International Agency for Research on Cancer

World Health Organization

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ACCEPTANCE OF GRANTS AND CONTRACTS

1. Post facto reporting

The Governing Council (GC) is invited to note the post facto reporting of grants and contracts accepted by the Director over €100 000 per annum, including sums passed to third parties, as detailed below.

Cancer Surveillance Branch (CSU)

1.1 Project title: **International Cancer Benchmarking Partnership (ICBP) Phase 3 Cancer Survival Benchmark Study.**

Studies of cancer survival provide insights of how effective our efforts are in diagnosing and treating cancer. Cancer survival can vary from one country to another, and this variation can be influenced by a variety of factors, including differences in healthcare systems, such as national policies of early detection and treatment of different cancer types, and also differences in access to cancer care within and across countries. How data on cancer cases are recorded and followed up can also play a role in explaining these differences. Variations in how cancers are classified and coded, as well as differences in practices among the organizations that gather this information (cancer registries) can contribute to the observed differences in survival that we see, and we need to determine the importance of these factors. In essence, understanding cancer survival data helps us not only track progress in fighting the disease but also identifies areas where improvements can be made in healthcare practices and data collection methods to ensure better outcomes for patients in the ICBP countries. The SURVMARK-3 project will be used to answer to these challenges and provide a comprehensive view of the most up-to-date cancer survival tailored to each interest group, accompanied by tools to aid cancer control planning and a research platform to ensure the sharing of results with all interested parties.

Donor:	Cancer Research UK (GB)
Duration:	36 months
Funds for IARC:	€566 832.34 (£477 300.00)
Funds for partners:	€709 817.08 (£597 700.00)
Total:	€1 276 649.42 (£1 075 000.00)
Partners:	University of Leicester (GB); Cancer Registry Norway - Institute of Population-Based Cancer Research (NO); Cancer Council Victoria (AU)

1.2 Project title: **PREVENT 2.0: integrating cancer prevention activities into NORDCAN for political action.**

To better serve cancer control, one key element that needs a greater focus in NORDCAN is cancer prevention. There is a need to address the low investment in cancer prevention, which, according to a recent report indicated less than 5% of cancer research resources were allocated to prevention research compared with greater than 90% of resources allocated to treatment and secondary prevention (screening and early diagnosis). To showcase the epidemiological evidence on avoidable risk factors that require changes in the population – especially with respect to tobacco and alcohol use and maintenance of healthy weight – we have proposed to include a new module in NORDCAN called PREVENT 2.0.

Donor:	Norwegian Institute of Public Health - FHI (NO)
Duration:	36 months
Funds for IARC:	€390 000.00
Funds for partners:	N/A
Total:	€390 000.00
Partner:	Norwegian Institute of Public Health – FHI (NO)

1.3 Project title: **Targeting Childhood Cancer through the Global Initiative for Cancer Registry development**

The objectives of the implementation working group is to continue to engage with four target countries in developing population-based childhood cancer surveillance plans and activities, and to support related developments in training and research, as proposed by the respective working groups.

Specifically:

1. Provide targeted cancer registration support to countries, including specific adaptations to registration of cancer in children, to expand and improve high quality data collection for childhood cancer control.

2. Promote the collection, dissemination and use of registry data for childhood cancer control at local, regional, and global levels.

3. Promote collaboration, coordination and alignment of best practices used in PBCR and those used in HBCRs to facilitate a production of high-quality data.

4. Support the implementation of training (via GICRNet) and research activities in the four target countries.

5. Promote the dissemination of ChildGICR

Donor:	St Jude Children's Research Hospital (United States of America (USA))
Duration:	12 months
Funds for IARC:	€277 456.91 (US$ 324 511)
Funds for partners:	N/A
Total:	€277 456.91 (US$ 324 511)
Partners:	N/A

Cancer Surveillance Branch (CSU) / Director's Office (DIR)

1.4 Project title: **IARC INITIATIVE FOR RESILIENCE IN CANCER CONTROL and IARC@60**

The IRCC was launched in 2020 through a request from CSU to the GC and Scientific Council (SC) to support IARC in investigating the impact of the COVID-19 pandemic on cancer services, including health system disruptions and mitigation strategies. To capture crises at larger sense, the activities planned within the Initiative have been expanded to include natural and human-made disasters. Collaborative Research Agreements (CRAs) and Data Transfer Agreements (DTAs) have been signed with multiple cancer registries to ensure global representation of the proposed research activities. The Initiative has high-level representation and oversight by IARC Participating States via the annual SC and GC, while technical execution is delivered and reporting is provided through IARC staff.

