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REPORT OF THE ACTIVITIES OF THE EDUCATION AND TRAINING GROUP (ETR)

Education and Training Group (ETR)
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A. Introduction and structure

1. Education and training in cancer research is one of the statutory functions of the Agency. For five decades, IARC's Education and Training programme has made a substantial contribution to the development of cancer research in many countries with special emphasis on low- and middle-income countries (LMICs), through the training of cancer researchers, in particular in the fields of cancer epidemiology and mechanisms of carcinogenesis.

2. The ETR Group was established by the Director in 2010 in order to enhance strategic developments in capacity building and to create a focal point for all related activities across the Agency. A new professional post was created to lead the Group.

3. ETR is under the direction of an Education and Training Officer, with two Senior Programme Assistants managing the fellowship and courses programmes, in close collaboration with the Scientific Fellowship Responsible Officer and Scientific Directors of the Summer School modules, as well as all colleagues supervising Early Career Scientists and/or organizing courses. Redistribution of staff functions in the Director's Office allowed ETR to benefit from additional support, with the creation of a secretarial position in 2014. In October 2017, following the retirement of the Head of the Laboratory Services and Biobank (LSB), a project assistant moved from LSB to ETR to work specifically on an EU-funded project aiming at building biobanking capacity. During the reporting period, Dr R. Saracci, Senior Visiting Scientist, has contributed to the work of the Group by providing advice and support as well as setting up and conducting generic courses. The current organigram of ETR is shown in Appendix 1.

4. The ETR activities and new initiatives have followed the strategy presented and discussed during the 49th Session of the Scientific Council in January 2013 (available on the IARC Governance website, see Document SC/49/7). Driven by the research priorities and training mandate of the Agency, the strategy has guided the evolution of IARC Education and Training activities, towards the use of innovative e-Learning tools, close liaison of ETR with IARC research Groups for advice and coordination, as well as developing partnerships with external organizations sharing the same dedication to capacity building in order to leverage additional support to training initiatives.

5. Suggestions from the previous review by the Scientific Council were taken into account while shaping the activities of the programme, such as, for example, the creation of a Junior Career Scientist Association, to utilize the feedback from Early Career Scientists Fellows to improve their training experience at IARC or to evaluate the outcomes of courses.

6. The following presents the key achievements of the IARC's Education and Training programme based on Resolution GC/57/R6 "[...] AGREES that the production of the Biennial Report of ETR activities be aligned to that of the IARC Biennial Report and NOTES that the next ETR Biennial Report should cover the years 2016–2017". In order to maintain continuity of reporting, the document also covers 2015 activities.

7. It should be noted that whereas ETR oversees activities of the Agency in these matters, several initiatives are led by the research Groups.

B. IARC Research Training and Fellowship Programme

a) Background and objectives

8. The main objective of the Research Training and Fellowship Programme is to provide opportunities for researchers and other professionals at different levels of their career to be trained in fields of cancer research closely associated with the Agency's missions and activities.

9. The specific aims of the Programme are as follows:

- To provide postdoctoral scientists from any country with training at IARC in those aspects of cancer research related to IARC's mission, in order to build a new generation of cancer researchers and reinforce cancer research worldwide, especially in LMICs.
- To attract top international cancer researchers to spend various periods of time contributing to the Agency's programmes and to making IARC an ideal environment for education, training and exchange.
- To develop new opportunities for further professional development for Early Career Scientists and other public health professionals in order to support and promote the development of cancer research and prevention, especially in LMICs.
- To ensure the quality of the training/hosting environment for trainees, students, Early Career and Visiting Scientists.

10. It is to be noted that, although on a more limited scale, the Agency also contributes to pre-doctoral training within specific agreements with Lyon Universities or others institutions at national or international level.

b) Activities and Results

- **Postdoctoral Fellowships**

11. As presented in Table 1 of Appendix 2, Fellowships were awarded in 2015–2017 to 24 Postdoctoral Fellows from 21 different countries, 78% from LMICs. These awards were made from a total of 228 applications, 87 of which were eligible to be considered for support. A research Return Grant of US$ 10 000 was awarded to five Fellows from five LMICs to establish their research activity in their own country.

12. A survey was carried out in 2015, targeting the 29 Fellows supported by the first COFUND grant from the European Commission covering the period 2010–2014. Over 95% of Fellows completed an online questionnaire. Of the 22 replies corresponding to scientists having ended their fellowships at the time of the survey, more than 90% were working in the public sector, with two thirds still active in cancer research. About one third of them were managing their own group. The Fellows from LMICs who benefited from a Return Grant indicated that this benefited their career as well as their institution (promotion, related funding, continuation of the project initiated at IARC, etc.). More than 75% of Fellows continued to work with IARC at the end of their fellowship and over 80% still maintained international collaborations derived from their Fellowship (in addition to collaboration with IARC). More than 80% of Fellows considered the Fellowship to be either decisive or helpful for their career. The areas of their fellowship training and experience that had the most impact on their career were their collaborators (inside and outside of IARC), the scientific environment and the opportunities for international collaborations. Although of small scale and therefore to be interpreted with some caution, the results were consistent with data

collected in 2012 and earlier, documenting outcomes of the IARC Fellowship Programme as a fantastic opportunity for early career cancer researchers to assemble complementary skills in preparation for a high-level scientific career, contributing to the production of evidence that may lead to the adoption of cancer prevention and control measures. A similar survey was carried out in 2017 within the framework of the Medium-Term Strategy evaluation (cf. below).

13. From 2011–2014, IARC benefited from an award from Cancer Council Australia which allowed the creation of an IARC-Australia Post-doctoral Fellowship. During the reporting period, and although the Cancer Council Australia confirmed its commitment to maintain the partnership, insufficient funding led to the suspension of this targeted Fellowship. Similarly, no calls were opened for the IARC-Ireland Postdoctoral Fellowship, supported previously by the Irish Cancer Society. As announced at the Governing Council in May 2015, the Agency negotiated a new bilateral training agreement with the Research Council of Norway, for the training of postdoctoral scientists from Norway at IARC. The 2016 call for proposals "IARC-Norway collaboration: post-doctoral position with mandatory overseas stay" led to the award of the first Fellowship in November 2016. The Fellow joined IARC in February 2017.

14. Awards in 2015 and 2016 were co-funded by an EC MSCA FP7-COFUND grant of €1.24 million, to contribute to 40% of the post-doctoral fellowship costs for the period 2013–2018, and 60% by the IARC regular budget. Awards in 2017 were not part of the COFUND grant and were therefore funded entirely by the IARC regular budget. Maintaining the same level of funding is critical for the IARC Fellowships Programme in order to keep on training future generations of cancer researchers, in particular from LMICs.

