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DIRECTOR'S REPORT

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EXECUTIVE SUMMARY

The Director's Report reflects on the research work and related managerial activities accomplished during the past year. The main topics that were reported were as follows:

Scientific achievements

The Director's Report starts with an overview of scientific achievements of the past year, followed by information about IARC publications and capacity building. Additional Key Performance Indicators are shown for 2020.

The burden of cancer is growing. New global estimates from IARC say that there were 19.3 million new cancer cases and 10 million cancer deaths in 2020. This is projected to rise to 28.4 million new cancer cases in 2040. For the first time, female breast cancer overtakes lung cancer as leading cause of cancer worldwide, with 2.3 million breast cancer cases diagnosed in 2020. Some of IARC research on the causes of cancer (infection, nutrition, obesity, environmental exposure, genetics, epigenetics), on the evaluation of cancer prevention interventions (HPV vaccination, screening) and on knowledge mobilization (*WHO Classification of Tumours*, IARC *Monographs* Programme) are highlighted. Finally, IARC research at the intersection between coronavirus disease (COVID-19) and cancer is also underlined.

Cooperation, Partnerships and Strategic Engagement

The growing cooperation between IARC and the World Health Organization (WHO) is underlined, as showed by IARC-WHO joint plans on some major cancer initiatives for cervical, breast and childhood cancers. Selected high-level partnerships of the Agency are highlighted for the past year. Also, the specific actions taken last year by the Agency to accelerate the Resource Mobilization are detailed. Grants and contracts obtained the past year are reported. The chapter ends with an update on IARC engagement under the Framework of Engagement with Non-State Actors (FENSA).

Management

Starting from 1 January 2021, IARC has embarked on an exciting new phase towards implementing the new Medium-Term Strategy 2021–2025. The strategic priorities for the Agency, as spelled out in the Medium-Term Strategy 2021–2025, are described. Organizational changes put in place to accommodate new areas of focus are presented. The conceptual framework to assess progress toward the implementation of the new Medium-Term Strategy is briefly described. Finally, information on IARC personnel is provided for the past year, as well as for IARC Groups and Programmes. The chapter concludes with an update on the Nouveau Centre.

1. INTRODUCTION

1. The year 2020 has been an unprecedented year that has brought us many challenges and will be remembered by us all.

2. The global cancer burden is estimated to have risen to 19.3 million new cases and 10 million deaths in 2020, based on IARC latest estimates. One in five people worldwide will develop cancer during their lifetime, and one in eight men and one in 11 women will die from the disease. The cancer incidence burden will almost double to *28 million* predicted new cases by 2040. Inequalities in cancer burden and cancer risk factors disproportionally affect, now and even more in the future, low- and middle-income countries (LMICs), and, within countries, disadvantaged individuals, and social groups. These inequalities drive the public health impact of cancer along with significant economic consequences for societies.

3. IARC mission is more important than ever. IARC cause is relevant. IARC cause is important.

The COVID-19 pandemic has had significant impact on IARC activities and operations

4. A Business Continuity Plan has been activated since the first lockdown in France on 17 March 2020, and measures have been aligned with recommendations from the French authorities. IARC successfully conducted most of its research remotely and set up the appropriate working tools (such as videoconferences and digital signatures). All meetings, including three *Monographs* meetings and two *Handbooks of Cancer Prevention* meetings, and various events that – under normal circumstances – would have taken place on the IARC premises, have been successfully held virtually since the first lockdown. The COVID-19 pandemic has mainly impacted IARC fundraising activities, laboratory activities, and its research work involving the use of biological samples.

IARC has been involved in many studies at the intersection between COVID-19 and cancer

5. IARC seized research opportunities at the intersection of cancer and COVID-19 early on in close cooperation with WHO and will continue to do so. IARC, together with other leading cancer organizations, joined the global COVID-19 and Cancer Taskforce to help coordinate efforts to synthesize and rapidly disseminate data on how the COVID-19 pandemic is affecting cancer outcomes worldwide. IARC is also working to understand how major risk factors (smoking, alcohol), treatment delays, and patients' experience and outcomes may have changed in the wake of the COVID-19 pandemic within certain regions.

The Medium-Term Strategy 2021–2025 has been finalized

6. Despite the context and the challenges, IARC personnel resiliently and successfully continued to carry out its essential mission. After a year of external consultation, reflection and discussions, the draft Medium-Term Strategy (MTS) 2021–2025, formulated jointly by a Working Group including members of the Scientific and Governing Councils, and the World Health Organization (WHO) counterparts, was finalized and presented to the Scientific Council in February 2021 for discussion. The Scientific Council fully endorsed IARC MTS 2021–2025.

7. The MTS 2021–2025 is based on the IARC Statute and on the objective that has guided IARC work since 1965: *to promote international collaboration in cancer research*. IARC focuses its

scientific and research work on areas where it has the greatest public health impact and matters the most to the ultimate beneficiaries, i.e. individual human beings. This aspiration has driven the identification of IARC strategic priorities.

8. IARC continues to address its *fundamental priorities*: Data for Action (describe the occurrence); Understanding the Causes; From Understanding to Prevention (Implementation of Cancer Research); and Knowledge Mobilization. In addition, IARC identified *three emerging priorities* that are important and evolving global issues for cancer prevention research: Evolving cancer risk factors and populations in transition; Implementation research; and Economic and societal impacts of cancer. IARC will gradually strengthen IARC engagement in these three emerging priorities, increasing its activity in *implementation research*.

9. Considering continued resource constraints, IARC will further prioritize activities and ensure that the Agency remains fit for purpose and sufficiently agile to respond effectively to the evolving operational environment for cancer research.

IARC organizational structure has been updated to accommodate new area of focus

10. Aiming for a more agile organization, the IARC Organizational Structure was reviewed and revised to allow more integration and more flexibility in resource management and to promote collaboration across the Agency. The former Section and Group Structure has been replaced by a Branch Structure. This is complemented by conceptual scientific 'Pillars' representing IARC four fundamental research priorities, as described above. The New Organizational Structure has been strategically designed to enable IARC to engage in new areas of focus, to have greater flexibility with regard to emerging needs and opportunities, as well as to engage further in implementation research and improve collaboration across Branches, fostering more Agency-wide projects.

IARC has re-engaged in a structured dialogue with WHO

11. Close collaboration with WHO is a cornerstone of IARC MTS 2021–2025. IARC work is critical for the WHO: research conducted by IARC provides an evidence base for cancer prevention that is readily translated by WHO into advice and policy recommendations to its Member States. Alongside IARC strategic restructuring to maximize the public health impact of its research, WHO has undergone a major reorganization of its headquarters, with the division-level structure placing a renewed emphasis on noncommunicable diseases (NCDs) control, integrating a Cancer Unit within the NCD Department, and prioritizing scale-up of its Global Initiative to Accelerate Elimination of Cervical Cancer. IARC and WHO re-engaged in a structured dialogue with a view to developing a joint plan of action promoting areas of cooperation that will enable coherent programme design, successful resource mobilization, and successful implementation of key global public health initiatives related to cancer.

IARC research, from cancer registration activities to implementation research, is key to support the implementation of WHO Global Initiatives

12. IARC research supports WHO in many Global Initiatives. IARC is currently supporting the Global Strategy to Accelerate the Elimination of Cervical Cancer by providing key scientific evidence, technical materials, and updates. IARC has been at the forefront of game-changing research to establish the causal role of infection with oncogenic HPV types in cervical cancer, to

evaluate the safety and efficacy of HPV vaccines, and to identify simplified alternatives for screening in (LMICs). WHO, in collaboration with IARC and the International Atomic Energy Agency (IAEA), launched the Global Breast Cancer Initiative (GBCI) on 8 March 2021. IARC already has a wide range of programmes, research studies, and publications that fit perfectly into the GBCI that can support WHO in the implementation of efficient and cost-effective solutions. Additional programmes that IARC research work can support are the WHO Global Initiative on Childhood Cancer, and the WHO Global Hepatitis Programme. IARC is already working closely with WHO on health economics and collaboration has been initiated on cancer inequalities, one of IARC crucial emerging priorities (Economic and societal impacts of cancer).

Our mission must continue

13. Despite the challenges, the restrictions, the context, IARC mission has continued and key scientific achievements are presented in this report.

14. IARC personnel has shown impressive and unwavering commitment and resilience this year and I extend my most sincere thanks and recognition to all of them. My thoughts, our thoughts, also go to Dr Rosita Maria Accardi-Gheit, our dear colleague, who passed away last year.

15. The year 2021 is a year of hope, with the vaccinations against COVID-19 becoming a reality, taking us progressively toward a welcome solution to this unprecedented challenge. IARC will seek to provide sustainable, enabling *operating conditions* that foster a strong and well-defined organizational identity based on IARC vision, mission, values, and priorities, among both its personnel and its Participating States. IARC will strengthen its capacity to work in an increasingly politicized health environment while maintaining its neutral and independent position. With the Nouveau Centre, IARC will have a new work environment to better achieve its mission of reducing the burden of (and suffering from) cancer, now and for future generations.

2. SCIENTIFIC ACHIEVEMENTS

16. The scientific highlights are arranged according to the level 2 objectives of the Project Tree, as spelled out in the Programme and Budget 2022–2023 (Document GC/63/8) revised to align with the new Medium-Term Strategy priorities (Document GC/63/6A). IARC research at the intersection between COVID-19 and cancer is also highlighted.

2.1. Describing the occurrence of cancer

17. New global cancer estimates from IARC indicate that the global cancer burden increased to 19.3 million new cases and 10 million deaths in 2020 (https://gco.iarc.fr/). This is projected to rise to 28.4 million new cancer cases in 2040. The largest increases are expected to occur in LMICs. Worldwide, one in five people develop cancer during their lifetime, and one in eight men and one in 11 women die from the disease.

18. Among the most striking developments revealed by the new IARC estimates is that female breast cancer overtakes lung cancer as leading cause of cancer worldwide for the first time, with 2.3 million breast cancer cases diagnosed in 2020. Breast cancer now accounts for 11.7% of all new cancer cases in both sexes, and 24.5% of cancer cases in women.

19. *Cancer Incidence in Five Continents, Volume XI* (CI5-XI) is now available in PDF format. The CI5 series presents comparable data on cancer incidence for all countries around the world for which high-quality data have been made available by population-based cancer registries.

20. IARC, in collaboration with the Joint Research Centre (JRC) of the European Commission, reported a total of 2.7 million new cases of cancer (excluding non-melanoma skin cancers) and 1.3 million cancer-related deaths in the European Union (EU-27) in 2020. Female breast cancer is still the most commonly diagnosed cancer type in the EU-27 countries.

21. IARC and the WHO Regional Office for Europe underlined some progress in early detection of breast cancer in the 10 countries studied in the newly independent states of the former Soviet Union. For cervical cancer, the proportions of late-stage cancers were high, and stage-specific incidence rates mostly increased with time.

22. A new research study highlighted how cancer registration data in China have become a critical means to identify health priorities and to track progress in cancer control across the country.

23. New research findings predicted that the number of new cases of cancer (excluding non-melanoma skin cancer) per year will increase by 61.3% from 2016 to 2025 in Golestan Province.

24. IARC research highlighted the advances in treatment on survival of oesophageal cancer across seven countries with similar health-care access (Australia, Canada, Denmark, Ireland, New Zealand, Norway, and the United Kingdom). Future research is warranted into primary prevention and early detection.

25. New guidelines on the staging of paediatric cancers and the collection of key data on childhood cancers by population-based cancer registries are available, informing the collection of standardized information.

26. IARC, in collaboration with several international partners, found that the incidence of thyroid cancer in children and adolescents increased rapidly in recent years in many countries, suggesting that overdiagnosis is likely to be the main driver of these increases.

2.2. Understanding the causes of cancer

27. WHO, IARC, and other partners found that globally, 4.9% of new cases of cervical cancer were attributable to HIV infection. The most affected world regions were southern and eastern Africa.