IARC will celebrate its 60th anniversary in May 2025. To enhance the visibility of the Agency and gather more support from current and potential Participating States as well as potential funders, it was decided to celebrate the 60th anniversary during a one-year long campaign, from May 2025 to May 2026.

Donor:	Medical Research Council (GB)
Duration:	24 months
Funds for IARC:	€250 000.00
Funds for partners:	N/A
Total:	€250 000.00
Partners:	N/A

Epigenomics and Mechanisms Branch (EGM)

1.5 Project title: **Studying the impact of in-utero and early life exposure to mycotoxins on viral infections and the epigenome: unveiling the risk factors of endemic Burkitt Lymphoma in African children.**

Endemic Burkitt lymphoma (eBL)is the most prevalent childhood cancer in sub-Saharan Africa. While Epstein-Barr virus (EBV) contributes to eBL, it alone is insufficient to trigger cancer—highlighting the critical role of additional, yet underexplored, factors. Children in BL-endemic regions face chronic exposure to mycotoxins — toxic fungal metabolites infiltrating food supplies from pregnancy through early childhood. Exposure begins in-utero via maternal diet and continues through breastfeeding and contaminated food. Mycotoxin contamination is rampant in low- and middle-income countries (LMICs) driven by hot, humid climates and poor food storage, leading to health consequences, including immune suppression—a vulnerability EBV can exploit.

Whether specific mycotoxins, alongside EBV, act as hidden co-factors in eBL remains unclear. Limited human population data on their synergistic effects and an incomplete understanding of underlying biological mechanisms leave this question unanswered. Unravelling the interplay between mycotoxins and EBV is essential to unlock new prevention strategies, offering hope for reducing eBL's burden in vulnerable regions. We hypothesize that in-utero and early-life mycotoxins and EBV co-exposure synergistically disrupts the epigenome, setting the stage for eBL.

Our objectives are: 1. Uncovering the combined effects of mycotoxins, EBV, and co-infections on children's epigenome. 2. Identifying mycotoxin-driven mechanisms fuelling eBL development. 3. Discovering early biomarkers of these harmful co-exposures and predict cancer risk — paving the way for targeted interventions and early detection.

By illuminating these hidden interactions, we aim to transform our understanding of eBL's origins and open new paths for prevention and children's protection in endemic-regions.

Donor:	World Cancer Research Fund International (GB)
Duration:	48 months
Funds for IARC:	€414 462.68 (£362 213.25)
Funds for partners:	€155 703.21 (£136 072.00)
Total:	€570 165.89 (£498 285.25)
Partners:	University of Ghent (BE), Institut National de la Santé et de la Recherche Médicale (FR), Agence de Formation de Recherche et d'Expertise en Santé pour l'Afrique (BF), Institut de Recherche en Sciences de la Santé (BF)

Environment and lifestyle epidemiology Branch (ENV)

1.6 Project title: **Diet, nitrosamines and Esophageal Squamous Cell Carcinoma precursors in the African Esophageal Cancer Corridor: EndoSCCAPE - A community-based cross-sectional study in Malawi using Chromoendoscopy and Capsule-Sponge Technology**

Esophageal cancer (EC) is the third most common cause of cancer deaths in an easterly-lying African EC corridor, with 26 000 deaths in 2020. Over 90% of EC is esophageal squamous cell carcinoma (ESCC) in this setting, where our previous WCRF-funded ESCC case-control studies have identified several risk factors: tobacco, alcohol, poor oral healthand very hot beverages. There are several putative dietary influences on ESCC risk, including those high in N-nitrosamines, polycyclic aromatic hydrocarbons (PAH), and those low in fruit and vegetable intake and certain micronutrients. In the absence of suitable cohort studies in Africa, a powerful alternative study design to examine these dietary influences are cross-sectional studies using the intermediate endpoint specific to ESCC, that is ESCC histological precursors ("Pre-ESCC") (basal cell carcinoma and all grades of esophageal dysplasia). Such studies of ESCC precursors are now feasible in Africa thanks to capsule-sponge technologies for esophageal cytology sampling, which we have shown to be acceptable and feasible in this setting. In the present study, we propose to conduct a cross-sectional study of Pre-ESCC in a high-risk community setting of Malawi, Southern Africa. The fieldwork will ensure a comprehensive collection of biospecimen (urine, blood, esophageal cytology), as well as a questionnaire and drinking water sample.