15. Following the two consecutive EC grants obtained in 2010 and 2013, IARC submitted a new application in 2015 under the EC MSCA H2020-COFUND-2015 call but for which, unfortunately, the Agency was deemed ineligible. In addition, the overall reduction of the IARC 2018–2019 budget will impact the Programme. While pursuing alternative funding, it was decided that the Postdoctoral Fellowship Programme would be suspended in 2018 (i.e. no call for applications in 2017). A decision about a call for Fellowships in 2018 will depend on finding alternative funding sources. In the future, the Agency will restrict the award of IARC Fellowships to candidates from LMICs. This measure is of particular importance as the focus on LMICs is central to the mission of IARC, especially when it comes to education and training. It is to be noted that, although the majority of the postdoctoral scientists at the Agency are now supported by funds from competitive grants (93/117 during the reporting period), the majority of the latter are from high income countries (73 % during the reporting period).

16. The Scientific Council members are asked to provide support to the Agency in exploring opportunities for funding of IARC Postdoctoral Fellowships.

- **Senior Scientists Award and the Expertise Transfer Fellowship**

17. Senior Visiting Scientist Fellowships were awarded to three scientists in 2015–2017, as detailed in Table 2 of Appendix 2. These awards were made from a total of 14 applications, 10 of which were eligible to be considered for support. Beyond the development of collaborative research projects, the Senior Visiting Scientist Award also sometimes leads to the design and implementation of key cancer control programmes (i.e. cervical cancer screening in China).

18. Although the call for the Expertise Transfer Fellowship was open for applications in 2015 and 2016, only one eligible application was received in 2015, but it was not retained for award. In view of the above-mentioned budget constraints, and as this award is funded by the same budget as for Postdoctoral Fellowships (regular budget), it was decided that this award would be discontinued in the future, to the benefit of additional Postdoctoral Fellowships.

- **Short-term Fellowships**

19. The UICC-IARC Development Fellowship, launched in 2012 to allow a participant of the yearly IARC Summer School to return to IARC for a period of up to three months for further training and collaborative work, was expanded thanks to additional funding from UICC and IARC. Six fellowships were awarded during the reporting period, in conjunction with the courses organised in 2015 and 2017, and as detailed in Table 3 of Appendix 2. In addition, the fourth best candidate in 2017 was awarded a one-month Technical Fellowship by UICC.

- **Quality of the training / hosting environment**

20. Within the Research Training and Fellowship Programme and in addition to the IARC Fellows described above, the Agency welcomes a number of trainees, students, postdocs and visiting scientists supported by project funds from the Groups. As presented in Table 4 of Appendix 2, a total of 346 Early Career and Visiting Scientists (ECVS) were hosted at IARC during the reporting period. With the growing demand for such opportunities at IARC, a crucial objective of the Agency has been to strengthen the Programme in all its dimensions (policy, procedures, training experience), thus consolidating the quality of the environment for the long-term.

21. ETR is responsible for all administrative procedures relating to their arrival, hosting and departure from IARC. As one person's stay can be extended one or several times, the total volume of agreements handled by ETR each year (new + extensions) was approximately 170, with a 20% increase of new arrivals between 2015 and 2017. Given the increasing administrative burden on ETR, an in-depth analysis of related processes was conducted in 2015–2016, facilitated by an external company. A document detailing the features of the required system to streamline administrative procedures through e-workflows was produced. In view of the complexity of the project, as well as the importance of building on existing underlying technology and in-house expertise (e.g. SAP, SharePoint), it was decided that the system would be gradually developed in-house from 2018 onwards.

22. Relationships between ETR and other key contacts involved in the administration of ECVS at IARC were strengthened or developed during the reporting period. In particular, regular meetings were set up with the following stakeholders to review common issues and identify opportunities for improvement of the programme: Relocation Assistant, Human Resources Officer, Staff Physician, Director of Administration and Finance Office. Moreover, ETR has coordinated the revision of the second edition of the IARC Welcome Pack, which provides information for those considering applying to work or study at IARC, as well as to assist those who are preparing to move to Lyon or have joined IARC recently. This second edition will be published in 2018.

23. In 2016–2017 ETR has been working with the Office of the Director of Administration and Finance to collect all current rules and procedures pertaining to the IARC Research Training and Fellowship Programme and include them in one single Handbook. In parallel, an in-depth review

of the Programme was carried out, based on the feedback received from: target audiences (i.e. exit interviews within the IARC Postdoctoral Charter, Early Career Scientists Association); input from an "Internal Working Group (WG) on Early Career Scientists (ECS) Supervision and Policy", established by the Director and aiming at providing recommendations regarding the terms and conditions applied to ECVSs during their stay at the Agency, as well as the respective roles and expectations on supervisors and ECS.

24. This major review of the Programme led to the update and publication of the Handbook in November 2017, with an implementation date on 1 January 2018. Main enhancements include the possibility for ECVSs to get training appointments of two years' duration (funding permitting), to be named on grants as co-PI (under certain circumstances as PI), and to get 16 weeks of maternity leave. Stipends of postdoctoral scientists were increased. Annual and sick leave conditions were also clarified.

25. Within the above-described review, options for additional guidance on career development (i.e. mentoring) were explored. The importance of the supervisor's guidance on the project(s), but also on career prospects was reiterated and clearly mentioned in the Handbook, as an essential element of a successful doctoral or postdoctoral experience. Considering IARC's size, resources and broad range of research topics, it was decided not to set up any specific structured programme to handle mentoring, but rather to raise awareness and provide guidance, in the form of documentation and in-house events.

26. The Agency continued to support the Early Career Scientists Association (ECSA), which was created in 2013. ECSA is open to all students/postdoctoral scientists at IARC and works in collaboration with ETR to promote opportunities for training, career development, social activities, and regular dialogue between Early Career Scientists, and with ETR and IARC management. Senior scientists invited to give an IARC seminar are asked to have additional "roundtable" sessions with ECSA members. Coordination meetings have taken place between ETR and ECSA. ETR also provided financial support for some of the events organized by ECSA, such as the ECSA Scientific and Career Days successfully held every year since 2014. In 2017, the invitation was extended to scientists from the Cancéropôle Lyon Auvergne-Rhône-Alpes to present their work to peers in the field. A Buddy Programme was also launched in 2016 by ECSA, to provide complementary and informal support to newcomers.

27. The IARC Postdoctoral Fellowship Charter, launched in September 2011 in order to allow a more structured approach to postdoctoral training at IARC, continued to be successfully implemented. The Charter is introduced to all Postdoctoral scientists (including IARC Fellows). Entry and exit interviews have been conducted with all postdoctoral scientists. Entrance interviews (~4 months after arrival) are an excellent opportunity to discuss potential issues and provide support as needed. Exit interviews allow identification of lines of improvement for the programme and/or feedback on planned activities, as described above. Based on the feedback received during those exit interviews, intermediate meetings were also offered as needed. ETR recognized that there were also ad hoc requests for support from early career scientists on non-scientific matters. Despite being able to draw on support from ETR, the Human Resources Office (HRO) and the Staff Physician, it is recognized that there would be value in having access to additional external help on counselling and mediation. The options to provide such support are being studied by HRO, at the request of the Director.