28. IARC research highlighted the potential role of some beta human papillomaviruses (HPV) in promoting, together with ultraviolet light and potentially other co-carcinogens, the development of skin cancer.

29. IARC research showed that higher dietary intakes of *trans* fatty acids from industrial processed foods and from deep-frying fat are associated with a greater risk of developing ovarian cancer in Europe. These new findings support the WHO recommendation to eliminate industrial *trans* fatty acids from foods.

30. IARC research found that a higher body mass index (BMI) was associated with a higher risk of developing 12 cancer types, including four haematological cancers and, among never smokers, head and neck cancers.

31. IARC research suggested that a higher BMI raises the risk of developing colorectal cancer more in men than it does in women, whereas a higher waist-to-hip ratio raises the risk of developing colorectal cancer more in women than it does in men.

32. IARC research found that incorporating polygenic risk scores can improve the accuracy of cancer risk prediction compared with predictions based on information on modifiable and demographic risk factors. The study also demonstrated that individual changes in modifiable risk factors, such as smoking or BMI, can meaningfully reduce the risk of most cancer types regardless of genetic predisposition.

33. A new collaborative study provided strong evidence that household burning of biomass and kerosene fuels, especially using stoves without a chimney, increases the risk of developing several cancers of the digestive tract. Global initiatives are needed to reduce the long-term hazardous effects associated with indoor burning of these fuels.

34. IARC research revealed that epigenetic regulator genes, when disrupted through genetic or non-genetic mechanisms, may act as drivers in cancer development, supporting the notion that epigenetics lies at the very heart of tumorigenesis.

35. IARC presented a new video explaining how IARC researchers "travel back in time" to investigate the origins of childhood cancers (https://www.iarc.who.int/video/researching_the-origins_childhoodcancer/). Understanding what causes these cancers is key to preventing them and to finding cures.

2.3. Evaluating cancer prevention interventions

36. IARC research showed the effectiveness of high-coverage national vaccination programmes against HPV for girls aged 12–18 years in Bhutan and in Rwanda.

37. IARC research reported that HPV vaccination in young Japanese women is effective against high-grade cervical lesions.

38. IARC research reported that up to 50% of General Practitioners in France would not recommend HPV vaccination because of concerns that it may change patients' health behaviours or of doubts about the vaccines' safety and/or efficacy.

39. IARC research found that among women with HIV in Kenya, adding endocervical curettage did not increase detection of precancerous cervical disease.

40. IARC research highlighted that, in sub-Saharan African countries, advanced stage at diagnosis and lack of timely access to appropriate treatment contributed equally to the excess of breast cancer deaths.

41. IARC research reported that the number of maternal orphans exceeds the number of deaths from breast cancer among women in sub-Saharan Africa.

42. IARC scientists with international collaborators demonstrated the safety, acceptability, and feasibility of a new device, called the Cytosponge, developed for the routine early detection of Barrett oesophagus, a precursor of oesophageal cancer, in the low-resource East African setting of Tanzania.

43. A new controlled clinical trial coordinated by IARC in India provided a proof of principle that risk-based oral cancer screening could substantially enhance the efficiency of screening programmes.

44. IARC reported that one in four cases of lung cancer in Europe could be prevented if the implementation of tobacco control policies were scaled up, representing 1.65 million fewer lung cancer cases over a 20-year period in Europe alone.

2.4. Synthesizing and mobilizing knowledge and strengthening global capacities in cancer science

45. The 5th edition of the *WHO Classification of Tumours: Female Genital Tumours* has been published. Female Genital Tumours is the fourth volume in the 5th edition of the WHO series on the classification of human tumours. This WHO series is regarded as the gold standard for the diagnosis of tumours and comprises a unique synthesis of histopathological diagnosis with digital and molecular pathology.

46. IARC *Monographs* classified opium consumption *as carcinogenic to humans* (*Group 1*). The Group 1 classification applies to both ingestion and smoking as routes of exposure and to all forms of minimally processed opium that are consumed (e.g. raw opium, opium dross, and opium sap). Opium consumption is a problem in many LMICs, with strong implications for public health and society.

47. IARC *Monographs* classified acrolein as *probably carcinogenic to humans (Group 2A)* on the basis of *sufficient evidence* for carcinogenicity in experimental animals and of *strong* mechanistic evidence. Crotonaldehyde and arecoline were classified as *possibly carcinogenic to humans (Group 2B)* on the basis of *strong* mechanistic evidence. Acrolein and crotonaldehyde are industrial chemicals with a high production volume that are also present in tobacco smoke, in ambient air pollution, and in some cooking oils heated to a high temperature. Arecoline is the primary active ingredient of the areca nut.

2.5. IARC research at the intersection between COVID-19 and cancer

48. IARC, together with other leading organizations, has joined the global COVID-19 and Cancer Taskforce to help coordinate efforts to synthesize and rapidly disseminate data on how the COVID-19 pandemic is affecting cancer outcomes worldwide.

49. Through the Taskforce, IARC together with the Union for International Cancer Control (UICC), the International Cancer Screening Network (ICSN), the Canadian Partnership against Cancer (CPAC), and Cancer Council NSW (Australia) posted a Call for Expressions of Interest to the global modelling community, for researchers interested in joining a modelling consortium. This effort seeks to connect modellers and modelling teams in different countries in new collaborations that can help quantify the impact of the pandemic on cancer outcomes, resulting from disruptions in the delivery of preventive, screening, and therapeutic interventions.

50. The aim is to help configure modelling platforms and teams to advise governments, particularly those in LMICs, on short- and longer-term strategies to minimize the impact of COVID-19 on cancer.

51. IARC is working on how major risk factors (smoking, alcohol), treatment delays and patients' experience and outcomes may have changed in the wake of the COVID-19 pandemic within certain regions, particularly in Europe.

52. IARC is leading a survey to population-based cancer registries worldwide through the International Association of Cancer Registries (IACR) to assess the short-term and longer-term impacts of the pandemic on registry operations and subsequent data dissemination in different settings. Follow-up surveys are planned to assess the longer-term impact of COVID-19.

53. IARC and international partners showed that lockdowns due to the COVID-19 pandemic were imposed in all but one of 18 cancer screening programmes in 17 selected LMICs. All but five of the countries continued cancer treatment.

54. IARC and international partners outlined the indirect consequences of the COVID-19 pandemic on delivery of health services and consequently on the cervical cancer prevention and control agenda, underlining the need for new opportunities to translate strategies for pandemic control into effective cancer control.

55. IARC outlined that the COVID-19 pandemic has already accelerated the adoption and the acceptability of data- and technology-driven solutions in healthcare systems, enabling the transformation of future healthcare.

56. In collaboration with local partners, IARC is assessing the impact of COVID-19 on cancer services in France.

2.6. Report on Key Performance Indicators (KPIs) on publications

2.6.1. Publications

57. Additional KPIs are shown for 2020. In addition to the productivity (number of IARC articles in 2020), these new KPIs highlight the influence of IARC research (h-index), international collaboration, and visibility.

58. *These KPIs form the baseline for comparison going forward, and the evolution of these KPIs will be monitored during the period of the new Medium-Term Strategy 2021–2025.*

59. **Productivity.** In 2020, IARC scientists published a total of **470 articles** in 197 journals, of which 387 (82%) were peer-reviewed papers[1].The total number of articles and the proportion of peer-reviewed papers were quite similar to recent years (see Annex – Table 1).

60. **Influence of research: citation index (h-index).** Table 2 shows an h-index of 18 for IARC 2020 output, meaning that 18 articles have been cited at least 18 times each, with an average citation of 4.5 per article. The top 10 most cited articles published in 2020 are listed in Table 3.

61. Comparative data for the previous five years is also shown. The h-index for articles from 2016 to 2020 inclusive is 91, with an average citation rate of 46.7 per article.

62. International collaboration: analysing the proportion of IARC publications whose co-author affiliations include addresses in more than one country. Of the 470 total papers for 2020, 447 (92%) involved international collaboration, including a co-author affiliation from at least one other country. This percentage is in line with that of the last five years overall, 2016–2020, in which 1846 (93%) of 1994 total articles involved at least one other country affiliation.

63. **Visibility.** The Altmetric database tracks mentions of IARC research output in the news, social media, policy documents and other non-traditional sources of citation. It therefore complements traditional citation tracking from sources such as Web of Science and other databases in the scholarly ecosystem. Figure 1 gives a snapshot of IARC altmetrics profile for its 2020 output and *forms the baseline for comparison going forward*.

64. Table 4 reported the number of visitors to the IARC websites in 2020. Among IARC research project websites, the Global Cancer Observatory received the highest number of total visits in 2020.

65. Figure 2 reported the number of visits to the IARC website throughout 2020. The peak of 3245 visits (4 February 2020) is on the day of the launch of the new *World Cancer Report* on the 20th anniversary of World Cancer Day (https://publications.iarc.fr/586) and

[1] Records were retrieved via the Web of Science database, specifically from Science Citation Index and Emerging Sources Citation Index. Records marked "Meeting Abstract" and "Early Access" were removed prior to analysis.

the publication of IARC Press Release 279 (https://www.iarc.who.int/wp-content/uploads/2020/02/pr279_E.pdf).

66. The peak of 5764 visits (14 May 2020) coincides with the sad news of the sudden passing of Dr Rosita Maria Accardi-Gheit (https://www.iarc.who.int/news-events/dr-rosita-maria-accardi-gheit/). An online book of condolences was made available on the IARC website.

67. Figure 3 reported the number of visits to the Monographs website in 2020. The chart indicates a steady level of interest in the Monographs website. No peak was observed.

68. The most popular downloads from the Agency's websites are presented in the Table 5. The four most popular downloads (more than 40 000 downloads in 2020) related to Scientific Publication 163: Molecular Epidemiology: Principles and Practices; le cancer dans le Monde 2003; Monographs volume 71 (re-evaluation of some organic chemicals, hydrazine and hydrogen peroxide) and Technical Publication 45: Colposcopy and Treatment of Cervical Precancer.

2.6.2. Capacity building

69. In 2020, IARC hosted a total of 177 Early Career and Visiting Scientists (ECVS) though its Research Training and Fellowship Programme, out of which 68 were new arrivals.

70. As shown in the Table 6, in 2020 the Agency awarded two new IARC Postdoctoral Fellowships to Early Career Scientists from Brazil and Kenya, wishing to complete their training in those aspects of cancer research related to the Agency's mission and focusing on paediatric cancers or teenagers and young adults cancers. These fellowships were supported by external funding from "Children with Cancer UK" (CwC UK) and were awarded through an ad hoc application and selection process. These two awards were made from ten applications, of which eight were eligible.

71. The call for applications for IARC Postdoctoral Fellowships tenable in 2021–2023 opened between September and December 2020 and targeted early career scientists from LMICs. Candidates were required to prepare their research proposal in line with IARC emerging priorities:

- Evolving cancer risk factors and populations in transition;
- Implementation research;
- Economic and societal impacts of cancer.

72. Research proposals focusing on Cancer and COVID-19 were also accepted. The selection has been carried out since January and the final decision on the number of awards will be made after the Governing Council, based on the outcome of the budget 2022–2023 discussions.

73. Two Return Grants of a maximum of €10 000 each were awarded to two former IARC Postdoctoral Fellows from Brazil and Togo.

74. In 2020, IARC decided to suspend the IARC Senior Visiting Scientist Award and it is foreseen to convert this award into several shorter Visiting Scientists Awards targeting mid-career scientists from LMICs and/or Participating States.

75. The IARC Courses Programme enhances research capacity of the global research community, in particular in LMICs, through lifelong learning opportunities in the areas of the Agency's expertise.

76. In 2020, and as shown in the Tables 7 and 8, the Agency organized 18 training courses and webinars targeting researchers and health professionals from many countries, in particular LMICs. It is to be noted that in view of the global health crisis, all courses were organized online in 2020. Courses were redesigned to combine live sessions with facilitated self-learning, and lasted between a few days (e.g. cancer staging) to several months (e.g. Cancer Screening in Five Continents Train the Trainers).