Donor:	World Cancer Research Fund International (GB)
Duration:	48 months
Funds for IARC:	€275 536.84 (£240 560.56)
Funds for partners:	€197 498.59 (£172 526.73)
Total:	€473 035.43 (£413 400.00)
Partners:	Queen's University of Belfast (GB), Kamuzu University of Health Sciences Malawi (MW), Queen Elizabeth Central Hospital (MW)

1.7 Project title: **Survie après un Cancer et Les effets tArdifs (Survivorship after Cancer and its LAte effects)**

Men and women in France have the fourth and fifth highest age-standardized incidence rates of cancer in Europe, respectively. These excessive incidence rates, coupled with an aging population and high survival, means that France has a substantially large and growing population of cancer survivors (CS). There were an estimated 3.8 million CS in 2017, i.e. approximately 6% of the population. Many of these CS live decades beyond their cancer diagnosis, thus reducing the after-effects of cancer and extending the years of further healthy life would have major benefits for this population. Indeed, the French national cancer institute INCA has set a target of a reduction in the proportion of 5-year CS, from two- to one-third, who are suffering the after-effects of cancer.

Donor:	Institut National du Cancer (FR)
Duration:	48 months
Funds for IARC:	€592 270.00
Funds for partners:	N/A
Total:	€592 270.00
Partner:	Assistance Publique Hopitaux de Paris (FR)

Early Detection, Prevention, and Infections Branch (EPR)

1.8 Project title: **Advancing Inclusion of HPV 35 genotype into new generation of HPV Vaccines to Address Global Health Equity and Right to Health in Cervical Cancer Prevention**

HPV vaccination coverage remains low in many LMICs, particularly in those with the highest cervical cancer burden and where HPV 35 is more prevalent. This limits also the ability to assess potential cross-protection conferred by existing vaccines in real-world settings. However, a recent study published in 2024 by the Costa Rica HPV Vaccine Trial demonstrated a very modest or absent efficacy of HPV vaccine against HPV 35. Moreover, a World Health Organization (WHO) document published recently very clearly states that there is no cross-protection from HPV vaccines other than Cervarix and the cross-protection is very inconsistent, and declines with time. It is to be noted that almost no country is using Cervarix in their national programmes. A direct protection from inclusion of the HPV specific type ensures expansion of the vaccine efficacy.

As several manufacturers are currently exploring new-generation vaccines, there is a critical window of opportunity to review all evidence and advocate for a more inclusive vaccine formulation. By reviewing systematically all available evidence, this proposal seeks funding to advocate for inclusion of HPV 35 in future HPV vaccine formulations.

Donor:	Global Center for Health Diplomacy and Inclusion (CH)
Duration:	6 months
Funds for IARC:	€102 513.60 (US$ 118 650.00)
Funds for partners:	N/A
Total:	€102 513.60 (US$ 118 650.00)
Partners:	N/A

1.9 Project title: **A novel, one stop, affordable, point of care and artificial intelligence (AI) supported system of screening, triage and treatment selection for cervical cancer and precancer in the LMICs – US supplement**

Continuing the EASTER project into Phase II within an USA setting is a strategic opportunity to validate and scale a globally relevant, AI-driven triage solution for HPV positive women in the local healthcare environment, thus expanding the generalizability of the algorithm. Phase I demonstrated that the nGyn device, combined with AI models trained on acetic acid and Lugol's iodine images, can detect high-grade cervical lesions with high diagnostic accuracy. Phase II in the USA would also provide critical insights into the generalizability of the AI models across diverse populations and healthcare systems. It offers a unique opportunity to refine the technology with data from HPV-positive women and inputs from USA-based clinicians and assess trust and acceptance on AI-based detection in a real healthcare setting. These findings would not only strengthen the evidence base for global deployment but also support potential FDA regulatory pathways and broader adoption in both public and private healthcare sectors.

We propose to collect a large bank of n-Gyn generated cervical images from HPV positive women referred to colposcopy clinics due to abnormal cytology (standard-of-care screening in the USA is with co-testing). As before, the ground truth will be histopathological diagnosis. Fine-tuning on a base model already trained on cervical images from India/Thailand/Zimbabwe allows us to develop more accurate and generalizable models for USA with fewer images. We will also finalize the design and evaluation of the new spectroscopy device with bio-banked samples.