28. ETR continued to develop the programme of internal generic skills courses. The close collaboration with HRO, within the framework of the IARC Staff Learning and Development Framework developed in 2015, led to the increase of training opportunities offered. Approximately 58 face-to-face courses were offered to Early Career Scientists in 2015–2017 and were attended by more than 150 different individuals.

29. Within the evaluation framework of the IARC Medium-Term Strategy, an online survey was carried out in 2017, to complement those carried out in 2012 and 2015 (cf. above), in order to further document the outcome of the IARC Research Training and Fellowship Programme. For the first time, the survey also targeted Postdoctoral scientists and Doctoral students funded by the scientific Groups, in addition to IARC Postdoctoral Fellows. An invitation to complete the survey was sent to the scientists who had provided their email address when they left the Agency between 2014 and 2017. Out of the 98 who received the message, 50 completed the questionnaire (51%). Results regarding current employment were comparable to those obtained earlier, for example a majority of respondents continue to work on cancer research (66%) in public institutions (79%), and the perceived impact of the stay at IARC on their career was positive, with a majority declaring it was helpful (62%) or decisive (32%). Some differences were also noted between categories, notably the maintenance of collaborations with IARC, i.e. more collaborations with Fellows than Postdoctoral scientists at the end of their stay at IARC (92% vs 74%), or satisfaction with the supervision they received, i.e. Fellows more satisfied than Postdoctoral scientists and Doctoral students (the 30% of respondents being rather dissatisfied or very dissatisfied are Doctoral students or Postdoctoral scientists). Although of small scale and therefore to be interpreted with some caution, the results from the survey were in line with feedback received over recent years, which had been considered by the "Internal Working Group (WG) on Early Career Scientists (ECS) Supervision and Policy", leading to substantial changes in the terms and conditions applied to ECSs during their stay at the Agency (see above for summary). The comments were also taken into account for the preparation of the IARC Learning & Development Strategic Plan for Supervisory, Managerial and Leadership Training that should be piloted from January 2018, and will provide additional opportunities for IARC scientists to reinforce their supervisory and mentoring skills.

30. Relations with Universities have been further strengthened in order for IARC to be recognized as a host institute for PhD and Master's students. At the local level, the links developed with two doctoral schools of Lyon University have been nurtured, to improve day-to-day communication and potential future collaborations (i.e. recognition of IARC generic courses). In addition, ETR is still serving on the Administration Board of the Lyon University's Human Biology Department, on the Board of one of the doctoral schools (EDISS) and as a member of the Education Board of the "Cancerology School", entity set-up by the Cancéropôle Lyon Auvergne-Rhône-Alpes, to coordinate the efforts of relevant stakeholders at the regional level.

c) Conclusion and future perspectives

31. The IARC Research Training and Fellowship Programme continues to demonstrate its relevance and efficiency in providing opportunities for deserving Early Career Scientists from all around the world to acquire excellent training and experience in an exceptional multi-cultural and international environment, enhanced by the hosting of Senior Visiting Scientists.

32. In the coming years, and in addition to maintaining the programme at its current level of quality, the focus of ETR will be to:

- identify additional resources to maintain or expand training opportunities for Postdoctoral Fellowships;
- implement the terms contained in the new Handbook and monitor the need for any modifications;
- maintain the Generic Courses Programme for Early Career Scientists in close collaboration with HRO;
- support the Early Career Scientist Association; and
- strengthen the links with local and international academic institutions.

C. IARC Courses

a) Background

33. As one of its core functions, and since its inception, IARC has been holding courses globally in order to provide the opportunity to improve theoretical and practical skills of cancer investigators, with emphasis on researchers from LMICs. These initiatives have also stimulated collaborations with IARC.

34. The specific aims of the Programme are as follows:

- To bring IARC learning and training resources closer to their target audiences, by developing eLearning material and initiatives, including in various languages.
- To stimulate research in cancer by developing individual and institutional expertise in areas of IARC competence through training courses.

b) Activities and Results

- **eLearning**

35. The Agency recognized a key strategic opportunity to increase its reach in training in LMICs through eLearning and multi-lingual approaches. As detailed in this section of the report, an important step towards the achievement of this goal has been the setting up of the infrastructure allowing the production and dissemination of a future increased amount of online learning material. In parallel, partnerships were developed or strengthened for the production of learning resources.

36. As a complementary dissemination tool to the IARC Education and Training website redesigned in 2014 (http://training.iarc.fr), the IARC Education and Training Newsletter launched in 2014 continued to be issued on a biannual basis. Each edition was sent to approximately 1200 former Early Career/Visiting Scientists at IARC as well as course participants. Newsletters were opened by about 50% of recipients and contents accessed by roughly 15% of them (which is comparable with standard open rates for newsletters).

37. The IARC Education and Training website itself was complemented by two web-based systems, which are described below.

38. A learning management system was set-up in 2016 with the support of the Information Technology Services (ITS), allowing the design and deployment of online spaces for course participants to have access to practical information and learning resources before, during and after a training event (http://learning.iarc.fr). Between April 2016 and December 2017, twenty such online learning spaces were set-up by ETR, to support courses on cancer epidemiology, biobanking, cervical cancer screening, cancer prevention or cancer registration. Whereas the administration of the platform itself (i.e. overall system administration, users, creation of online courses) was ensured by ITS and ETR, colleagues from scientific Groups have gradually been trained on-the-job in order to manage the content and interactions within their own spaces.

39. The IARC WebTV (http://video.iarc.fr) was developed, based on the video management system that the Agency set-up during the previous reporting period. The WebTV currently comprises six channels: Media communication, IARC Seminars, IARC Summer School, Cancer Early Detection and Prevention, Cancer Surveillance, Biobanking. In addition to those public institutional channels, video resources are also easily embedded into any web page (see for example http://bcnet.iarc.fr/projects/bcnet_training_courses.php). In 2017, a coordination between the IARC Seminar Committee, ITS and ETR was set-up to ensure that IARC monthly seminars were recorded and published. Some of the courses were also recorded, such as the IARC Summer School 2017, and videos shared through dedicated online learning spaces, as well as through the IARC WebTV. Recordings of webinars (cf. below) were also made available through the same means.

40. In 2017, ETR contributed to the working group led by the IARC Communications Group to select the web content management system which is now being used to redesign IARC websites. The IARC Education and Training website is one of the first sites that will go through the process, which will allow an integration of the three components described above (information content from the website, learning management system and video management system), as the IARC online training and learning platform.

41. As commented during the 53rd Scientific Council session in January 2017, webinars are a powerful way to reach out to a diversified audience. Building on former internal experience, webinar series were organized, targeting an increasing number of professionals worldwide. While ITS is in charge of administrating the webinar system (GoToWebinar), ETR is the focal point for the organization of events and provides advice and support Agency-wide. In addition to the B3Africa series (cf. below), webinars on SURVCAN-3 were run by the Section of Cancer Surveillance (CSU) in English and Spanish, as well as a series of webinars on Essential TNM, targeting Latin American participants and attended by over 200 different cancer registry professionals.