77. As part of the IARC Learning Portal, IARC successfully launched the World Cancer Report Updates learning platform, a freely accessible online service aiming to become a living resource on cancer research for cancer prevention. This new platform, developed with the support of and in collaboration with the European Society for Medical Oncology (ESMO), will provide learning material based on selected contents of World Cancer Report through a variety of educational resources and a webinar series (https://learning.iarc.fr/wcr/). The two first webinars on Human Papillomavirus Vaccination and Obesity and Cancer were a success with an average of 300 participants from close to 100 countries.

78. As a key complement to live and facilitated events, IARC continued to produce self-learning resources. In 2020, the Agency launched a new self-paced online learning programme on cancer screening and early diagnosis, developed in the framework of the Cancer Screening in Five Continents (CanScreen5) project, with the support of the American Cancer Society, the UK Medical Research Council, the Research Council of Norway, and the Centre for Global Health Inequalities Research (CHAIN) of Norway (https://learning.iarc.fr/edp/resources/pgm-cancer-screening/).

79. In view of budget constraints, the IARC Summer School on Cancer Epidemiology was not organized in 2020.

3. COOPERATION, PARTNERSHIPS AND STRATEGIC ENGAGEMENT

3.1. Cooperation with WHO

3.1.1. Thematic cooperation

80. Close collaboration with WHO is a cornerstone of IARC MTS 2021–2025. IARC work is critical for WHO: research conducted by IARC provides an evidence base for cancer prevention that is readily translated by WHO into advice and policy recommendations to Member States.

81. IARC and WHO re-engaged in a structured dialogue with a view to developing a joint plan of action promoting areas of mutual cooperation that will enable coherent programme design, successful resource mobilization and successful implementation.

82. Two levels of engagement were envisioned: strategic discussion with senior management and technical discussions between relevant teams. The objective of the routine dialogue is to promote coordination and successful implementation with proactive planning. Relevant IARC focal points have been identified under the two-tiered level of dialogue.

83. Over the last year, IARC has strengthened its cooperation with WHO at different levels. WHO, in collaboration with IARC and the IAEA, launched the Global Breast Cancer Initiative (GBCI) on 8 March 2021. IARC is supporting this initiative and ensures that the research provides the evidence base for the implementation of efficient and cost-effective solutions.

84. WHO formally launched the Global Strategy to Accelerate the Elimination of Cervical Cancer. IARC is supporting this initiative by providing key evidence, technical materials, and updates for policy-makers, programme managers, and experts implementing the Global Strategy. IARC has been at the forefront of research to establish the causal role of infection with oncogenic HPV types in cervical cancer, evaluate the safety and efficacy of HPV vaccines, and identify simplified alternatives for screening in LMICs.

85. IARC launched a new digital atlas, the *Atlas of visual inspection of the cervix with acetic acid for screening, triage, and assessment for treatment*, supporting the WHO Global Strategy to Accelerate the Elimination of cervical cancer.

86. The Handbook of Cancer Prevention volume 18 on cervical cancer screening was jointly produced between IARC and WHO HQ. IARC Handbook vol.18 and WHO recommendations will be simultaneously launched in Spring 2021.

87. It is worth mentioning that this Handbook creates the perfect bridge between the evidence-based research produced by IARC and WHO's normative work. The Handbook provides specific and detailed guidance to WHO field staff for the implementation of the most efficient cancer prevention interventions. The same will happen for the Handbook vol. 19 on oral cancer as it is now being co-designed and co-funded between IARC and the WHO Regional Office for South-East Asia (SEARO). IARC has also started the discussion for the Handbook vol. 20 with the WHO Regional Office for Europe (EURO) on alcohol.

88. IARC supports the WHO Global Hepatitis Programme and strives to measure how infections with hepatitis viruses contribute to the worldwide burden of liver cancer and liver cirrhosis, by using the vast set of data collected through cancer registry networks worldwide.

89. An IARC technical report on HTLV-1 has been published, supporting the WHO Global Initiatives in the Hepatitis/HIV/HTLV-1 Department.

90. The WHO launched the Global Initiative for Childhood Cancer aiming to substantially increase survival among children with cancer by 2030. IARC contributes to this initiative by building capacity in cancer registries to collect and disseminate reliable data on childhood cancer worldwide sustainably.

91. IARC is already working closely with WHO on health economics (creation of a cost-benefits analysis model) and further collaboration has been started on cancer inequalities.

92. IARC supported the WHO EURO in promoting the 8th European Awareness Week on Alcohol-Related Harm, highlighting the need to address this important public health issue through an integrated approach to alcohol policy.

93. IARC and WHO EURO started a collaboration on cancer prevention, early detection and registration.

3.1.2. Communication/liaison

94. Increased coordination with WHO communications teams in Geneva and WHO EURO helped to provide higher visibility to IARC research and contribution during key global events and initiatives such as the Global Strategy to Accelerate the Elimination of Cervical Cancer, the Global Initiative on Breast Cancer, and the Global Childhood Cancer Initiative.

95. For example, on International Women's Day, IARC took part in the official launch of the Global Breast Cancer Initiative and highlighted the large varieties of research on breast cancer the Agency is involved in, on its webpage and social media.

96. On World Cancer Day, 4 February, IARC focused on breast cancer with a full communication package including videos of experts, social media posts, interviews, infographics. A press release stressing the latest global data on breast cancer rose awareness of knock-on issues caused by the disease and provided recommendations on how individuals can reduce their own risk of developing breast cancer.

97. Throughout January 2021, IARC marked Cervical Cancer Awareness month with a series of video interviews showcasing IARC research projects on cervical cancer as well as the Agency's contribution to the WHO Global Strategy to Accelerate the Elimination of Cervical Cancer.

98. IARC also coordinated activities with WHO EURO and highlighted its research on cancer and alcohol, promoting the launch of its factsheet on alcohol and cancer and producing and posting several key infographics on social media.

99. A Standard Operating Procedure (SOP) between IARC and WHO is in place which focuses on communication between the Monographs and the Handbooks programmes and WHO HQ. This SOP can be used as a reference for other programmes.

100. As per our SOP, four IARC *Monographs* evaluations (vol. 126, 127, 128 and 129) have been cleared by WHO prior to the online publication of *Monographs* evaluations by The Lancet Oncology.

101. Dr Tamás Landesz, Director of Administration and Finance, continued to be the IARC focal point for general management, business operations, and legal matters. He continued to take active part in the WHO network of Directors of Administration and Finance, as well as a member of the WHO Staff Health Insurance Global Oversight Committee. He is also invited as an observer to the Next Generation GSM Programme Board meetings.

102. IARC participated regularly in the WHO NCD WIN meetings and NCD global network meetings of WHO.

3.1.3. WHO Academy and the Global Health Hub in Lyon

103. The WHO Academy aims to train both WHO staff and health professionals worldwide. IARC continued to contribute to the planning of the Academy though participation in several work streams and to relevant activities of the WHO Academy.

104. IARC, the WHO Academy and the WHO Office in Lyon will form three respective pillars of the new Global Hub to be established in the Gerland bio-district of Lyon.

105. The Agency has been involved in the development of the Academy at several levels. Besides its engagement with key stakeholders in WHO and at the local and national levels, in particular regarding governance and infrastructure aspects, IARC also applied for and was selected as part of the development of the 20 first courses of the Academy.

106. The Comprehensive Learning Programme on Screening, Diagnosis and Management of Cervical Precancer will therefore be developed by a consortium of WHO HQ and the six Regional Offices coordinated by the IARC Early Detection, Prevention and Infections Branch.

3.2. Strengthened partnerships

107. Selected representative high-level partnerships of the Agency are highlighted below.

108. IARC, together with several international partners, established the International Collaboration for Cancer Classification and Research (IC^3R) to promote evidence-based practice and standards for cancer classification and research.

109. A bilateral agreement called Targeting Childhood Cancer through the Global Initiative for Cancer Registry Development (Child GICR) is now in place between IARC and St. Jude Children's Research Hospital (in Memphis, Tennessee, USA) to ensure a greater focus on childhood cancer registration systems.

110. A Mission on Cancer has been integrated in the new EU Framework Programme for Research and Innovation, Horizon Europe (2021–2027). The report of the Mission Board for Cancer was presented to the European Commission on 22 September, during the European Research and Innovation Days. Dr Elisabete Weiderpass, the IARC Director, is an expert member of the Mission Board for Cancer and played a vital role in finalizing this Mission outline, which sets out the goal of the EU Cancer Mission and will guide the EU Cancer Plan.

111. Synergies will be further developed with national cancer plans, with the action of other Horizon Europe Missions, as well as with other EU policies and actions, in particular the Europe's Beating Cancer Plan.

112. The Agency continued building a strong collaborative global network with strategic partners. In 2020, the Agency signed five Memoranda of Understanding (MoU) with the Beijing Genomics Institute at Shenzhen/China National GeneBank, China, the Sociedade Beneficente Israelita Brasileira Albert Einstein (HIAE) in Brazil, the Georgian National Centre for Disease Control and Public Health (NCDC) in Georgia, the Trustees of Columbia University in the City of New York (CUIMC) in the United States, and the Hungarian National Cancer Registry operated by the National Institute of Oncology (NCR) in Hungary.

113. In addition, the Agency has renewed one MoU with the National Cancer Centre in Tokyo, Japan, to expand a variety of cancer registration activities for better cancer control.

114. The Agency has signed one Memorandum of Agreement (MoA) during the past year with the Ecole Supérieure de Biologie - Biochimie - Biotechnologies de Lyon, France. In addition, the Agency has renewed three MoAs with the San Gallicano Dermatologic Institute in Rome, Italy, the National Central Cancer Registry of China, and the Iran Cancer Research Center.

115. Following Resolution GC/60/R21 on the need for the Agency to strengthen its relationship with Permanent Missions in Geneva, IARC has been proactive in reaching out and proposed them one-to-one meetings. During the third and fourth trimester of 2020, IARC has held virtual meetings with Permanent Missions from 12 Participating States, including: Australia, Austria, Canada, France, Germany, Hungary, Ireland, Norway, Russian Federation, Spain, Sweden and the USA. During these meetings, IARC was able to update the Permanent Missions on its work at the interaction between cancer and the COVID-19 crisis, on the deliberations of the 56th Scientific Council and the 62nd Governing Council as well as on some special projects (especially the Nouveau Centre and the recognition as an ODA-eligible organization by the OECD). Such meetings have been very well appreciated by the Permanent Missions and IARC is now keeping an open channel of communication with these strategic partners for the Agency.

116. In February 2021, IARC had also the opportunity to present the Agency and its work to the EU Group of the Permanent Missions in Geneva. The virtual meeting was attended by all health attachés of the EU Member States. It resulted in opening new opportunities for discussion on IARC membership for EU non-IARC Participating States (please see below the discussion held with Slovakia in the Resource Mobilization section). Another high-level meeting with Ambassadors of the EU Group is being planned for June 2021 (after IARC Governing Council and the World Health Assembly). This meeting will focus on the linkages between the IARC Medium-Term Strategy and the European Beating Cancer plan released on 3 February 2021.

117. It is worth mentioning that starting on 1 January 2021, a new unit was created that includes both the Strategic Engagement and the External Relations (SEE). The SEE unit will ensure that IARC communication reaches a wider and more diverse audience, concretizing thus the concept of open science as promoted by the IARC Director. By reaching out to a very diverse range of potential partners and audiences, the SEE unit will ensure that IARC brand recognition improves and thus that IARC becomes more attractive to potential donors and partners.

118. The Secretariat has also started to engage more meaningfully with civil society organizations. For example, IARC is currently discussing with platform of patient advocates like Inspire2Live and with federation of member organizations working in cancer like the European

Cancer Organisation (ECO). This partnership might open opportunities for IARC to expand its network and to design new research projects.