Donor:	National Institutes of Health - National Cancer Institute (USA)
Duration:	12 months
Funds for IARC:	€21 322.44 (US$ 24 997.00)
Funds for partners:	€127 952.56 (US$ 150 003.00)
Total:	€149 275 (US$ 175 000.00)
Partner:	University of Cincinnati (USA)

1.10 Project title : **A randomized, active controlled, assessors-blind trial to establish non-inferiority of immunogenicity of a single-dose of CERVAVAC® quadrivalent HPV vaccine compared to the Gardasil® quadrivalent vaccine among girls and boys aged 9 to 14 years and in girls/women aged 15 to 20 years in Zambia**

A new qHPV vaccine (CERVAVAC®) received marketing authorization in India in 2022. This vaccine is likely to be more affordable for LMICs and will improve the supply crisis. Though the regulatory-approved regimen of the new HPV vaccine includes either two or three doses as per age of the individual, the WHO recommended a single dose of other vaccines for girls/boys/men/women aged 9 to 20 years in 2022. Unless there is evidence on efficacy of a single dose, neither the national regulatory authorities nor WHO will recommend a single dose of the new vaccine. Therefore, IARC-CervALONE study is planned to assess the immunogenicity of a single dose of CERVAVAC® vaccine in girls of age 9 to 14 years, boys aged 9 to 14 years and in girls/women aged 15 to 20 years. The immunogenicity following a single dose of the new

vaccine will be compared to that after a single dose of the WHO recommended Gardasil HPV vaccine. We have not included boys/men aged 15 to 20 years as that has much lower public health relevance, especially in LMICs.

Donor:	Good Ventures Foundation (USA)
Duration:	36 months
Funds for IARC:	€98 017.00 (US$ 115 044.00)
Funds for partners:	€753 883.00 (US$ 884 956.00)
Total:	€852 000.00 (US$ 1 000 000.00)
Partner:	The University of Cincinnati Research and Training Alliance Zambia (UC-ART) (USQ); Women and Newborn University Teaching Hospital, Lusaka (ZM)

1.11 Project title: **Cervical cancer Screening and TRIage in women LiviNG with HIV from Cameroon: a cross-sectional study nested in a cohort**

Cervical cancer is a global public health problem with a particularly high burden in many LMICs, particularly those with a high HIV burden setting. The WHO suggests primary HPV screening test with triage rather than without triage, starting at age 25 years, at a screening interval of every 3 to 5 years for women living with HIV (WLHIV). HPV testing on a first-void urine samples as primary screening seems to have good accuracy for the detection of cervical HPV; it is less invasive and might even be more acceptable than vaginal self-sampling. Alsom molecular markers, such as DNA methylation, have proven most valuable for triage when applied to cervical or urine samples and are also considered as a potential alternative triage tests for hrHPV-positive women. However, there are very few studies evaluating these two methods among WLHIV in Sub-Saharan African country. A separate evaluation of cervical screening and triage strategies is necessary in WLHIV because of differences in documented screening and triage test performance in WLHIV compared to women in the general population.

Donor:	ANRS Maladies Infectieuses Emergentes (FR)
Duration:	36 months
Funds for IARC:	€309 689.00
Funds for partners:	€ 483 077.00
Total:	€792 766.00
Partners:	Centre Pasteur du Cameroun (CM), Institut de recherche pour le Développement (FR), Queen Mary University of London (GB), Institut de recherche pour le Développement (FR), Centre Hospitalier Universitaire d'Angers (FR), RSD Institute, Health research and intervention, Yaounde, Cameroon (CM)

1.12 Project title : **Latvia & LuxeMbourg: ImproviNg cAncer Screening**

Cancer represents a major morbidity and mortality burden for both countries, and their cancer screening programmes are not yet fully in line with the most recent revision of the Council Recommendations on Cancer Screening (Council Recommendation on strengthening prevention through early detection: A new EU approach on cancer screening replacing Council Recommendation 2003/878/EC, 9 December 2022). In Latvia, the cost-effectiveness of both screening programmes and treatment options, as well as their budget impact, is of particular concern. Luxembourg would like to set up a new lung cancer screening programme. Both countries require technical support in order to make these changes and align with international good practice.

The expected result of the requested support in Latvia is that the Latvian authorities are able to strengthen the governance of population-based cancer screening programmes, as well as to conduct cost-effectiveness modelling of cancer screening and cancer treatment which will inform policy decisions. In the long run, this will contribute to the overall resilience of the Latvian healthcare system.

The expected result of the requested support in Luxembourg is that the Luxembourgish authorities are able to implement a lung cancer screening programme, as well as to comprehensively assess all existing population-based cancer screening programmes, including quality assurance and economic analysis. This will form the basis to revise population-based programmes for these diseases in line with the Council Recommendations on Cancer Screening. In the long run, this will contribute to the overall resilience of the Luxembourgish healthcare system.

Across both country workstreams, stakeholder engagement and awareness-raising activities as well as targeted policy dialogues are key enablers to enhance the implementation of the recommendations made.