42. Communicating on a developing infrastructure is important in order to target all key stakeholders and facilitate uptake. An internal briefing session “In-house tools to develop and manage eLearning” was therefore organized within the IARC internal Learning and Discussion week in May 2017, in order to introduce the above-described systems and related processes/support available internally. Eight IARC scientific Groups were represented among the

17 participants, most of them running training activities. The session was very well received (100% satisfaction) and allowed to share experiences and refine needs.

43. New eLearning material was produced during the reporting period. ELearning modules were developed in 2016–2017, combining videos, quizzes, and questions/comments boards. A first set of modules on cervical cancer early detection in French was jointly developed by the Screening Group (SCR) and ETR in the spring 2016. The modules were used as online material for participants to get prepared for a face-to-face course, which was redesigned by SCR to increase the time dedicated to practice (termed a "blended approach"). In view of the success of the approach, the modules were translated into English and have been successfully used in three different courses since then. The same approach was followed to develop modules on cancer prevention and early detection strategies, based on the new module offered at the IARC Summer School 2017 (cf. below). Those modules were successfully tested during the first course of the China ASEA Cancer Prevention and Control Training Program "CICAMS-IARC Planning & Implementing Cancer Control Programs" that took place in September–October 2017. Other eLearning resources were produced by scientific Groups, such as the "Atlas of colposcopy – principles and practice" that was launched by SCR in September 2017 as a unique tool offering a wide range of digital resources (videos, case studies, and quizzes) and to train those involved in diagnosing or treating cervical cancer or precancerous lesions.

44. Finally, partnership initiatives have been pursued to develop eLearning materials and courses. The collaboration established between ETR and the Institut Català d'Oncologia (ICO), Spain, led to the launch of the first joint online course in cancer epidemiology in Spanish and aimed at Latin American countries. The course successfully ran over nine months in 2015–2016 and the second course was launched in November 2017 (http://www.e-oncologia.org/cursos/postgrado-fundamentos-metodologicos-investigacion/#.Wdhz82iCzD4). An agreement with the International Federation of Cervical Pathology and Colposcopy (IFCPC) was concluded in 2016 by SCR with the successful launch of the certifying "IFCPC-IARC Training course in Colposcopy and the prevention of Cervical Cancer", which comprises (1) online video-based theoretical modules and exercises delivered over six months, (2) a practical hands-on clinic over several months, supervised by accredited trainers, and (3) an examination.

45. With an average of approximately 1000 visitors per day to the IARC home page, a similar number of visitors to the SCR webpage (http://screening.iarc.fr), and more than 200 000 downloads per year of the textbook "Cancer Epidemiology: Principles and Methods" (most popular download even after two decades), eLearning resources produced by the Agency have the potential to reach an increasingly high number of professionals around the world. The use of the newly developed resources described above, in particular the IARC WebTV will be monitored in the coming years.

- **Courses**

46. Another strategic objective for the Agency has been to expand the organization of training courses in areas of IARC competence, in particular targeting individuals and institutions in LIMCs. As detailed in this section of the report, emphasis was put on developing new courses or expanding existing initiatives, often in partnership within research collaborating institutions and other key organizations. In parallel, the role of ETR as a focal point providing guidance and support, in particular regarding innovative approaches to training, has been strengthened.

47. In view of budget constraints, the IARC Summer School on Cancer Epidemiology was organized in Lyon in 2015 and 2017 only, with the goal of improving the methodological and practical skills of cancer researchers and health professionals. Based on the development of the Global Initiative for Cancer Registry development (GICR) hubs and as planned, the week dedicated to cancer registration (week one) evolved into a rotation of more specific or advanced modules, starting with a "Cancer Survival Methods for Cancer Registries" module, which was organized both in 2015 and 2017. In 2017, a new one-week Module "Implementing Cancer Prevention and Early Detection" was developed and ran in parallel to a cancer registry module. The two-week "Introduction to Cancer Epidemiology" module was organized both years.

48. As detailed in Table 5 of Appendix 2, during the reporting period the Summer Schools allowed the training of a total of 134 researchers and health professionals from 56 countries, 119 of them from 50 different LMICs. The Summer School modules have been very well received by the participants, with more than 95% of them declaring they would recommend the course to a colleague. Additional financial support for the course came from the US National Institutes of Health–National Cancer Institute (NIH-NCI) as well as from the Nordic Cancer Union (NCU) and from the Klinik und Poliklinik für Gynäkologie, Martin Luther University, Halle, Germany. In parallel and as described above, online complementary initiatives are being developed.

49. In 2017, a survey was carried-out to assess the outcomes of the IARC Summer School programme between 2012 and 2015, as a follow-up to the evaluation conducted in 2012. An online questionnaire was sent to 223 former participants. After the initial message, two reminders were sent within one month. Fifty per cent of former participants completed the questionnaire (n=112). Approximately 80% of respondents remain active in cancer research, in public institutions; 94% of respondents have been able to apply what they have learnt, in the job they had at the time when they took the course and/or since then (i.e. if they changed position). Almost all participants reused material for their own learning and 50% used it to train others. More than half of the respondents developed collaborations with IARC scientific Groups and a significant number (49%) developed collaborations with other course participants, which in majority are still active. The majority of respondents considered that the Summer School has been either helpful (69%) or decisive (27%) to their career (other choices being minimal, 4%, or adverse 0%). Data are consistent with those obtained in 2012.

50. Within the IARC 50th Anniversary Scientific Conference organized on 7–10 June 2016, the IARC "50 for 50" initiative was a fellowship programme bringing together, in Lyon, 50 future leaders in cancer research from LMICs, one for each year of IARC's existence. Selected participants represented 36 countries worldwide. The one-week programme included participation in a three-day scientific conference, a two-day pre-conference workshop and a series of

networking events to foster collaborations. A dedicated online space was set-up for preparatory work, access to a variety of resources and networking. The vast majority of participants rated the initiative very positively, stressing the quality of interactions, the opportunity to learn about a wide variety of research topics as well as to meet world experts in those fields.

51. Eighty-nine specialized courses were organized by scientific Groups, often with external partners and held at diverse locations throughout the world (see Table 6 of Appendix 2). The majority of these courses are associated with collaborative research projects, where IARC is transferring skills needed to conduct the projects and to enable the subsequent implementation of the research findings in the countries concerned. This is for example the case of courses held in Latin America in the framework of the ESTAMPA project led by the Section of Early Detection and Prevention (EDP)/Prevention and Implementation Group (PRI). During the reporting period, one can highlight the large amount of courses on cancer registration, cervical cancer early detection, as well as new courses in the area of biobanking or pathology. It is to be noted that 22 of those courses (25%) were fully or partly run online (i.e. webinar series, online course or blended approach as described above). With the consolidation of the IARC online training and learning platform, it is expected that the number of courses integrating eLearning in their design will further increase in the future.