119. IARC has also embarked on a new project with the aim to share the findings of its research with a wide range of partners for advocacy and capacity building purposes. This series of briefings that IARC will develop should help not only in raising the profile of the Agency but also in disseminating its research further, hence increasing its potential impact on public health issues. These briefings will be distributed to civil society organizations (cancer societies, patient groups, etc.), policy makers, government officials (ministry of health, permanent missions, etc.), philanthropic foundations and many others. The first briefing was released on 4 February 2021 and gives a snapshot of the African Breast Cancer – Disparities in Outcomes Study (ABC-DO) study. It provides scientific evidence that can be used by others for advocacy purposes and has a clear call to action to ensure a greater public health impact. The next briefing should be about nutrition and cancer, and especially the relevance of the Nutri-Score tool.

120. IARC is also working on increasing its awareness towards local partners in Lyon and around. It has strengthened its collaboration with Centre Léon Bérard, scientifically but also through public events like the one on cancer and physical activity organized on 4 February 2021. The Secretariat has also worked on mapping local collaborations, from a scientific, economic or strategic point of view. IARC is already engaging with more than 50 local actors. This is very important, not only for IARC relationship with local authorities but also to ensure a greater buy-in of the general public in Lyon to the local Nouveau Centre campaign.

3.3. Strategic engagement highlights

121. IARC and experts from Europe will give a series of presentations during the Cancer Prevention Europe virtual Symposium to be held on 16 April 2021 on "Novel research findings and perspectives in cancer prevention".

122. IARC is participating in a new project within the framework of the European Union Horizon 2020 Twinning Programme, aimed to increase the research infrastructure capacities (robust pathology and genomic background with state-of-the-art biobanking into a research-ready data structure) in the field of cancer research in Armenia.

123. IARC and partners proposed actions for European countries to adopt in response to the call by WHO to eliminate cervical cancer as a public health problem, while underlining the need for a third edition of the European Union guidelines for integrated primary and secondary prevention of cervical cancer.

124. The report "Recommendations for the Sustainability and Monitoring of the European Code against Cancer" that is the main deliverable of work package 5 of the EU Cancer Joint Action iPAAC has been delivered. Eight recommendations have been proposed for a 5th edition of the Code.

125. IARC was invited to a hearing of the European Parliament's Committee on Employment and Social Affairs (EMPL) in the context of "The Future EU Strategic Framework on Health and Safety at Work".

126. In conjunction with International Women's Day and the launch of the WHO Global Breast Cancer Initiative on 8 March 2021, IARC has released an IARC Evidence Summary Brief about the ABC-DO study. This report, titled "Breast Cancer Outcomes in Sub-Saharan Africa", is the first in a series of scientific Evidence Summary Briefs published by IARC to call attention to the findings of evidence-based studies in key aspects of cancer prevention.

127. On International Childhood Cancer Day on 15 February 2021, IARC joined forces with its partners St. Jude and issued a joint press release on the Childhood cancer initiative and the importance of its work to improve childhood cancer registration systems.

128. On World Cancer Day, 4 February, IARC focused on breast cancer with a full communication package including videos of experts, social media posts, interviews, infographics. A press release stressing the latest global data on breast cancer rose awareness of knock-on issues caused by the disease and provided recommendations on how individuals can reduce their own risk of developing breast cancer.

129. In Lyon, IARC coordinated a virtual and interactive conference with the Centre Léon Bérard. IARC scientists presented key facts about physical activities and cancer and answered questions from the public. The event was promoted in French and in English on social media and a webpage dedicated to IARC research on physical activity was created including scientific articles, recommendations, infographics and several interviews from IARC experts.

130. The IARC Director presented the 171st Cutter Lecture on Preventive Medicine at the Harvard T.H. Chan School of Public Health. The lecture was held online on 11 December 2020.

131. WHO-IARC-IAEA annual consultation, held online on 3 December 2020, on the methodology of imPACT Reviews offered an opportunity to set the cancer agenda within the United Nations system and more broadly among multisectoral stakeholders that support governments globally.

132. IARC supported WHO EURO in promoting the 8th European Awareness Week on Alcohol-Related Harm, which took place on 16–20 November 2020.

133. The 8th National Cancer Center Japan-IARC meeting dedicated to childhood cancers took place remotely on 13 October 2020.

134. The 2nd International German Cancer Research Center (DKFZ) Conference on Cancer Prevention 2020 (CCP2020) took place on 17–18 September 2020. Because of the COVID-19 pandemic, CCP2020 was held remotely via the digital platform iChair.

135. IARC and Cancer Research UK researchers held virtual discussions on 11 September 2020 to identify synergies between the two institutions, exchange on longstanding and current scientific collaborations and pave the way for further strategic partnerships.

136. A new IARC database has been launched as part of the International Cancer Benchmarking Partnership (ICBP) Cancer Survival in High-Income Countries (SURVMARK-2) project. The database presents the distribution of cancer stage at diagnosis across countries, cancer sites, and age groups, and it also reports estimated survival of patients across stage groups.

137. A new website dedicated to the Agency's International Collaboration for Cancer Classification and Research (IC^3R) has been launched.

138. A new website dedicated to the Cancer Risk in Childhood Cancer Survivors (CRICCS) project has been launched. CRICCS is a collaborative population-based project funded by CwC UK. The objectives of the CRICCS project include estimating the prevalence of childhood cancer survivors in Europe and quantifying and characterizing the risk of second primary cancers in childhood cancer survivors in Europe.

139. An institutional Newsletter has been redesigned in 2020 to ensure regular engagements with strategic partners. Six editions were sent in 2020, to 3280 subscribers.

140. IARC has continued to further solidify its data protection and data security measures over the last year, aiming to apply best in class standards at IARC by the end of 2021, inter alia through the following actions:

- Engaged two external data protection consultants to conduct a comprehensive gap and impact analysis, and to recommend measures to further solidify IARC data protection and data security measures;
- IARC established a comprehensive Data Registry for all scientific and non-scientific data stored at IARC;
- IARC worked closely with WHO to finalize the organization's Data Protection Policy;
- IARC is planning to publish an IARC specific annex to the WHO Data Protection Policy applicable to the management of scientific data;
- IARC is engaged with the European Commission and the data protection agencies of Nordic countries to find a long-term solution through an appropriate administrative arrangement to enable data sharing with IARC.

3.4. Resource Mobilization highlights

141. IARC Resource Mobilization strategy highlights four main sources of funding for the Agency. The following specific actions have been taken since the previous Director's Report to accelerate the resource mobilization.

142. One of the objectives of the Agency is to increase the number of Participating States. The Secretariat created a priority list of potential countries and has approached a few of them over the last 12 months:

a. *South Africa.* On 12 August 2020, the Secretariat organized a high-level meeting with the South African Health Minister as well as high-level government officials (Deputy Minister of Health, Director General, Chair and Vice-Chair of the Advisory Committee). During the meeting, the Secretariat highlighted the benefits for South Africa to join IARC as a Participating State. While there was a clear consensus on the value of such proposition, the sanitary crisis does not create a favourable environment for investing in cancer prevention for the moment.

b. *Portugal.* As Portugal is part of the EU tri-presidency, it seemed quite opportune to re-ignite the relationship with this country. Discussions have happened lately with Minister of Science and Higher Education Dr Manuel Heitor, who ensured that IARC application

was on its way to be finalized. He had given the task for finalization of the application to the FCT, Fundação para a Ciência e a Tecnologia.

c. *Mexico.* While contacts have been made with influent Mexican politicians, it appears that the current political environment is not conducive for supporting the IARC case. Hence, while collaborations will continue with Mexican scientists and civil society organizations, IARC might have to wait for a political transition prior to discussing a possible membership.

d. *Kazakhstan.* The Secretariat had a fruitful meeting with the newly established National Research Oncology Centre at the end of December 2020. They have apparently discussed with the Kazakh Ministry of Health about a possible membership to IARC. They have now approached WHO Country Office in Kazakhstan so they can provide support for writing the application letter.

e. *Slovakia*. Discussions have taken placed with officials from the Ministry of Health and from the Permanent Mission, following the presentation made by IARC to the EU Group of the Permanent Missions in Geneva. There are promising avenues for collaborations and a clear understanding at technical level of the importance of becoming an IARC Participating State. IARC will work jointly with the above-mentioned officials to create a strong value proposition to be presented to the Minister.

143. It is worth noting that the cost-benefit analysis done by the potential countries regarding their IARC membership does not seem to play in IARC's favour. Being part of the United Nations system, IARC was created on the idea of providing free and universal access to its research. That is why IARC largest and most reputed programmes are completely open source. This is the case for the Global Cancer Observatory, the Monographs, the Handbooks or the World Cancer Report. Countries have thus the impression that they can access everything for free, and hence are quite reluctant to pay a membership fee to the Agency. The statutory contribution may also seem quite high for smaller or low-income countries. Some of them will have to pay IARC much more than the contribution they give to WHO for example. The Secretariat has thus embarked in a thorough exercise that will help differentiate better between Participating and non-Participating States and plans to present a clear framework of engagement with State (Participating and non-Participating) at the Governing Council in 2022.

144. The second objective of the Resource Mobilization strategy is to increase the proportion of direct funding received by the Agency. Important steps have been taken in this regard:

a. Mid-2020, IARC was officially recognized by the OECD as an ODA-eligible international organization with a coefficient of 51%. That means that 51% of the assessed contribution provided by an IARC Participating State can be recorded as part of the ODA statistics of the Participating State. Moreover, as IARC has a strong focus on cancer research in LMICs, lots of its research projects are fully ODA-compliant and have thus the potential to interest development agencies of many countries.

b. The Secretariat has worked on the creation of a portfolio of research projects for which funds need to be mobilized. As the audience for such LMIC projects differ from the

traditional audience of IARC, it was necessary to ensure projects could be written in a non-technical language, with a focus on the expected results and outcomes. A template was also created to ensure some consistency in the way IARC communicates its needs to potential donors.

c. The Secretariat then did a matchmaking exercise to identify bilateral donors that may be interested in such research projects either because of their focus on health and/or noncommunicable diseases or because of their geographic focus. The objective is now to contact relevant officials in development agencies. As the Secretariat does not have such network with large development agencies, requests are made to Permanent Missions in Geneva and to Scientific and Governing Council members to introduce the Secretariat to their government counterpart working for these institutions. A mapping of philanthropic foundations that could be interested in such projects is also being explored.

d. It is worth noting that the UK Medical Research Council made a generous contribution of one million pounds early in 2020 for three projects in Africa. The Secretariat wants to take the opportunity to thank Dr Palmer for his help in securing this large voluntary contribution.

145. As a third objective, IARC wants to explore novel and innovative fundraising for its flagship projects. This entails the campaign for the Nouveau Centre for which detailed description can be found in Document GC/63/11.

146. IARC has started to engage more meaningfully with non-state actors (NSAs). The partnership with ESMO is a good example of the benefits that IARC could get in engaging in strategic relationship with NSAs. Not only did ESMO provide a financial contribution that helped creating the World Cancer Report learning platform, but ESMO has also been instrumental in promoting the learning platform and ensuring wider visibility especially amongst its member-base of 25 000 oncologists. Some ESMO experts, as experts from other organizations, have also participated in the creation of the content. This strategic engagement goes beyond just the provision of financial resources to the Agency. It clearly enhances the impact IARC can have through its learning platform.

147. The partnerships with Cancer Research UK (CRUK) and with the Terry Fox foundation are also worth mentioning as they are funding fellowships from LMICs and thus help fulfilling the capacity building mission of IARC. Thanks to the support of the Sociedade Beneficente Israelita Brasileira Albert Einstein, IARC has launched the creation of a Latin American Code Against Cancer, similar to the European one.

148. While there has been some willingness from IARC to open itself to innovative ways of engaging with NSAs, the notoriety of the Agency is so weak that the Agency might not be that attractive to NSAs. People as well as companies do not give to organizations they do not know or do not understand. Hence, it is imperative for IARC to communicate and make itself known from a much larger audience. Communication activities must also support fundraising in ensuring IARC positions itself as a trusted, reliable and attractive world leading cancer research centre. Hopefully, the creation of the SEE unit (see above – strengthened partnerships) will help in this regard.