Donor:	European Commission - Technical Support Instrument (EU)
Duration:	24 months
Funds for IARC:	€660 613.72
Funds for partners:	€639 385.99
Total:	€1 299 999.71
Partners:	Erasmus University Medical Center Rotterdam (NL), World Health Organization – Observatory (BE)

Genomic Epidemiology Branch (GEM)

1.13 Project title: **Characterization of supra-carcinoids cell states to inform interception strategies**

Lung NETs are rare cancers that often have a good prognosis. However, some patients experience relapse after surgery, while others are diagnosed at an advanced stage with metastatic disease. Current treatments, including chemotherapy, are largely ineffective, and detecting relapse requires long-term, costly follow-up. Unfortunately, there are no reliable markers to predict which patients will see their disease progress. This research aims to fill that gap by identifying molecular and cellular changes that drive lung NETs from a less aggressive to a more aggressive state. Our previous research led to the discovery of a unique group of tumors called supra-carcinoids. Although they resemble low-grade lung NETs under the microscope, they behave more aggressively at the molecular and clinical levels. These tumours contain a particular group of cells, which may explain their ability to grow and spread more aggressively than other lung NETs. Our goal is to study these cells in detail to understand their role in disease progression and to develop new ways to detect and treat aggressive lung NETs earlier. For this we will use cutting-edge technologies, including single-cell and spatial sequencing and AI-based image analysis, to (1) identify the characteristics of supra-carcinoid cells and their tumour environment, (2) confirm these characteristics in additional patient samples and lab-grown tumour models, and (3) investigate how we can use the specific morphological and biological characteristics of these aggressive cells for the benefit of the patient. By uncovering the biological signals driving tumour aggressiveness, this project will help develop new biomarkers to predict relapse and new treatment strategies to stop lung NETs from becoming more dangerous. In the long term, our findings could lead to better patient monitoring, more personalized treatments, and improved survival rates.

Donor:	Neuroendocrine Tumour Research Foundation (USA)
Duration:	48 months
Funds for IARC:	€562 320.00 (US$ 660 000)
Funds for partners:	€119 280.00 (US$ 140 000.00)
Total:	€681 600.00 (US$ 800 000.00)
Partners:	Hospice Civil de Lyon – HCL (FR), European Molecular Biology Laboratory (ES), Erasmus University Rotterdam (NL)

1.14 Project title: **Integrating Biomarkers into Lung Cancer Risk Profiling**

Lung cancer screening by low-dose computed tomography (LDCT) has revolutionized early detection and improved curative treatment prospects. However, current screening criteria that rely on heavy smoking history exclude individuals who have quit long ago or have never smoked, even as the proportion of cases among these groups is rising. The overall strategy is to enhance lung cancer screening by integrating insights from germline susceptibility with blood-based protein biomarkers. By leveraging large-scale genomic analyses to identify genetic risk factors and employing advanced proteomic profiling to detect protein markers associated with lung cancer, this approach aims to more accurately identify high-risk individuals. Ultimately, this integrated method promises to extend screening eligibility beyond heavy

smokers to include never-smokers and those with diverse genetic backgrounds, improving early detection and enabling personalized prevention strategies.

Donor:	National Institutes of Health - National Cancer Institute (USA)
Duration:	12 months (59 months in total in principle)[1]
Funds for IARC:	€416 193.40 (US$ 477 286.00) *[Year 2]*
Funds for partners:	€250 071.28 (US$ 286 779.00) *[Year 2]*
Total:	€666 264.68 (US$ 764 065.00) *[Year 2]*
Partners:	University of New Mexico (US), American Cancer Society (US), Brigham and Women's Hospital (US), Cancer Council Victoria (AU), Foundation for Applied Medical Research (ES), Fred Hutchinson Cancer Center (US), Harvard T.H. Chan School of Public Health (US), Imperial College of Science (GB), Johns Hopkins University (US), National Cancer Institute (US), National Taiwan University (TW), NYU Grossman School of Medicine (US), Queen Mary University of London (GB), Sinai Health System (CA), St Elizabeth Medical Center (US), Umea University (SE), University of Hawaii (US), University of Liverpool Cancer Research Centre (GB), University of Pittsburgh (US), University of Toronto (CA), Vanderbilt University Medical Center (US), Washington University in St Louis (US), Wayne State University (US)