52. As presented in Table 7 of Appendix 2, the Summer Schools, the “50 for 50” initiative, as well as IARC specialized or advanced courses allowed the training of a total of 3381 scientists and health professionals during the reporting period. The number of scientists and health professionals trained through IARC initiatives more than doubled in 2016 and 2017 in relation to previous years. This reflects IARC’s growing commitment to training, including through innovative methods and effective partnerships to meet the increasing demand for courses in LMICs.

53. As described above, several IARC research Groups are engaged in training activities through their collaborative research projects. ETR recognized an opportunity to add value to these initiatives by bringing its expertise on training design and eLearning. As a result, ETR has been involved in part of courses led by research Groups in different ways, ranging from advice/support on learning needs assessment, instructional design, organization, development/administration of online evaluation surveys (over 25 during the reporting period) through to development of online spaces on the learning platform. ETR has also contributed to some of the Groups’ initiatives where there is a training component embedded within a broader project (i.e. member of the BCNet Education and Training Working Group, LSB) and has collaborated with scientific Groups for the development and running of projects. The best example of such collaborations is the EU-funded Bridging Biobanking and Biomedical Research across Europe and Africa (B3Africa), which aims to implement a cooperation platform and technical informatics framework for biobanks, in particular in low-resources settings (ethical and legal framework, biobank data representation, bioinformatics pipelines for sharing data and knowledge among biobanks). IARC is part of the project consortium coordinated by the Sveriges Lantbruksuniversitet, Uppsala, Sweden, with the IARC LSB and ETR leading respectively the Dissemination and Education & Training work packages. The latter has included a comprehensive learning needs assessment, the design of the training plan targeting institutions which are piloting the project’s tools, the organization of a webinars series and of two face-to-face courses, as well as the development of learning material. Another example of such internal collaboration is the Memorandum of Agreement set up by SCR

and ETR with the Cancer Hospital, Chinese Academy of Medical Sciences & Peking Union Medical College (CICAMS), to set-up a Cancer Prevention and Control Training Programme targeting professionals from ASEAN countries[1] and other Asian countries. The first course was developed with a blended approach, combining a set of online video-based modules to be taken prior to a one-week face-to-face session in China comprising interactive lectures, group activities, as well as site visits demonstrating current Chinese efforts in cancer prevention and control. In addition to coordinating the contribution of IARC in the project, ETR was in charge of developing and hosting the online modules, as well as interacting with CICAMS for the organization of the face-to-face session. This first course was a success with participants highlighting the value of such a blended online/face-to-face programme to share challenges, successes and opportunities in planning and implementing effective cancer control programmes, as well as fostering the adoption of evidence-based strategies for cancer control in the region.

c) Conclusion and perspectives

54. During the reporting period, IARC continued to organize and successfully run initiatives that both stimulated research on cancer globally and contributed to developing local expertise in cancer epidemiology and prevention, particularly in LMICs.

55. There have been major shifts in emphasis, towards the use of innovative eLearning tools, close liaison with IARC research Groups for advice and coordination, as well as developing partnerships with external organizations sharing the same dedication to capacity building in order to leverage additional support to training initiatives.

56. In the coming years the focus of ETR will be to:

- identify funding resources to consolidate the IARC eLearning platform and to increase the production/publication of eLearning material in English and other languages;
- stimulate and support the organization of webinar series, for example by building on certain seminar cycles currently organized at IARC, with recorded sessions and material posted on the IARC website for free access;
- monitor the use of eLearning resources;
- identify funding resources to continue to run the IARC Summer School on an annual basis, as well as to set-up online courses expanding its target audience;
- develop more advanced modules in areas of IARC competence; and
- pursue collaboration with and support to Groups for the design, development, organization and/or evaluation of education and training materials, courses or programmes.

[1] Brunei, Cambodia, China, Indonesia, Laos People's Democratic Republic, Malaysia, Myanmar, Philippines, Singapore, Thailand, Viet Nam

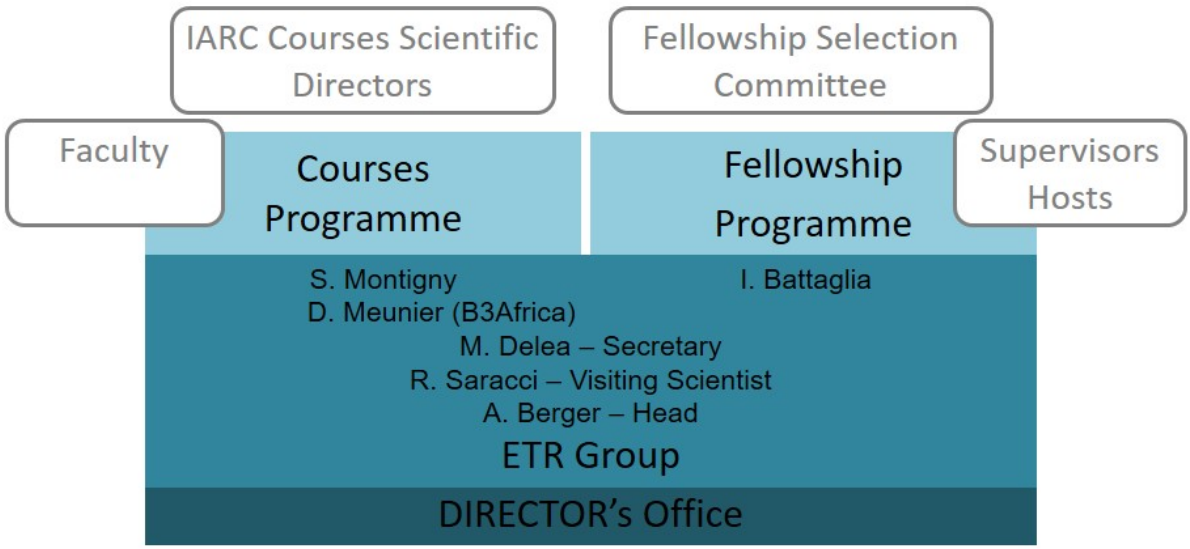
D. Questions to the Scientific Council

57. This report has described key achievements of the IARC's Education and Training programme in 2015–2017, based on the strategy presented and discussed during the 49th Session of the Scientific Council in January 2013. The Scientific Council is asked to comment on the activities and achievements of the programme as well as suggesting areas for further enhancement or which may be reduced in emphasis.

58. The maintenance of the programme and part of future developments are dependent on the mobilization of funding resources. The Scientific Council is therefore asked for advice on seeking additional resources from, for example, Participating States and Foundations, in order to finance the maintenance and expansion of Education and Training.

