2820	5	0	0.2820	5	0
Republic of Korea	2.5742	3	2	2.5742	3	2	2.2671	3	2	2.2671	3	2
Russian Federation	1.8661	4	1	1.8661	4	1	2.4052	3	2	2.4052	3	2
Saudi-Arabia	1.1841	4	1									
Spain	2.1341	3	2	2.1341	3	2	2.1461	3	2	2.1461	3	2
Sweden	0.8711	4	1	0.8711	4	1	0.9061	4	1	0.9061	4	1
Switzerland	1.1341	4	1	1.1341	4	1	1.1511	4	1	1.1511	4	1
United Kingdom of Great Britain and Northern Ireland	4.3753	2	4	4.3753	2	4	4.5673	2	4	4.5673	2	4
United States of America	22.0000	1	8	22.0000	1	8	22.0000	1	8	22.0000	1	8

Table L

UNITED NATIONS ACCOUNTING RATES OF EXCHANGE: EUROS TO US DOLLARS

From January 2014 to December 2024

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
January	0.725	0.850	0.922	0.956	0.837	0.871	0.909	0.822	0.876	0.933	0.908
February	0.737	0.882	0.882	0.937	0.805	0.876	0.907	0.824	0.878	0.926	0.928
March	0.731	0.943	0.895	0.937	0.815	0.891	0.884	0.837	0.913	0.939	0.918
April	0.727	0.923	0.887	0.942	0.810	0.887	0.916	0.853	0.920	0.913	0.928
May	0.723	0.904	0.882	0.921	0.828	0.897	0.921	0.826	0.947	0.913	0.930
June	0.735	0.894	0.897	0.893	0.848	0.899	0.879	0.820	0.958	0.929	0.923
July	0.736	0.905	0.901	0.879	0.864	0.880	0.880	0.838	0.996	0.907	0.925
August	0.748	0.915	0.895	0.847	0.875	0.894	0.849	0.841	0.965	0.911	0.918
September	0.759	0.889	0.897	0.832	0.858	0.910	0.844	0.847	0.997	0.923	0.906
October	0.787	0.891	0.906	0.848	0.865	0.914	0.852	0.860	1.032	0.944	0.905
November	0.803	0.912	0.920	0.861	0.880	0.900	0.851	0.872	0.972	0.940	0.933
December	0.820	0.914	0.942	0.844	0.879	0.909	0.837	0.888	0.938	0.949	0.951
Annual Average	0.753	0.902	0.902	0.891	0.847	0.894	0.877	0.844	0.949	0.927	0.923
Biennial Average		0.827 2014/2015		0.897 2016/2017		0.871 2018/2019		0.861 2020/2021		0.938 2022/2023	

Budget 2014/2015 approved at 0.758 €/US$
Budget 2016/2017 approved at 0.729 €/US$
Budget 2018/2019 approved at 0.894 €/US$
Budget 2020/2021 approved at 0.819 €/US$
Budget 2022/2023 approved at 0.907 €/US$
Budget 2024/2025 approved at 0.907 €/US$