149. This absence of IARC "brand name" among the NSAs community becomes a real challenge as far as the Nouveau Centre campaign is concerned. Based on the three-pronged strategy presented at the last Governing Council, the Secretariat reached out to specific target audiences to try and attract donations. More specifically, between October 2020 and March 2021, the Secretariat sent more than:

a. 250 letters and brochures to influent and potential major donors in Lyon and around (local campaign);

b. 200 letters and brochures, including the Request for Expression of Interest, to corporate entities (in-kind donation campaign);

c. 50 letters to Ultra-High Net Worth Individuals (major gifts campaign).

150. Unfortunately, the response rate has been very low (less than one percent). This could be attributed to three main factors:

1. IARC has a very low brand name.
2. a quasi-inexistent IARC network beyond the medical research one.
3. the COVID-19 sanitary crisis.

151. Since the last Governing Council, the Secretariat was able to secure a very large donation (€1 million) from Mr Alain Mérieux as well as a few other financial and in-kind contributions. However, despite the efforts produced, the results are far below the expectations. The Secretariat is now reviewing its strategy to adapt it to the current environment. A crowdfunding campaign as well as a major donor campaign are being designed now and explained more in details in Document GC/63/11.

3.4.1. Voluntary contributions to IARC (grants and contracts)

152. Voluntary contributions to IARC are obtained mainly through competitive research grants from national and international funding agencies and increasingly through direct funding requests. The success in obtaining peer-reviewed funding is an external indicator of the overall quality of the research at the Agency.

153. These contributions represent a substantial component of the Agency's overall funding to successfully implement its programmes and the MTS. This income supplements the investment made by Participating States through assessed contributions.

154. As part of the objective to increase competitive funding, IARC Secretariat is screening permanently more than 130 funders and has posted on its intranet Resource Mobilization pages 344 funding opportunities in 2020 for IARC colleagues to consider.

155. IARC eligibility under the Horizon Europe programme has also been closely monitored throughout the year. It is now confirmed that IARC has been made eligible again as a Host institution for European Research Council (ERC) grants.

156. The number of new grant applications and funding requests submitted in 2020 reached a total of 236 (Table 9) at the same level as last year. This reflects the commitment of Agency

scientists to secure sufficient extrabudgetary funds to conduct the research defined within the MTS.

157. The Agency signed extrabudgetary contracts amounting to a total value of €20.07 million in 2020; of which €12.34 million was attributed to IARC. The large proportion of the total value of signed contracts going to IARC collaborators indicates that Agency participation in projects can bring benefits to a wide network of institutions and organizations at national levels.

158. Overall, the figures on extrabudgetary contracts represent a notable achievement given the increasingly competitive nature of research funding, the restrictions faced by the Agency in terms of eligibility for funding sources, and the pandemic situation leading to the shift of funders' priority toward COVID-19 research projects.

159. Voluntary Contribution expenditure in 2020 was €13.02 million. This represented approximately 37% of the overall combined expenditure from Regular Budget and Voluntary Contributions. This proportion increased to 43% when focused on the expenditure on the scientific programme only as shown in Figure 4.

160. About 81% of contributions came from the following 13 funders, as shown in Figure 5:

- National Institutes of Health/National Cancer Institute (NIH/NCI, USA),
- Medical Research Council (MRC, UK),
- Institut National Du Cancer (INCa, France),
- Compagnie Mérieux Alliance (CMA, France)[2],
- National Institutes of Health/National Institute of Dental and Craniofacial Research (NIH/NIDCR, USA),
- World Cancer Research Fund International (WCRF, UK),
- Agence Nationale de la Recherche (ANR, France),
- Susan G. Komen Breast Cancer Foundation (Komen, USA),
- Agence nationale de sécurité sanitaire de l'alimentation, de l'environnement et du travail (ANSES, France),
- St. Jude Children's Research Hospital (STJUDE, USA),
- Children with Cancer UK (CwC, UK),
- Worldwide Cancer Research (WCR, UK),
- Neuroendocrine Tumor Research Foundation (NETRF, USA).

3.4.2. Implementation of the Framework of Engagement with Non-state Actors (FENSA) at IARC

161. During its 60th session in May 2018, the Governing Council reviewed the "Recommendations from the Governing Council Working Group on implementation of FENSA" (Document GC/60/17) and noted the "IARC-Specific Guide on Engagement with Non-State Actors" prepared by the GC Working Group. Following Resolution GC/60/R17, the Secretariat is requested to annually report on IARC engagement under FENSA as part of the Director's Report.

[2] Contribution from CMA was designated for the IARC Nouveau Centre project.

162. In August 2020, IARC contributed to the report presented at the 148th session of the WHO Executive Board by providing information on the implementation of FENSA at IARC (document EB148/39). The information provided also highlighted the challenges encountered at IARC in this regard, mainly in terms of workload, timelines, donor recognition and impact on IARC relationship with its scientific partners.

163. WHO and IARC are aligned in their approach of implementing FENSA, using two levels of due diligence and risk assessment, by distinguishing between low-risk simplified procedures and standard procedures prior to engaging with NSAs.

164. The identification of risk factors does not automatically exclude the possibility of engaging with NSAs. Determination of whether a potential conflict of interest exists is made taking into account the specificities of the project at stake. The risks are balanced against the expected benefits for IARC, also considering the foreseeability of the risk.

165. Under the simplified procedure, due diligence and risk assessment are conducted by the Resource Mobilization and Management Office (RMO) on potential donors and project partners related to resources (competitive grants and direct funding), and by the Ethics and Compliance Officer in collaboration with the Director of Administration and Finance and the Director on other types of engagement (technical collaboration, participation, evidence, and advocacy) with NSAs. Under the standard procedure, complex cases and those potentially presenting a higher reputational risk are referred to WHO Due diligence And Non-State actors (CRE/DAN) team for their assessment and recommendations. In such cases, official documentation (by-laws, governance and financial reports) is sought from the for-profit NSAs.

166. In 2020, IARC applied the low-risk simplified procedure for more than 620 NSAs with whom IARC engaged either through funding applications and agreements (594 NSAs) or through other types of engagement (29 NSAs). Internal due diligence evaluations and risk assessments were conducted to screen for potential reputational risks, by scrutinizing the NSAs' legal status, governance and sources of funding. Information was sought from various publicly available sources such as reports and media. Reference was made to the WHO Register of Non-State Actors when information on the entity was available.

167. In 2020, IARC applied the standard procedure for 37 complex or potentially high-risk engagements with NSAs. The WHO CRE/DAN team has also provided guidance and recommendations on the parameters for engagement with private sector NSAs in the framework of the fundraising campaign for the Nouveau Centre project.

168. IARC maintains its own due diligence and risk assessment Register where it keeps profiles of all the NSAs it has engaged with since January 2017; more than 920 profiles had been uploaded by the end of 2020. Signed Tobacco and Arms disclosure forms from NSAs, if available, are also kept in this Register.

169. Despite its inherent challenges, FENSA provided the Agency with the opportunity to further expand its engagement with NSAs, including the private sector, and to increase transparency and accountability, inter alia towards WHO Member States and IARC Participating States.

4. MANAGEMENT

4.1. Medium-Term Strategy (MTS) 2021–2025

4.1.1. Development of the IARC Medium-Term Strategy (MTS) 2021–2025

170. The MTS 2021–2025 seeks to position IARC as the leading global cancer authority, promoting scientific excellence in and improved knowledge of cancer prevention. As the cancer research agency of WHO, IARC is focused on cancer prevention research.

171. IARC will focus its scientific and research work on areas where it has the greatest public health impact and matters the most to the ultimate beneficiaries, i.e. individual human beings. This aspiration has driven the identification of IARC strategic priorities.

172. The prioritization process included consultations with a broad set of stakeholders: IARC personnel, key experts from the international cancer control community, WHO counterparts, and IARC governing entities. As a result, two interlinked categories of priorities were identified: fundamental scientific priorities and emerging priorities.

173. As spelled out in the MTS 2021–2025 (Document GC/63/6A), the strategic priorities for IARC are:

- Continue the four fundamental priorities of cancer prevention research, namely:
  - Data for Action (describe the occurrence)
  - Understanding the Causes
  - From Understanding to Prevention (Implementation of Cancer Research)
  - Knowledge Mobilization
- Gradually strengthen IARC engagement in the three emerging priorities identified, with a stronger emphasis on implementation research:
  - Evolving cancer risk factors and populations in transition
  - Implementation research
  - Economic and societal impacts of cancer
- Clearly and effectively communicate its mandate, role and position to relevant stakeholders and the lay audience.
- Strengthen targeted outreach efforts and visibility.

174. To realize its mission, IARC will channel its strengths and competencies towards a stronger public health impact.

4.1.2. Organizational changes

175. The year 2021 is a transition year, during which the new IARC Organizational Structure will be put into practice to support the gradual implementation of research priorities as spelled out in the new MTS 2021–2025.

176. The new Organizational Structure of the Agency, effective as from 1 January 2021, is shown in Figure 6.

177. IARC scientific work is organized under four Pillars – as a conceptual framework to better communicate and position IARC in the international cancer research landscape. These four Pillars correspond to the four fundamental priorities of cancer prevention research.

178. Branches are organizational and managerial units within IARC, associated with one of the four Pillars. Branches represent the overall organization and management of the Branch's scientific work. Branches are led by a Branch Head, with Deputy Branch Head(s) co-leading the Branch. Branch names, as well as names of Branch Heads and Deputy Branch Heads are reported in the Figure 6.

4.1.3. Conceptual framework to assess progress in the implementation of the new Medium-Term Strategy 2021–2025

179. Following the implementation of the new structure, IARC will be assessing methodologies to measure progress of the new MTS 2021–2025.

180. *Key Performance Indicators* (KPIs) will be defined according to the SMART approch, standing for Specific, Measurable, Achievable, Relevant and Time-bound. They will cover the four dimensions of the evaluation framework: inputs, outputs, outcomes and impacts. The macro-level KPIs will be aggregated in the balanced scorecard to enable global monitoring at the scale of the Agency. These indicators will also be translated into personal KPIs, to ensure ownership and implementation by all personnel within IARC. The development of these new KPIs will be communicated as progress is made.

4.2. Personnel

181. As of 31 March 2021, there were a total of 345 personnel, 238 staff members and 107 ECVS, contributing to the activities at the Agency. For comparison, the number of personnel at the Agency in 2018, 2019 and 2020 was 355, 358 and 366 respectively.

182. The ECVS include 10 Trainees and Master's students, 21 Doctoral students, 55 Postdoctoral scientists (of whom 9 are Fellows covered by the Learning and Capacity Building Branch (LCB) regular and external budget, and 5 are former Fellows extended by the Branch's external budget), 12 Visiting Scientists, and nine Senior Visiting Scientists.

183. Of the 222 fixed-term staff, a decrease of 10 compared to 2020, 98 (44%) are Professional staff, a decrease of 5, (47 men; 51 women) and 124 (56%) are General Service Staff, a decrease of 5 (34 men; 90 women); in addition, there are 16 temporary staff members, an increase of 8. Of the 98 Professional staff, 14 (increase of 1) are in the support services. This compares to 2020, 232 fixed-term staff, 103 (44,40%) were Professional staff 50 men; 53 women), and 129 (55,60%) were General Services (35 men; 94 women); in addition, there were 8 temporary staff members.

184. The number of staff positions on the regular budget has decreased, with a total of 154.20 approved staff posts in 2020–2021 funded through the assessed contributions of Participating States, compared with 158.20 posts in 2018–2019.

185. Staff categories by funding sources are indicated in the Figure 7. 34% of staff from the General Services and 28% of P staff are covered by the regular budget.

186. The total evolution of staff positions funded by the regular budget since 2015 to date is reported in the Table 10 and in Figure 8 a, b, and c by types of position. The number of staff positions funded by the regular budget has decreased since 2015 (Figure 8a), the number of temporary positions has increased in 2021 (Figure 8b), and the number of P staff has slightly decreased these last years (Figure 8c).

187. As noted above, the Agency has slightly more women than men in Professional staff positions (52% as of 31 March 2021). At the senior level (P4 and P5 and above), the proportion is significantly lower (42% P4, 18% P5 and above).