1.15 Project title: **Overdiagnosis and Endpoints in Cancer Screening Trials**

The OVERCAST project will address two central, contemporary issues in cancer screening: i) overdiagnosis and ii) endpoints to evaluate screening benefit. The overarching strategy of OVERCAST is to bring together data from many different randomized clinical trials (RCTs) of cancer screening to learn more than was previously possible by analyzing trials one-by-one. We have demonstrated the power of this approach in two prior publications, which each serve as the basis for one aim. To overcome legal and ethical barriers to data sharing, OVERCAST will use published data where possible and will otherwise harmonize a minimally sufficient set of aggregate data for RCTs agreeing to participate directly in the project. Aim 1 builds on our prior study which quantified how estimates of overdiagnosis in low-dose CT lung cancer screening are influenced by post-screening follow-up time on (Li et al, Int J Ca 2022). In OVERCAST, we will extend this work to breast, colorectal, prostate, and ovarian cancers to estimate the long-term percentage of cancers that are overdiagnosed when screening for each of these cancers, based on all available trials. This approach has the potential to reduce the controversy around overdiagnosis by showing that results from different trials may be more similar than is apparent and can be interpreted coherently as a whole. Aim 2 also builds on our prior work, published in JAMA, which compared stage and mortality endpoints to quantify the benefit of cancer screening (Feng et al, JAMA 2024). In OVERCAST, we will extend this work to describe how the endpoints of cancer mortality and late-stage cancer incidence change over extended follow-up time in RCTs. This work is important to quantify the extent to which late-stage incidence can be

[1] This corresponds to the budget committed by the US government agency for that budget period.

used as a suitable alternative for cancer mortality when evaluating novel technologies such as multi-cancer early detection (MCED) tests.

Donor:	Institut National du Cancer (FR)
Duration:	48 months
Funds for IARC:	€579 696.00
Funds for partners:	N/A
Total:	€579 696.00
Partner:	Fred Hutchinson Cancer Center (USA)

1.16 Project title: **Quantifying and Utilizing the Impact of Tobacco Cessation in CANCER care**

In France, approximately 16 million adults currently smoke tobacco, leading to an estimated 95 000 new cancer cases and 55 000 deaths each year. This project aims to quantify the potential cancer prevention and survival benefits of strengthened tobacco control in France. Specifically, it will (i) estimate the number of cancer cases and deaths expected over the next 25 years if smoking prevalence remains unchanged, and how many could be prevented if France achieves smoking reductions comparable to leading European countries; (ii) identify the most cost-effective smoking cessation strategies to integrate into the French lung cancer screening program (IMPULSION) and estimate the additional reduction in lung cancer deaths achievable by combining screening with effective cessation support; and (iii) assess how many deaths could be avoided if cancer patients who smoke quit after diagnosis in France and across Europe. Overall, the findings will provide robust evidence to strengthen tobacco control policies, optimize lung cancer screening programs, reduce healthcare costs, and support the systematic integration of smoking cessation into oncology care in France and globally.

Donor:	Institut National du Cancer (FR)
Duration:	48 months
Funds for IARC:	€508 865.00
Funds for partners:	N/A
Total:	€508 865.00
Partners:	Manchester University NHS Foundation Trust (GB) Indiana University - Purdue University Indianapolis (USA), BC Cancer Research Institute (CA), University of Nottingham (GB)

1.17 Project title: **The Opioid Cohort Consortium (OPICO) to investigate the effects of using opioids on cancer risk**

Recently, opium consumption was classified as "carcinogenic to humans" by IARC Monographs, which raise concerns about opioid medications that are either derived from opium or synthesized in laboratories to mimic its chemical structure and effects. Current evidence on opioid medications and cancer is primarily from ecologic and registry data linkage studies. Analyses of records from national health insurance or addiction registry programmes across different countries showed increased cancer incidence or mortality amongst opioid medication users. However, it has been impossible to rigorously evaluate whether using opioid medications is associated with future cancer risk due to paucity of data on opioid use and insufficient statistical power in prospective cohort studies. To overcome the limitations that have hindered reliable studies in humans, we initiated the Opioid Cohort Consortium (OPICO) with pilot funding in 2020. OPICO brings together large-scale prospective cohort studies that have linked participant data to medication dispensing / prescription records. In this project, we will build on the pilot phase to harmonize and pool data from 10 cohorts in the United States of America, United Kingdom, France, and Australia, yielding a large-scale data resource with over 1.7 million participants. This resource would allow an accurate assessment of the relationship between opioid medication use at baseline and during follow-up with cancers. The assessment will include details on the type, strength, duration, and dose of opioid medications used, which might differently affect any potential relationship between using opioid medications and cancers. In line with IARC's mission, this project brings together collaborators and resources from around the world to enhance understanding an emerging cancer risk factor.