Appendix 1 – Structure

ETR organigram



Appendix 2 – Key Performance Indicators and other relevant data

Table 1: IARC Fellowships 2008–2017*

Year	No. of IARC Fellowships awarded	No. Fellows from low- and middle-income countries (LMICs)
2008**	11 (6 + 5)	11
2009	8 (4 + 4)	8
2010	10 (6 + 4)	6
2011	13 (8 + 5)	5
2012	19 (12 + 7)	11
2013	18 (10 + 8)	11
2014	21 (13 + 8)	12
2015	22 (10 + 12)	13
2016	17 (7 + 10)	10
2017	14 (7 + 7)	12

*Post-doctoral Fellowships (new + second year renewals), including IARC-Australia and IARC-Ireland Fellows (2011–2014)

**In 2008 and 2009, only candidates from LMICs were eligible to apply. From 2010, candidates from LMICs or with research projects benefitting to LMICs have been able to apply.

Table 2: Senior Visiting Scientist Awards, 2015–2017

Name	Institution	Project	IARC Group
Professor Fanghui Zhao	Department of Cancer Epidemiology, Cancer Hospital, Chinese Academy of Medical Sciences, Beijing, China	Exploration of Appropriate Cervical Cancer Screening Program Models for China	SCR
Dr Pär Stattin	Department of Urology, Uppsala University Hospital, Uppsala & Register holder, National Prostate Cancer Register, Sweden	Interpretation of Current Trends in World-wide Prostate Cancer Incidence and Mortality by Use of Comprehensive Data in a Nation-wide Population-based Clinical Cancer Register	CSU
Dr John Brent Richards	Associate Professor of Medicine, Departments of Medicine, Human Genetics, Epidemiology and Biostatistics McGill University, Montreal, Canada	Genetic Epidemiology of Metabolites and Cancer	GEP

Table 3: UICC-IARC Development Fellowships, 2015 and 2017

Year	Name	Country	Project	IARC Group
2015	Dr Anton Ryzhov	Ukraine	Cancer burden in the Ukraine. Enhancing cancer surveillance for cancer control	CSU
2015	Dr Ljubica Zupunski	Serbia	Radiation exposure of paediatric patients involved in interventional cardiology procedures	ENV
2015	Mr. Solomon Asmare Endalew	Ethiopia	To assess the pattern and predictions of cancer incidence in Addis Ababa	CSU
2017	Mr. Stephen Karuru Maina	Kenya	To Investigate the role of Nutrition Deficiencies with Esophageal Cancer Risk in Western Kenya-aided by a Geo-Coding approach	ENV
2017	Dr Muna Abusanuga	Lybia	Situational analysis of the cancer primary prevention efforts: Hepatitis B and Human Papilloma Virus vaccination program in Libya in last five years	SCR
2017	Dr Luz Stella Garcia	Colombia	Comparative evaluation of cancer survival in Cali (Colombia) with international estimates: A population-based study	CSU

Table 4: Number of trainees, students, postdocs or visiting scientists funded by the Fellowship Programme or IARC Groups, 2015–2017, by category*

Category	Number
Trainees**	32
Students, of whom	125
Master's students	57
Doctoral students	43
Other categories of students***	25
Postdocs	117
Visiting Scientists	37
Senior Visiting Scientists	35
Total, all categories	346

* As of 1 December 2017
** At the pre-bachelor level or trainees in administration
*** Post-Master's students and continuing professional development trainees

Table 5: Number of participants in the IARC Summer School, 2015 and 2017, by country and geographical regions (WHO Regions)

Region	Countries and number of participants	Total per Region	Total per LMICs
Africa	Algeria (1), Benin (1), Cote d'Ivoire (1), Ethiopia (4), Gambia (1), Ghana (1), Kenya (6), Malawi (3), Mauritania (1), Nigeria (4), Rwanda (3), South Africa (2), Uganda (1), Zimabwe (1) (14 countries; 14 LMICs)	30	30
Americas	Argentina (5), Bolivia (1), Brazil (3), Canada (1)*, Colombia (5), Costa Rica (1), El Salvador (1), Honduras (1), Mexico (2), Paraguay (2), Peru (4), Uruguay (1)* (12 countries; 10 LMICs)	27	25
Eastern Mediterranean	Afghanistan (1), Egypt (1), Iran (2), Libya (1), Morocco (3), Pakistan (2), Sudan (1), Tunisia (1) (8 countries; 8 LMICs)	12	12
Europe	Belarus (1), France (8)*, Ireland (1)*, Serbia (1), Turkey (5), Ukraine (2), United Kingdom (2)*, United States (2)*, Uzbekistan (1) (9 countries; 5 LMICs)	23	10
South-East Asia	Bangladesh (3), Bhutan (1), India (8), Indonesia (1), Myanmar (2), Nepal (1), Sri Lanka (4), Thailand (4) (8 countries; 8 LMICs)	24	24
Western Pacific	China (7), Malaysia (1), Mongolia (3), Philippines (3), Vietnam (4) (5 countries; 5 LMICs)	18	18
	Total	**134**	**119**

* High-income countries

Table 6: Specialized and advanced courses 2015–2017

Course title	Location	Number of participants	External collaborations
2015			
Cancer registration	Russian Federation	34	IARC Regional Hub for Northern Africa, Central and Western Asia, GICR, WHO-EURO, European Network of Cancer Registries (ENCR) Petrov Research Institute of Oncology, Saint Petersburg, Russia
Second training course on cervical pathology – ESTAMPA study	Cuernavaca, Mexico	20	Instituto de Salud Publica de Mexico (INSP); WHO Department of Reproductive Health and Research; UICC; Pan American Health Organization (PAHO)
Reunión de Consenso de Colposcopia – Estudio multicéntrico de tamizaje y triaje de cáncer de cuello uterino usando pruebas del virus del papiloma humano (ESTAMPA)	Bogotá, Colombia	26	San José Hospital, Bogotá, Colombia
Colposcopy and LEEP procedures in the management of abnormal cytology	Myanmar	34	National Cancer Institute Thailand; TSCCP, Thailand; University of Medicine, Magway, Myanmar; AOGIN
Training course on early detection of breast, cervical, colorectal, and oral cancer	Sri Lanka	110	National Cancer Institute Sri Lanka; WHO Country Office; UICC
Cervical cancer screening and management of preinvasive lesions	Thailand	20	National Cancer Institute Thailand; TSCCP, Thailand
Workshop on colposcopy	Morocco	30	African Organisation for Research and Training in Cancer (AORTIC)
**GloboDiet reference manager application training: Malta*	*Online course*	*5*	*EU-MENU*
GloboDiet train-the-trainers course: Malta	*Online course*	*7*	*EU-MENU*
GloboDiet train-the-trainers course: Malta	*Lyon, France and online course*	*7*	*EU-MENU*