188. Overall, IARC staff members come from 37 different countries worldwide, as first nationality with a total of 55 nationalities represented at the Agency. Of the staff on fixed-term contracts, 94.60% are from Participating states (210 out of 222).

189. The period since the last Governing Council session has been characterized mostly by the resignation of several staff members, as reported below.

Resignation of the following staff members:

Mr Christian Mah (SSR/BFO)

Ms Sylvaine Barbier (EDP/PRI)

Ms Charlotte Volatier (DIR/LSB)

Dr Magali Olivier (MCA/MMB)

Mr Danil Kister (DIR/COM)

Dr Estelle Chanudet (GEN/GEP)

Dr Vitaly Smelov (EDP/PRI)

Fixed-term appointments:

Nicolas Alcala (GEN/GCS)

Claire Salignat (SSR/BFO)

Internal transfers:

Dr Veronique Bouvard (ESC/IHB)

4.3. IARC Groups and Programmes

190. The IARC Equity and Diversity Advisory Group (EDAG) (formerly Women in Science Advisory Group) is working to improve equity and diversity at IARC, by reviewing and identifying actionable areas to facilitate inclusion and reduce operational barriers to representation within the Agency. The EDAG identifies and develops practical tools and work practices to encourage and allow access and representation across IARC operations and its work.

191. In 2020, efforts were dedicated to support personnel in achieving their career growth and development plans, and to promote work-life balance and well-being of all personnel as part of the Quality of Work Life initiative, launched in 2019. Based on the outcome of the five brainstorming group discussions held in 2019, five posters were prepared and disseminated, each representing one value of the IARC/WHO Values Charter as interpreted by the IARC personnel.

192. As part of the Learning and Development (L&D) Framework implementation, the overall participation rates in various types of recommended face-to-face/webinar and online L&D activities reached 72% of the personnel in 2020. As a response to the COVID-19 pandemic, a specific list of online courses and webinars was advertised/organized by HRO-ETR in order to provide support to all personnel on how to face challenges of remote working and practice career reflection in challenging times. Management and leadership through uncertainty was also addressed by online learning offerings with special focus on how to initiate and facilitate meaningful career conversations with team members. A total of 28 face-to-face or webinar sessions were advertised and organized internally by HRO-ETR during 2020 and completed by 363 participants, as reported in Table 8.

193. A specific short-term developmental assignment established between WHO/HQ and IARC aimed to adapt ilearn (as WHO global learning platform) to the Agency's needs and consolidate ilearn implementation at IARC as a Learning Management System (LMS). The compliance rate for the four online mandatory trainings administered and monitored through ilearn was above 89% at the end of 2020. In addition, more than 300 online courses were completed during 2020 through ilearn.

194. In 2020, the IARC Reward and Recognition Programme was revised by integrating IARC/WHO Values Charter into the programme. In the framework of the revised programme, four Values Champion awards were introduced with two awards having joint winners. The champions were recognized as those who made an outstanding contribution to the Agency's success by displaying behaviours aligned with the IARC/WHO Values Charter in their work at IARC during 2019 and 2020.

195. During 2020 several psychosocial training and coaching were put in place to support the personnel in dealing with issues related to confinement and the pandemic. These sessions were individual and group sessions and provided in English and French and facilitated by SHW in WHO Geneva and IARC Medical Services.

4.4. Update on the Nouveau Centre

196. A detailed update on the Nouveau Centre and the Nouveau Centre fund-raising campaign is provided in Document GC/63/11.

197. The building work has progressed well: the structure from the basement up to the third floor has been completed.

198. Group visits for IARC personnel have been organized every week starting at the end of January 2021.

199. Several types of fundraising for the Nouveau Centre are discussed in Document GC/63/11 and the need to identify more sources of philanthrophy is emphasized.

ANNEX

Tables and Figures *are listed in order of appearance in the text*.

Table 1: Total article output and percentage of peer-reviewed papers

Year	Peer-reviewed articles	Reviews	Other	Total
2016	290 (85%)	28	23	341
2017	291 (83%)	25	36	352
2018	284 (81%)	37	30	351
2019	292 (79%)	43	36	371
2020	387 (82%)	43	40	470

Table 2: IARC h-index for 2020 and for 5-year period (2016-2020)

	2020 output	5-year output (2016–2020)
Number of articles	470	1994
Sum of the times cited	2105	93082
Average citations per item	4.5	46.7
h-index	18	91

Table 3: IARC top 10 most cited articles published in 2020

Reference	Total times cited (as of 17 March 2021)
Campbell PJ, Getz G, Korbel JO, Stuart JM, Jennings JL, Stein LD, et al. Pan-cancer analysis of whole genomes. Nature. 2020;578(7793):82-93.	256
Arbyn M, Weiderpass E, Bruni L, de Sanjose S, Saraiya M, Ferlay J, et al. Estimates of incidence and mortality of cervical cancer in 2018: a worldwide analysis. Lancet Global Health. 2020;8(2):E191-E203.	204
Kowalski LP, Sanabria A, Ridge JA, Ng WT, de Bree R, Rinaldo A, et al. COVID-19 pandemic: Effects and evidence-based recommendations for otolaryngology and head and neck surgery practice. Head and Neck-Journal for the Sciences and Specialties of the Head and Neck. 2020;42(6):1259-67.	105
de Martel C, Georges D, Bray F, Ferlay J, Clifford GM. Global burden of cancer attributable to infections in 2018: a worldwide incidence analysis. Lancet Global Health. 2020;8(2):E180-E90.	88
Culp MB, Soerjomataram I, Efstathiou JA, Bray F, Jemal A. Recent Global Patterns in Prostate Cancer Incidence and Mortality Rates. European Urology. 2020;77(1):38-52.	64
La Merrill MA, Vandenberg LN, Smith MT, Goodson W, Browne P, Patisaul HB, et al. Consensus on the key characteristics of endocrine-disrupting chemicals as a basis for hazard identification. Nature Reviews Endocrinology. 2020;16(1):45-57.	50
Kontou PI, Braliou GG, Dimou NL, Nikolopoulos G, Bagos PG. Antibody Tests in Detecting SARS-CoV-2 Infection: A Meta-Analysis. Diagnostics. 2020;10(5):15.	43
Arnold M, Abnet CC, Neale RE, Vignat J, Giovannucci EL, McGlynn KA, et al. Global Burden of 5 Major Types of Gastrointestinal Cancer. Gastroenterology. 2020;159(1):335-+.	41

Reference	Total times cited (as of 17 March 2021)
Brisson M, Kim JJ, Canfell K, Drolet M, Gingras G, Burger EA, et al. Impact of HPV vaccination and cervical screening on cervical cancer elimination: a comparative modelling analysis in 78 low-income and lower-middle-income countries. Lancet. 2020;395(10224):575-90.	41
Canfell K, Kim JJ, Brisson M, Keane A, Simms KT, Caruana M, et al. Mortality impact of achieving WHO cervical cancer elimination targets: a comparative modelling analysis in 78 low-income and lower-middle-income countries. Lancet. 2020;395(10224):591-603.	41

Figure 1: Altmetric database summary report of IARC 2020 output

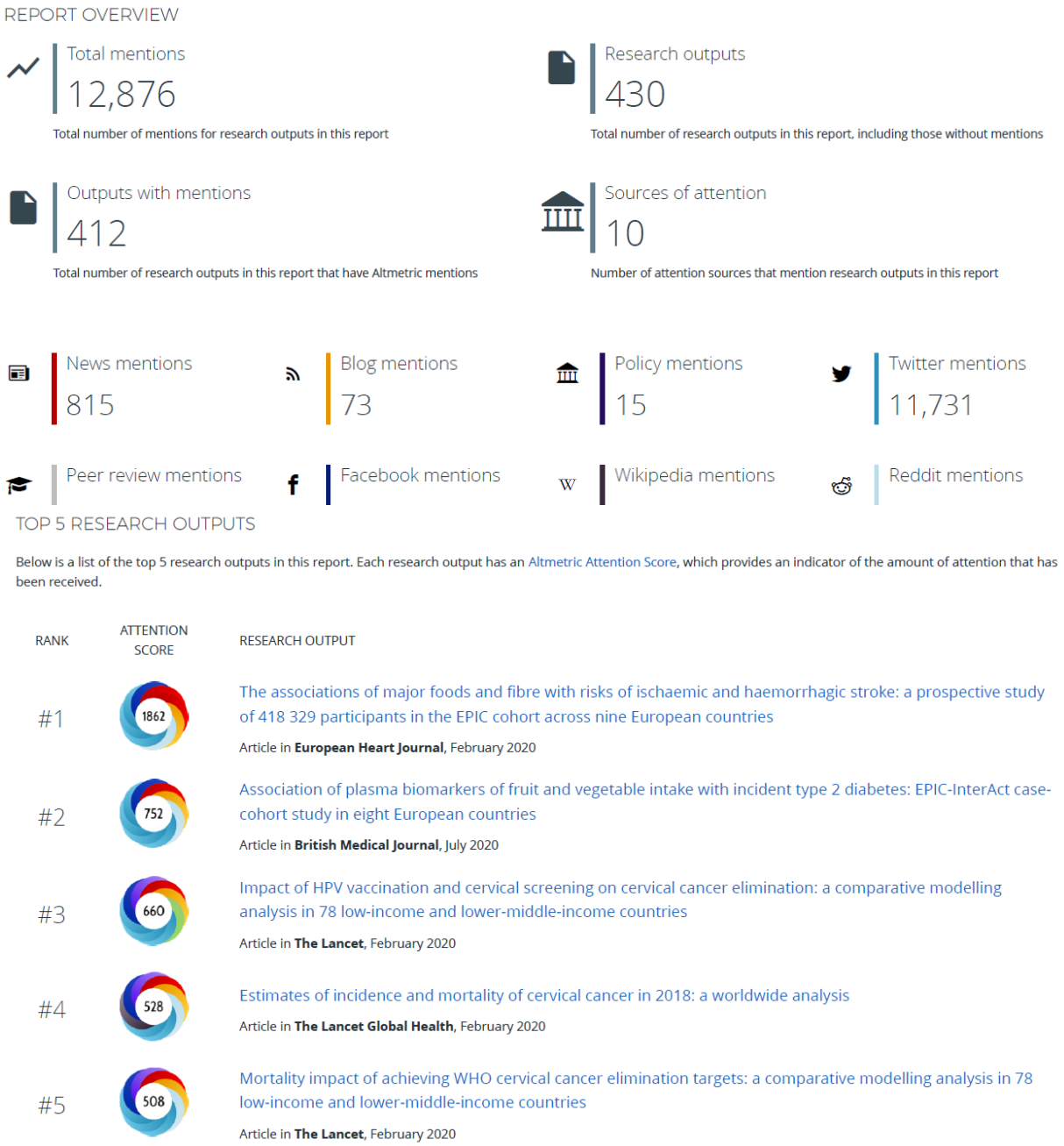


Table 4: Visitors to IARC websites in 2020 (in brackets corresponding figures in 2019)

Website	Total visitors	Average visitors/day	Total visits	Average visits/day
www.iarc.fr IARC Publications	437 173 (417 308) 288 726 (223 117)	1197 (1143) 718 (497)	571 930 (559 365) 377 211 (285 794)	1567 (1533) 1030 (783)
Monographs	221 318 (272 999)	748 (748)	340 454 (422 012)	933 (1156)
Global Cancer Observatory	413 936 (345 379)	1134 (946)	707 039 (627 367)	1937 (1705)

Visitor: A user that visits a given site. The initial session by an individual user during any given date range is considered to be an additional visit and an additional visitor. Any future sessions from the same user during the selected time period are counted as additional visits, but not as additional visitors.

Visit: The number of times a visitor has been to the site (number of individual sessions initiated by all visitors).
If a user is inactive on the site for 30 minutes or more, any future activity will be attributed to a new session.