Donor:	National Institutes of Health - National Cancer Institute (USA)
Duration:	12 months (60 months in total in principle)[1]
Funds for IARC:	€156 405.92 (US$ 177 734.00)
Funds for partners:	€346 414.64 (US$ 393 653.00)
Total:	€502 820.56 (US$ 571 387.00)
Partners:	American Cancer Society (US), Institut national de la santé et de la recherche médicale (FR), Kaiser Foundation Research Institute (US), University of New South Wales (AU), University of Queensland (AU) University of Sydney (AU), Vanderbilt University (US), Wake Forest University (US)

1.18 Project title: **Variant-Informed Epidemiology for Predicting and Exploring Risk Factors in Lymphoma**

Lymphomas are blood cancers originating in the lymphatic system, marked by abnormal lymphocyte growth. Key types include Non-Hodgkin lymphoma (NHL), Hodgkin lymphoma (HL), and multiple myeloma (MM), with MM involving excessive plasma cell growth in bone marrow. NHL incidence surged in the 1980s, stabilizing at elevated levels. Despite extensive studies, the cause remains unclear, calling for innovative approaches that extend beyond traditional methods. Genome-wide association studies (GWAS) have identified over 150 loci linked to lymphoma susceptibility, offering clues to aetiology. While genetics

[1] This corresponds to the budget committed by the US government agency for that budget period.

alone can't explain incidence trends, GWAS insights could reveal novel risk factors. This project aims an innovative approach that harnesses the power of GWAS findings to suggest novel risk factors for lymphoma and the rigour of hypothesis driven epidemiology undertaken in large observational studies to validate them risk factors for lymphoma.

Donor:	Institut National du Cancer (FR)
Duration:	36 months
Funds for IARC:	€366 349.00
Funds for partners:	€179 226.00
Total:	€545 575.00
Partners:	Centre de recherche en Epidémiologie et Santé des Populations (FR), Institut National de la Santé et de la Recherche Médicale (FR)

Nutrition and Metabolism branch (NME)

1.19 Project titre: **Investigating the Role of Thyroid Hormone Metabolism in Liver Cancer Development: Integrating Lifestyle and Omics Data from Large Cohort Studies**

The incidence of hepatocellular carcinoma (HCC), the main cancer of the liver, is increasing dramatically in many world regions, in tandem with increasing obesity rates and rapid adoption of unhealthy dietary and lifestyle behaviours. HCC are highly fatal, owing largely to the fact that they are often diagnosed in advanced stages and have few treatment options. Thus, prevention is the main strategy for HCC control. To be effective, HCC prevention requires understanding of the physiological and metabolic mechanisms whereby it develops. The liver is a central metabolic organ involved in regulation of thyroid-related hormones (TH) which are essential for metabolism and energy regulation. Upon diagnosis, many HCC patients demonstrate low TH levels. TH are also likely affected by dietary and lifestyle factors. But to date, the role of TH in HCC development or their possible modulation by modifiable dietary and lifestyle exposures has not been well investigated.

We aim to assess relationships between blood TH levels with risk of HCC. We will measure blood TH levels in HCC cases and healthy control subjects enrolled in two large prospective cohort studies. For robustness, we will also analyze HCC risk associations of genetic markers for TH levels using existing data from five large-scale genetic datasets. Next, we will use existing metabolomics data from the UK Biobank cohort to explore mechanistic pathways underlying HCC. Lastly, we will assess whether diet and lifestyle factors affect TH levels by using findings of our first aim along with time-series data from a third prospective cohort.

Donor:	World Cancer Research Fund International (GB)
Duration:	48 months
Funds for IARC:	€396 082.00 (£346 148.06)
Funds for partners:	€173 982.46 (£152 048.55)
Total:	€570 064.46 (£498 196.61)
Partners:	University College Dublin (IE), St. Lukes International Hospital (JP)

1.20 Project title: **Understanding the biology linking obesity phenotypes/metabolic health and breast cancer: observational and interventional approaches to guide prevention**

Obesity, a well-established risk factor for postmenopausal breast cancer, is a metabolically heterogeneous condition: not all individuals with obesity exhibit metabolic disorders or an increased cancer risk. This highlights the need to better understand how metabolic health, independently of obesity, influences breast cancer. These different obesity profiles—also referred to as "obesity phenotypes"—can be defined using body mass index (BMI) and the criteria for metabolic syndrome (at least 3 of the following: abdominal obesity, hypertriglyceridemia, low HDL cholesterol, high blood pressure, impaired glucose metabolism).