Course title	Location	Number of participants	External collaborations
2015 (continued)			
GloboDiet introduction training – organization of the work: Ireland and Africa	*Lyon, France and online course*	*3*	*EU-MENU*
GloboDiet training for Latin America (Brazil and Mexico): specific procedures to develop GloboDiet-related files	*Online courses (continuous)*	*7*	*EU-MENU*
Evaluation of GloboDiet in the African context	*Online courses*	*37*	*EU-MENU*
CanReg5 course	The Gambia	5	MRC Gambia, AFCRN (IARC Regional Hub for Sub-Saharan Africa)
Canreg5 Training	Mexico	4	IARC Regional Hub for Latin America INCAN Mexico
Cancer registry workshop	Islamic Republic of Iran	20	Iran University Medical Sciences MoH, IARC Regional Hub for Southern, Eastern and South-East Asia
Cancer registry, basic data analysis	Thailand	35	NCI Thailand, IARC Regional Hub for Southern, Eastern and South-East Asia, GICR, IACR
Population-based cancer registry workshop	Indonesia	70	US NCI, Jakarta Cancer Registry, IARC Regional Hub for Southern, Eastern and South-East Asia
CanReg5 course, Pre-meeting Workshop, 37th IACR Meeting	India	20	IACR; Tata Memorial Centre; CDC
Examining solutions for cancer registration in low- and middle-income countries, Pre-meeting Workshop, 37th IACR Meeting	India	30	IACR; Tata Memorial Centre; CDC
Population-based cancer registry workshop	Panama	22	PAHO/INC
Cancer Registration in the Gulf Countries: principles and updates	Kuwait	19	GICR, The Gulf Centre for Cancer Control and Prevention (GCCP), Kuwait MoH
BCNet training	Lyon, France	25	Biobank and Cohort Building Network (BCNet)

Course title	Location	Number of participants	External collaborations
2016			
CanReg5 – Train the trainers Workshop	IARC	14	UICC; Regional Hubs for Cancer Registration in Africa, Asia and Latin America
Basic Cancer Registration Course	Malaysia	80	Regional Hub for Cancer Registration in South, South-East and Eastern Asia; NCI Thailand; Ministry of Health, Malaysia
Cancer Registration Workshop	Kazakhstan	27	Regional Hub for Cancer Registration in Northern Africa, Central and Western Asia; Kazakh Institute of oncology and radiology
Cancer Registration Assessment and Workshop	Iraq	18	Regional Hub for Cancer Registration in Northern Africa, Central and Western Asia; WHO-EMRO
Basic Cancer Registration Course	Indonesia	60	Regional Hub for Cancer Registration in South, South-East and Eastern Asia; NCI Thailand; Ministry of Health, Indonesia
Cancer Registration Workshop	Australia	45	Cancer Council Australia and other regional partners
Caribbean Cancer Registry Workshop	Turks and Caicos	22	The Caribbean Public Health Agency (CARPHA); The North American Association of Central Cancer Registries (NAACCR); The US National Cancer Institute, National Institutes of Health (NCI/NIH)
Cancer Registration Course	Russia	44	WHO-Euro
IARC/GICR Course: Descriptive Epidemiology Research and Analytical Approach using Population-Based Cancer Registry Data	Turkey	35	Regional Hub for Cancer Registration in Northern Africa, Central and Western Asia; Ministry of Health, Republic of Turkey
Workshop on Cancer Survival Methods for Population-Based Registries in Low and Middle Income Countries (LMICs)	Morocco	50	African Cancer Registry Network / Regional Hub for Cancer Registration in Sub Saharan Africa; International Association for Cancer Registries
Online Course on Reports for Cancer Registries	*Argentina*	*33*	*Regional Hub for Cancer Registration in Latin America; INC Argentina for Argentinian registries (Hospital and Population based)*

Course title	Location	Number of participants	External collaborations
2016 (continued)			
Basic Cancer Registration Course	India	35	Regional Hub for Cancer Registration in South, South-East and Eastern Asia; WHO-SEARO
CanReg Regional Training Course	USA	10	The Caribbean Public Health Agency (CARPHA); The North American Association of Central Cancer Registries (NAACCR); The US National Cancer Institute, National Institutes of Health (NCI/NIH); Regional Hub for Cancer Registration in Latin America
Coding Course (ICD-O-3) for HBCR and PBCR (Online outreach for the Hub)	*Chile*	*59*	*Ministry of Chile for Chilean registries; Regional Hub for Cancer Registration in Latin America*
Cancer Registration Course	Kyrgyzstan	26	WHO/EURO
Cancer Registration Course	Ghana	25	African Cancer Registry Network / Regional Hub for Cancer Registration in Sub Saharan Africa; IAEA
CME on Breast Cancer Management	India	100	Christian Hospital Ambillikai and Cancer Control Foundation of India, Pollachi.
"Strengthening Cancer Control Program in Ukraine" Interactive Workshop	IARC	5	
Orientation Course on Cervical and Breast Cancer Early detection and Control	Bangladesh	200	Directorate General of Health Services, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh; The Bangabandhu Sheikh Mujib Medical University (BSMMU), Dhaka; The WHO Country Office for Bangladesh
Leadership Training in Colposcopy & Advocacy for Cervical Cancer Control	India	22	American Cancer Society
Training on Thermocoagulation Treatment of Cervical Precancerous Lesions	Zambia	30	National Coordinator Cancer Prevention, Ministry of Health, Zambia.

Course title	Location	Number of participants	External collaborations
2016 (continued)			
Training Course on Colposcopy and LEEP Procedures in the Management of Abnormal Cervical Cancer Screening Results	Indonesia	23	Thai Society for Colposcopy and Cervical Pathology (TSCCP), Thailand; Department of Obstetrics and Gynaecology, Faculty of Medicine, Universitas Gadjah Mada, Indonesia.
Project Staff Training for the Follow-up Phase of the 2 vs 3-dose HPV vaccine clinical trial in India	India	39	
Oncological screening: cervical cancer	Russia	50	Research Institute of oncology named after N.N.Petrov, St. Petersburg, Russia
Training course on the role of colposcopy in the early detection and prevention of cervical cancer for medical officers and nursing officers at colposcopy units	Sri Lanka	50	The National Cancer Control Programme, Ministry of Health, Nutrition & Indigenous Medicine, Colombo, Sri Lanka; The WHO Country Office for Sri Lanka
Training Course for Master Trainers in Cervical Cancer Prevention, Early Detection & Management (Participants from Morocco and Gabon) - Blended (Online/face to face course in India) - in French	*India*	*16*	*The Lalla Salma Foundation for Cancer Prevention and Treatment, Rabat, Morocco; Tata Memorial Centre Rural Cancer Project, Nargis Dutt Memorial Cancer Hospital (NDMCH), Barshi, Maharashtra, India*
IARC-BelMed Course: Training course on Principles, organization, evaluation, planning and management of cancer screening programmes	Belarus	34	WHO HQ, Switzerland; Public Health England, United Kingdom; Centro Javeriano de Oncologia, Colombia
Introduction-training on FooD TABLE GloboDiet	*Go-to-Meeting*	*6*	*UCD, Ireland*