Figure 2: Number of visitors to the IARC website in 2020

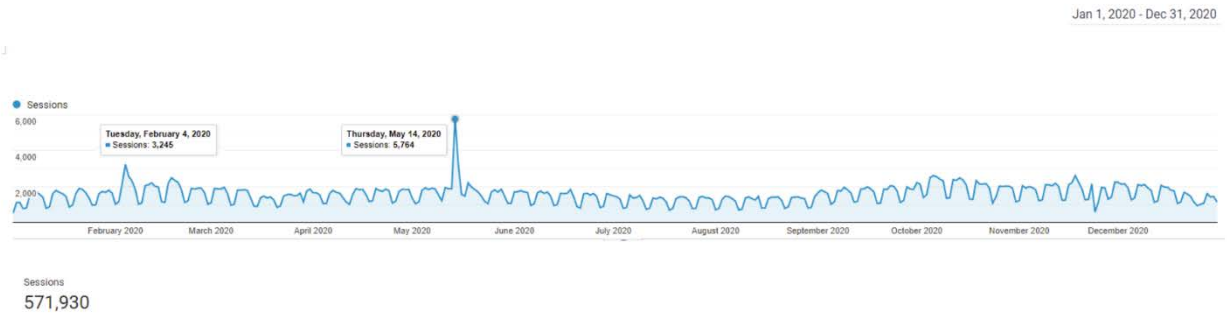


Figure 3: Number of visitors to the IARC Monographs in 2020

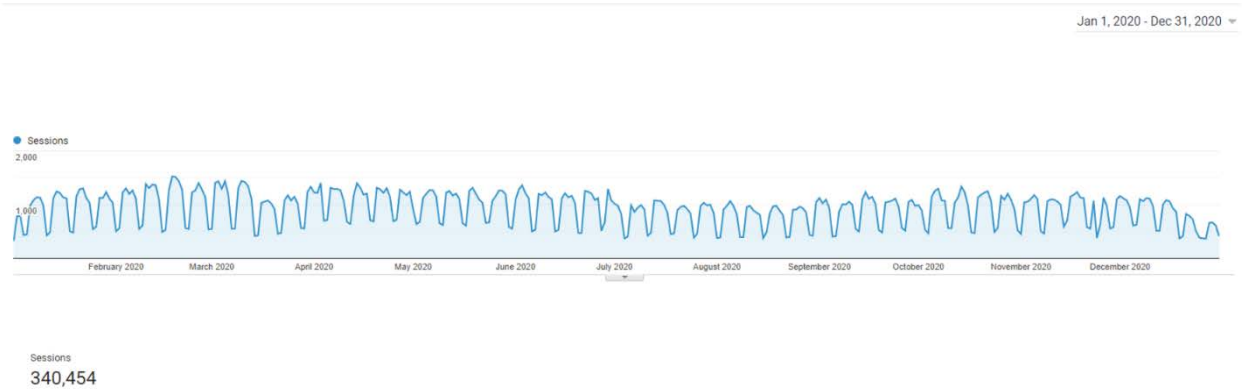


Table 5: Most popular downloads from the IARC Publications website ranked by 2020 data

Item	2020	2019
Scientific Publication 163: Molecular Epidemiology: Principles and Practices	61 348	46 080
Le cancer dans le monde 2003	50 685	12 890
Monographs Volume 71: Re-evaluation of Some Organic Chemicals, Hydrazine and Hydrogen Peroxide (Part 1, Part 2, Part 3)	45 060	18 186
Technical Publication 45: Colposcopy and Treatment of Cervical Precancer	43 387	47 448
Technical Report 10: Manual for Cancer Registry Personnel	35 087	16 229
Monographs Volume 82: Some Traditional Herbal Medicines, Some Mycotoxins, Naphthalene and Styrene	31 038	16 000
IARC Handbooks of Cancer Prevention Volume 8: Fruit and Vegetables	31 073	15 170
Cancer Epidemiology: Principles and Methods	29 862	8 222
Cancer Registration: Principles and Methods	29 391	18 628
Monographs Supplement 7: Overall Evaluations of Carcinogenicity: An Updating of IARC Monographs Volumes 1–42	25 001	20 132
Monographs Volume 79: Some Thyrotropic Agents	21 844	14 331
Monographs Volume 108: Some Drugs and Herbal Products	21 293	21 329

Table 6: Education and Training – IARC Fellowships

Year	No. of IARC Fellowships awarded[a]	No. of Fellows from LMICs
2014	21 (13 + 8)	12
2015	22 (10 + 12)	13
2016	17 (7 + 10)	10
2017	14 (7 + 7)	12
2018	7 (0 + 7)	6
2019*	7 (7 + 0)	7
2020*	9 (2 + 7)	9

[a] *Post-doctoral fellowships (new + second year renewals), including IARC-Australia and IARC-Ireland Fellows in 2013–2015*

**Since 2019, only candidates from LMICs have been eligible to apply.*

Table 7: Education and Training – IARC Courses

Year	No. courses organized	No. different countries	No. courses in LMICs	No. participants
2013	15	7	8	566
2014	17	14	12	576
2015	24	14	11	647
2016*	36	23	19	1410
2017	32	16	15	1324
2018	26	14	11	763
2019	28	18	15	1083
2020	14	Online		860

** Figures from 2016 differ slightly from those presented in a previous Director's report to the GC (Document GC/59/2), as some additional data were received after its conclusion.*

Table 8: Learning and Development Framework – completed face-to-face courses and webinars in 2020 (in brackets corresponding figures in 2019)

Type of training	No. of training session	No. of participants	
		Staff members	ECVS
Core competencies training	16 (9)	156 (99)	56 (23)
Job-specific training	6 (31)	32 (137)	53 (130)
Managerial and leadership training	6 (0)	66 (0)	0 (0)
Total	28 (40)	254 (236)	109 (153)

Table 9: Extrabudgetary funding

Year	Number of applications	Number of signed contracts	Total value of signed contracts[a] (in Euros)	Value attributed to IARC (in Euros)	Voluntary contribution expenditure[b] (in Euros)
2016	183	65	28 309 483	10 244 705	11 413 516
2017	193	65	38 931 975	11 855 145	11 357 348
2018	204	68	20 987 750	9 183 834	13 362 692
2019	236	81	41 488 350	12 408 032	14 365 018
2020	236	94	20 072 571	12 337 370	13 017 438

[a] *The figures show total budgets of all grants signed irrespective of whether IARC is coordinating the studies or not.*
[b] *Voluntary contribution expenditure as reported in the IARC Financial Report and Financial Statements, which includes amount passed through to partners for IARC coordinated projects.*

Figure 4: Percentages of expenditure on Regular Budget and Voluntary Contributions

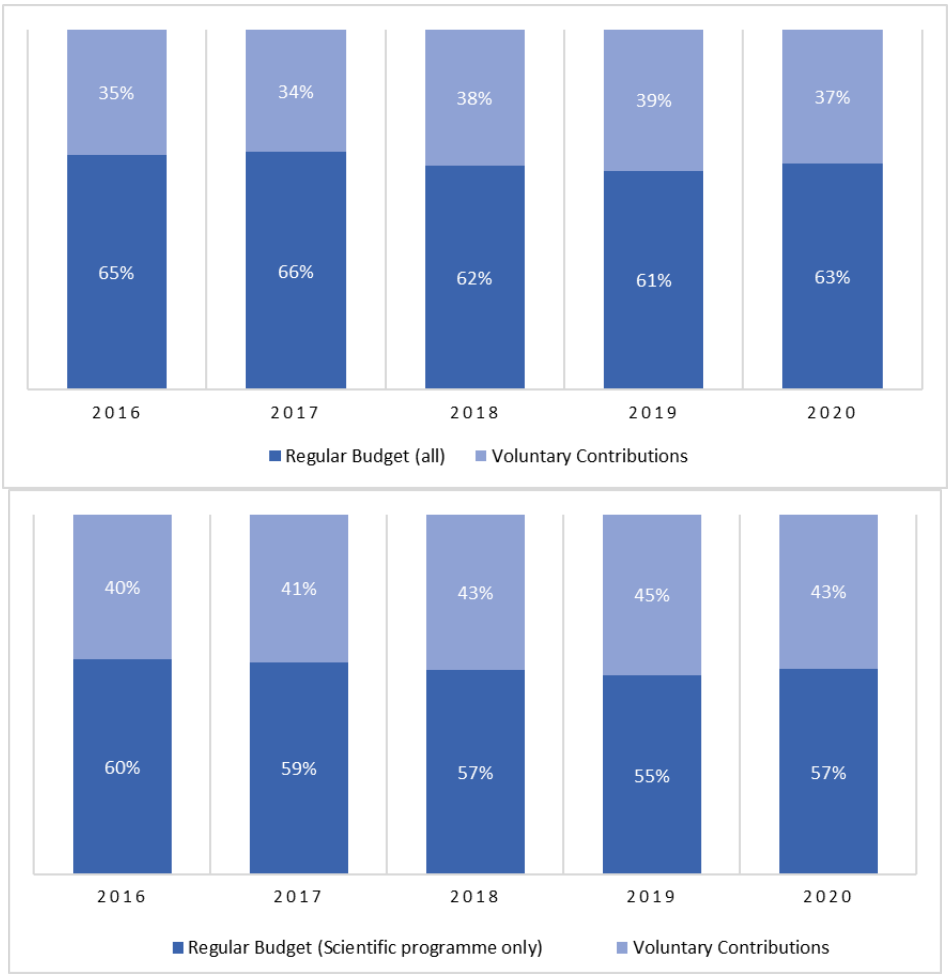


Figure 5: Value of contracts signed in 2020 and top 13 funders (amount in million euros)