Proteomics is a technique that measures large numbers of proteins in blood samples and can therefore characterize the impact of lifestyle factors or certain diseases on their production. Its large-scale application in cohorts of women offers an unprecedented opportunity to identify biomarkers and elucidate the mechanisms linking metabolic health and obesity to breast cancer risk.

In this project, our objective is to identify proteins associated with various combinations of obesity and metabolic health (for example, women with obesity who are metabolically healthy, or women of normal weight who meet the criteria for metabolic syndrome). These "protein signatures" of obesity phenotypes will be identified in two population-based cohorts (EPIC and UK Biobank), and their association with breast cancer will be assessed. We will also examine whether intentional weight loss in women who have undergone bariatric surgery has an impact on these "protein signatures."

This knowledge could improve risk stratification and enable targeted prevention strategies, particularly for young women who are not covered by systematic screening.

Donor:	Institut National du Cancer (FR)
Duration:	36 months
Funds for IARC:	€383 377.00
Funds for partners:	N/A
Total:	€383 377.00
Partners:	Imperial College London (GB), University of Oxford (GB)

2. Prior approval for projects in collaboration with the private sector

There are no projects to be considered for prior approval this year.

3. Prior approvals

The Governing Council is invited to consider, for approval, one project that requires more than €100 000 per annum, excluding the principal investigator's staff costs, from the IARC regular budget.

Please note the following project has been provisionally approved by the Chairperson of the Governing Council.

Early Detection, Prevention, and Infections Branch (EPR)

3.1 Project title: **European guidelines and quality assurance on primary prevention of gastric cancer and third report on the status of implementation of the Council Recommendations on cancer screening**

Although some higher-resource countries, notably in East Asia, have put in place organized early detection programmes, gastric cancer remains the fifth most common cause of cancer death worldwide, and there is ample evidence that the disease will remain an important public health problem for the foreseeable future unless effective measures are implemented. In Europe, there is significant geographical variation in gastric cancer incidence, with the highest burden in Eastern Europe. Following Europe's Beating Cancer Plan and subsequent recommendations by the European Council, population-based H. pylori screening and treatment programmes have been emphasised for gastric cancer prevention, which need to be guided by independent, evidence-based science and knowledge. Development of the evidence-based guidelines on primary prevention of gastric cancer, aligned perfectly with the IARC MTS Objective 3, will have a large global impact especially in lower-resource countries where future burden is foreseen to increase dramatically due to demographic changes.

In 2008 and 2017, IARC led the publication of the first and second reports on the status of implementation of the Council Recommendations on cancer screening. The IARC-led CanScreen-ECIS project supported by the European Commission and completed in 2024 identified and defined prioritised, responsive, and feasible KPIs for breast, cervical, colorectal, and lung cancer screening for the EU. Data collection and visualisation tools were developed and aligned with the European Cancer Information System (ECIS). Following the successful completion of CanScreen-ECIS project and the piloting of the full data submission process, the Commission has invited IARC to produce the third report. This project will provide funding and technical support to our flagship project CanScreen5, a global repository of information on cancer screening programmes.

Our project titled "European guidelines and quality assurance on primary prevention of gastric cancer and the third cancer screening report" aims: 1) to develop the guidelines on population-based H. pylori screen-and-treat programme as the main strategy for primary prevention of gastric cancer and carry out preparatory work for developing quality assurance schemes on primary prevention of gastric cancer as part of the European Commission Initiative on Gastric Cancer; and 2) to publish the third EU Cancer Screening Report and share data with European Cancer Information System (ECIS) for visualization of the status and performance of screening programmes from EU and selected EEA countries. The ultimate objective is to offer the Member States a system for quality improvement of their own screening programmes through systematic data collection to measure key performance indicators. Thus, our project

supports the new EU approach on cancer screening as part of the new EU Cancer Screening Scheme, one of the flagship initiatives of Europe's Beating Cancer Plan and also beyond by producing guidelines and report that can be used as global references.

Donor:	European Commission - European Health And Digital Executive Agency / EU4H (BE)
Duration:	24 months
Funds for IARC:	€1 560 000.00
Funds for partner:	n/a
Total:	€1 560 000.00
Total budget:	€2 600 000.49

4. Interest income from grants

In accordance with the standing authorization provided to the Director under resolution GC/55/R23 and the conditions set forth in the signed agreement, interest income amounting to €21 542.53 was apportioned to the below grant in 2025.

Grant No.	Project	Donor	Interest (in euros)
101240	Improving Cancer Screening, Surveillance and Communication in the Gulf Region - a collaboration between IARC and the Gulf CDC	Gulf Center for Disease Prevention and Control (SA)	21 542.53