Course title	Location	Number of participants	External collaborations
2016 (continued)			
Train the Trainers course on GloboDiet 24hDR interviews - data cleaning	*Go-to-Meeting*	*5*	*GloboDiet collaborators Malta*
Train the Trainers course on GloboDiet 24hDR interviews	*Go-to-Meeting*	*8*	*Brazilian GloboDiet collaborators*
ICAMA - Latin American Research Network in breast cancer: training in pathology and epidemiology	Costa Rica	15	PRECAMA collaborators in Latin America plus ICAMA colleagues form Guatemala
ABC-DO Pathology Training Course	Uganda	22	
Training Workshop for Pathologists in Cancer Management	Ivory Coast	24	West African Division of the International Academy of Pathology (WADIAP)
B3Africa Webinars 1-3	*Go-to-Webinar*	*23+60+22*	*Medical University of Graz, Uppsala University, Karolinska Institutet*
B3Africa Face-to-face Training Course	South Africa	23	Stellenbosch University, Faculty of Medicine and Health Sciences.
Course title	**Location**	**Number of participants**	**External collaborations**
2017			
Cancer Registration Workshop	Gabon	20	African Cancer Registry Network / Regional Hub for Cancer Registration in Sub Saharan Africa
SurvCan-3: Data collection for survival studies: follow-up using passive and active methods live webinar	*Go-to-Webinar*	*34*	*Cancer Institute W.I.A. Chennai, India*
Basic Cancer Registration Course	Sri Lanka	60	Regional Hub for Cancer Registration in South, South-East and Eastern Asia
Intermediate Analysis Cancer Registration Course	Ecuador	18	IARC Regional Hub for Cancer Registration in Latin America; PAHO; INC Argentina; SOLCA Quito
Basic Cancer Registration Course	Myanmar	70	NCI Thailand; National Cancer Centre Japan
Essential TNM - Webinar Sessions (3)	*Go-to-Webinar*	*97+97+92*	*IARC Regional Hub for Cancer Registration in Latin America/ National Cancer Registry Uruguay*

Course title	Location	Number of participants	External collaborations
2017 (continued)			
Cancer Registration methods and Strengthening Cancer Registries	Russia	33	WHO EURO, Moscow Research Institute for Oncology, Regional Hub for Cancer Registration in Northern Africa, Central and Western Asia
Online regional transmission (Latin America) from Colombian NCI Coding Course	*Colombia (virtual for the Region)*	*60*	*GICR Latin American Hub; WHO/PAHO Country Office in Colombia*
Cancer Coding and Staging Masterclass	IARC	20	African Cancer Registry Network, WHO EURO
Hands on training course in thermocoagulation for master trainer gynecologists (Participants from China)	India	4	Cancer Institute of Chinese Academy of Medical Sciences (CICAMS), Beijing, China; Christian Cancer Centre, Ambilikkai, India
Hands-on Training of Pathology Technicians For capacity development & strengthening cytopathology, histopathology and immunohistochemistry services in Bangladesh	Bangladesh	12	The Bangabandhu, Sheikh Mujib Medical University (BSNNU), Dhaka, Bangladesh
Cervical Cancer Screening using VIA and Management of Premalignant Lesions	Ecuador	6	Fundación Internacional Buen Samaritano Paul Martel Inc. (FIBUSPAM) and Instituto Nacional de Enfermedades Neoplásticas (INEN), Peru
Training Course for Master Trainers in Cervical Cancer Prevention, Early Detection & Management (Participants from Bangladesh and India)	*India*	*18*	*Directorate General of Health Services, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh; Tata Memorial Centre Rural Cancer Project, Nargis Dutt Memorial Cancer Hospital (NDMCH), Barshi, Maharashtra, India; The WHO Country Office for Bangladesh*
Training course for service providers in thermocoagulation and loop electrosurgical excision procedure (LEEP)	China	36	Cancer Institute of Chinese Academy of Medical Sciences (CICAMS), Beijing, China; Inner Mongolia Provincial Health Services

Course title	Location	Number of participants	External collaborations
2017 (continued)			
Training Course for Master Trainers in Cervical Cancer Prevention, Early Detection & Management	*India*	*7*	*Chittaranjan National Cancer Institute*
Training Course in breast cancer awareness, prevention, early detection and treatment	Ghana	130	Breast Care International
Training Course on Colposcopy and LEEP Procedures in the Management of Abnormal Cervical Cancer Screening Results	Thailand	71	National Cancer Institute Thailand
CICAMS-IARC Training course - Planning & Implementing Cancer Control Programms	*China*	*36*	*CICAMS*
Medical Statistics for Clinicians Training Course	India	50	Regional Cancer Centre, Trivandrum, India
Training Course for Master Trainers in Cervical Cancer Prevention, Early Detection & Management	India	15	Tata Memorial Centre Rural Cancer Project, Nargis Dutt Memorial Cancer Hospital (NDMCH), Barshi, Maharashtra, India;
Training Course for Master Trainers in Cervical Cancer Prevention, Early Detection & Management	India	8	Regional Cancer Centre, Trivandrum, India
On-site visit a recognized centre on breast cancer screening	United Kingdom	6	Public Health England, United Kingdom

Course title	Location	Number of participants	External collaborations
2017 (continued)			
ESTAMPA update on colposcopy training, within the First International Congress of Colposcopy and Pathology of the Lower Genital Tract	Peru	25	Peruvian League Against Cancer; Ministry of Health of Peru; PAHO; WHO; ESTAMPA sites around Latin America
Oncological screening	Russia	20	Petrov Oncology Research Institute, St. Petersburg, Russia
Training course on planning, feasibility and piloting of the programme BELMED	Belarus	35	Public Health England, United Kingdom; WHO Europe
On-site training supplemented by a course	Belarus	20	Public Health England, United Kingdom; Loughbourough University, United Kingdom
ICAMA - Latin American Research Network in breast cancer: training in pathology and epidemiology	Colombia	15	PRECAMA collaborators in Latin America plus ICAMA colleagues form Guatemala
B3Africa Webinars 4-6	*Go-to-Webinar*	*15+14+17*	*Medical University of Graz, Swedish University of Agricultural Sciences*
BCNet/BBMRI-ERIC Training for Pathologists and Pathology/Histo Technicians	*Egypt*	*24*	*BBMRI-ERIC, Children's Cancer Hospital, Egypt*
BCNet symposium - B3Africa in-person training	IARC	49	B3Africa consortium
Training Course for Master Trainers in Cervical Cancer Prevention, Early Detection & Management	*Bhutan*	*20*	*Ministry of health, Royal Government of Bhutan, Jigme Dorji Wangchuck National Referral Hospital, Thimphu, Bhutan*

**in italic: courses which were fully or partly run online (i.e. webinar series, online course or blended approach)*

Table 7: Courses organized by IARC 2012–2017 (including Summer School)

Year	No. courses organized	No. different countries where courses held	No. courses in LMICs	No. participants
2012	9	4	3	312
2013	12	7	6	425
2014	17	14	12	576
2015	24	14	11	647
2016*	36	23	19	1410
2017	32	16	15	1324

*Note: Figures from 2016 slightly differ from those provided in the Director's report to the Governing Council (Document GC/59/2), as some updates were received by Groups in the meantime.