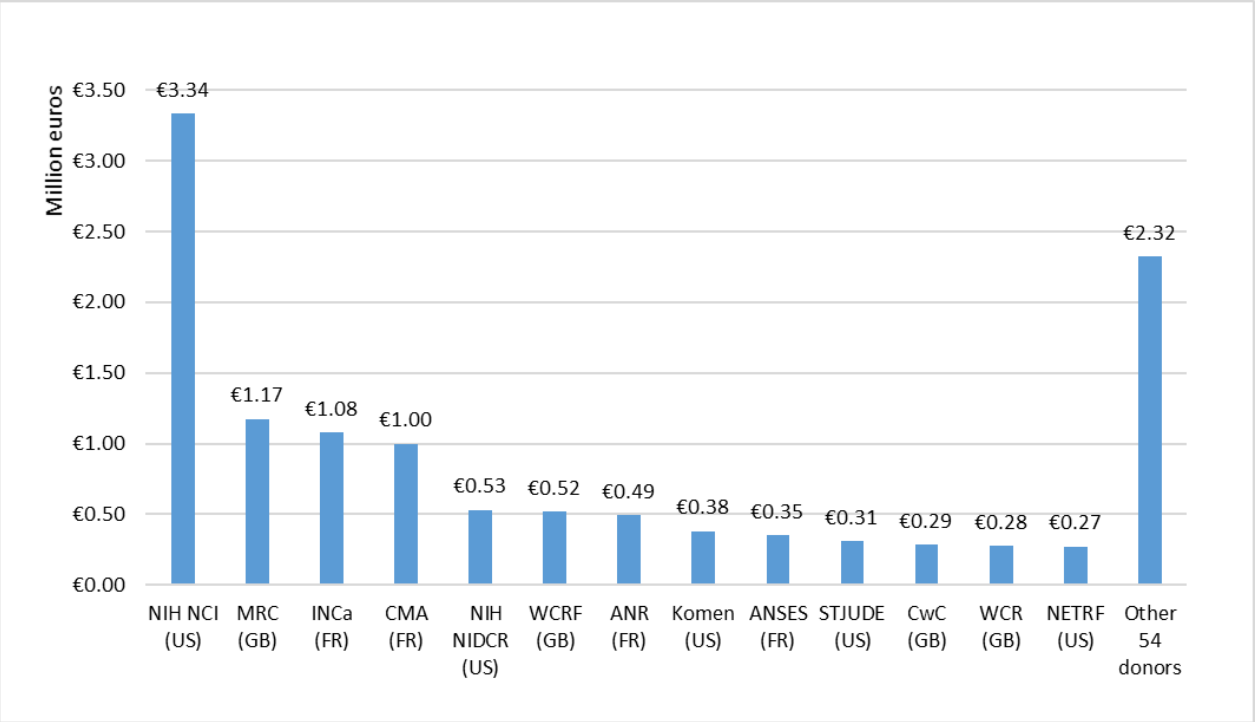
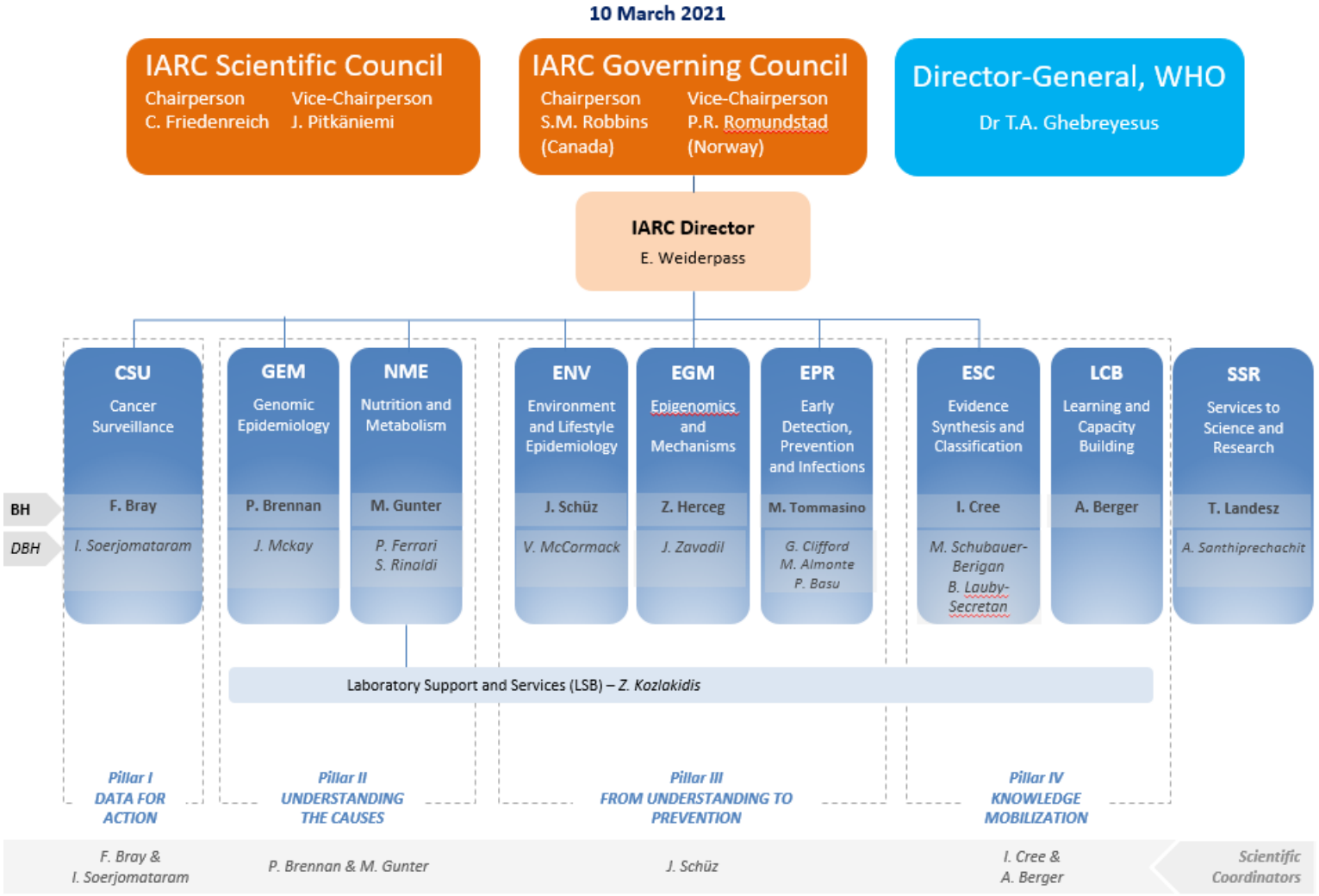


Figure 6: IARC Organizational Structure



BH = Branch Head
DBH = Deputy Branch Head

Figure 7: Staff categories by funding sources

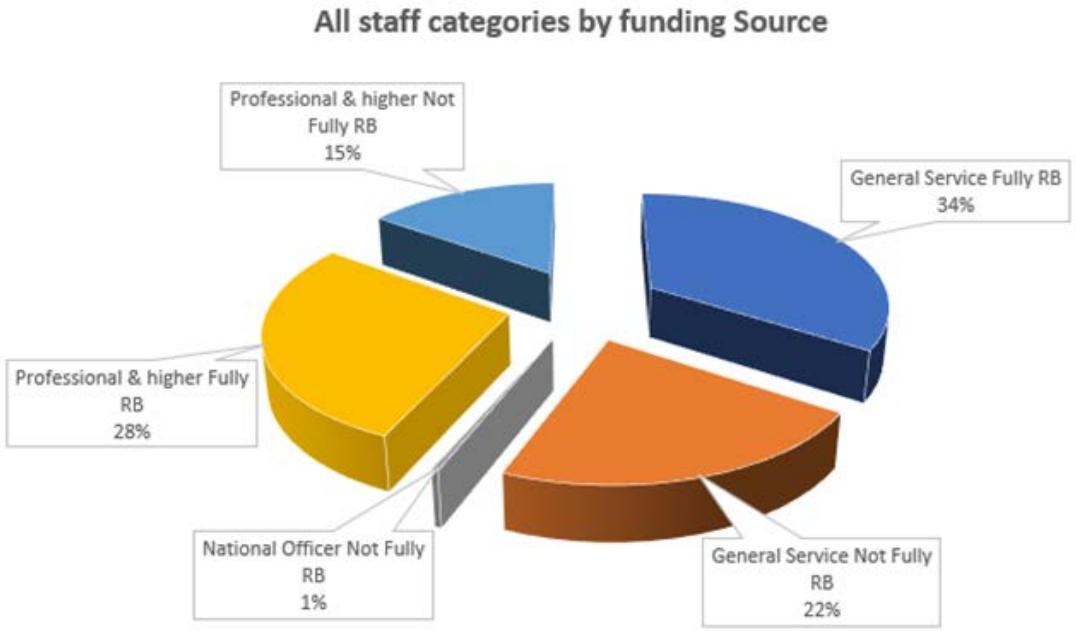


Table 10: Evolution of staff positions since 2015 to date

Year	Total Staff	P Total	P Male	P Female	GS Total	GS Male	GS Female	Fixed Term	Temporary	RB Funded
2015	228	99	45	54	120	30	90	219	9	158.28
2016	235	103	49	54	118	29	89	221	14	158.20
2017	241	106	48	58	125	32	93	231	10	158.20
2018	237	102	49	53	131	33	98	233	4	158.80
2019	249	106	50	56	134	38	96	240	9	158.80
2020	240	103	50	53	129	35	94	232	8	154.20
2021	238	98	47	51	124	34	90	222	16	154.20

Figure 8: Evolution of all staff types since 2015

Figure 8a: Staff funded on the Regular Budget

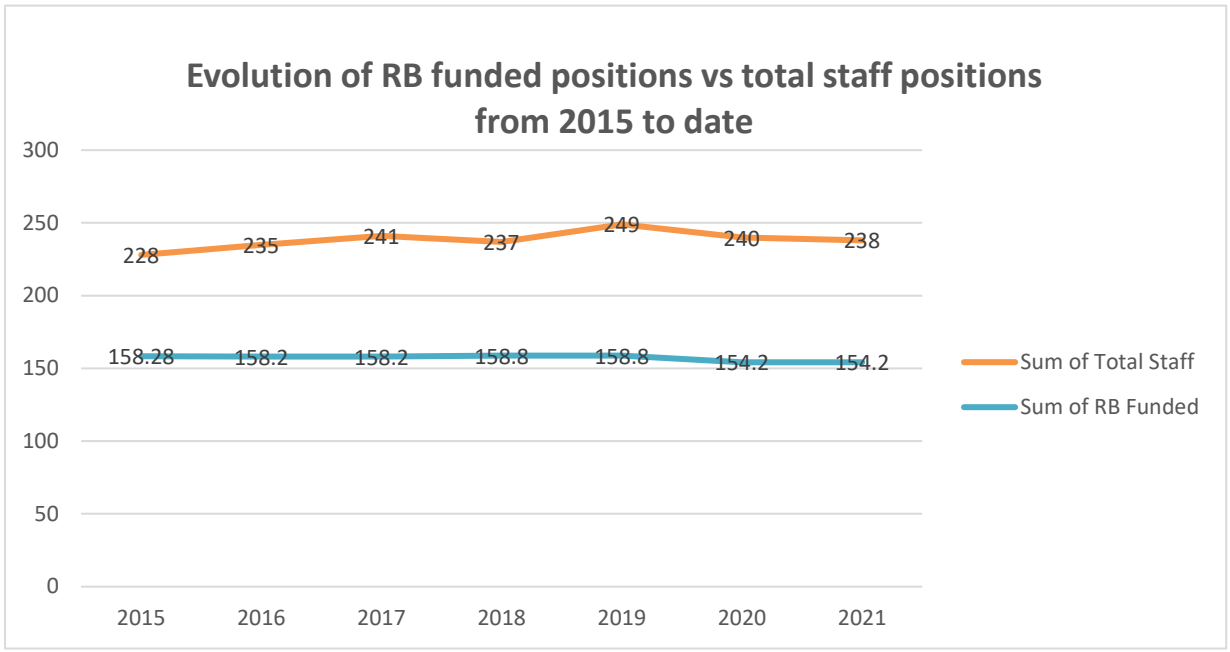


Figure 8b: Temporary versus Fixed-Term staff

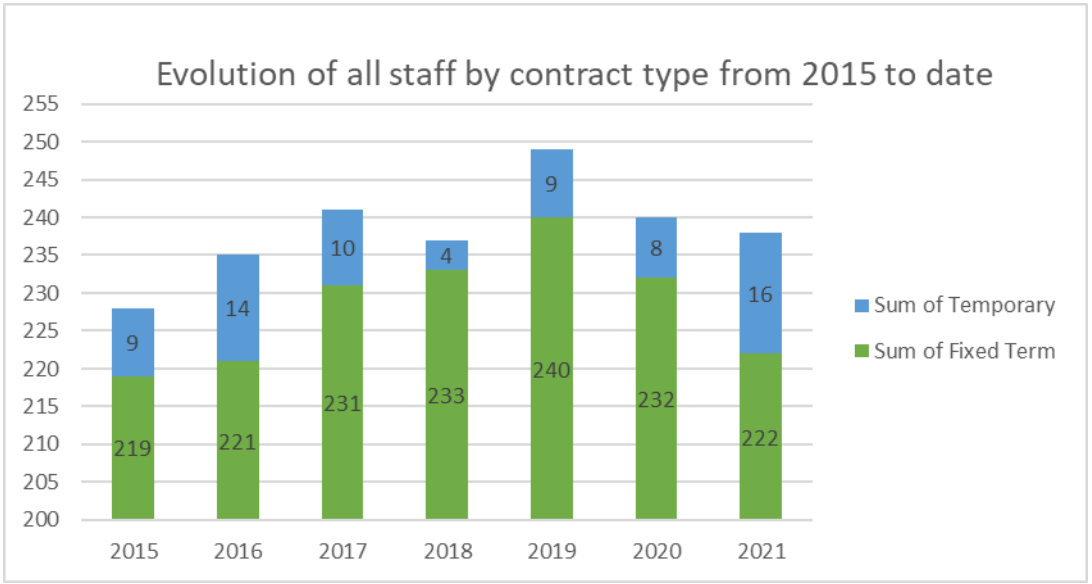


Figure 8c: General Services (GS) versus Professional (P) staff