International Agency for Research on Cancer

World Health Organization

Governing Council **GC/58/4**
Fifty-eighth Session 03/02/2016

Lyon, 19–20 May 2016
Auditorium

REPORT OF THE SCIENTIFIC COUNCIL ON ITS FIFTY-SECOND SESSION

INTRODUCTION

1. The Fifty-second Session of the Scientific Council (SC) of the International Agency for Research on Cancer (IARC) was opened by Professor James Bishop (Chairperson of the Scientific Council), at 09:00 on Wednesday 27 January 2016. He welcomed all the participants, including the ten new members of the Scientific Council: Drs Boris Alekseev (Russian Federation), Jonas Bergh (Sweden), Jenny Chang-Claude (Germany), Jerome Coffey (Ireland) *[unable to attend]*, Eugenia Dogliotti (Italy), Karima El Rhazi (Morocco), Kadir Mutlu Hayran (Turkey), Lalit Kumar (India), Dukhyoung Lee (Republic of Korea) and Giske Ursin (Norway).

2. He also welcomed Dr Mark Palmer (Chairperson of the Governing Council, UK), Dr Andreas Ullrich (WHO Representative), Dr Wiebke Rösler (UICC Observer) and Dr David Cox (Centre Léon Bérard – Observer).

3. Apologies for absence were received from Professor Agnès Buzyn (Vice-Chairperson, Governing Council, France) and Dr Jerome Coffey (Ireland).

4. For ease of reference a list of acronyms of Section and Groups can be found in Annex 2 at the end of this Report.

DECLARATION OF INTERESTS

5. Declarations of interests were summarized by the Secretariat and made available for consultation by all Scientific Council members during the meeting. Please refer to Annex 1 at the end of this Report.

ELECTION OF RAPPORTEUR

6. Dr Elisabete Weiderpass Vainio was elected Rapporteur.

ADOPTION OF THE AGENDA (Document SC/52/1)

7. **The agenda was adopted.**

PRESENTATION OF STANDARD REPORTS: THE IARC BIENNIAL REPORT 2014–2015 (Document SC/52/2)

8. The Director presented the IARC Biennial Report 2014–2015 and its scientific highlights.

9. The Director highlighted a number of new findings and research outcomes generated by the Agency. Many of these provide highly original observations and research evidence of international importance. The increasing incidence of thyroid cancer and its potential for overdiagnosis was discussed. The need to monitor and investigate any harm from the HPV vaccine was discussed given its widespread use and variable uptake. The SC members are highly supportive and recognize the importance and scientific value of the IARC Monographs. This programme represents important expert consensus evaluations of the published scientific data for determining whether environmental factors can increase the risk of cancer. The IARC Monographs are an important resource, in particular in providing scientific evidence on controversial issues. IARC is the appropriate organization for convening experts to guarantee scientific excellence, free from conflict of interest and focused on developing a more comprehensive understanding of the etiologies of many cancers.

10. The SC congratulated the Director and his staff on the quality of the IARC Biennial Report 2014–2015.

PRESENTATION OF STANDARD REPORTS: REPORT OF THE MEETING OF THE 57th SESSION OF THE GOVERNING COUNCIL (Document SC/52/3)

11. The Director mentioned that the full Minutes of the Governing Council meeting (GC/57/Min.1–4) were available on the IARC Governance website (http://governance.iarc.fr/GC/GC57/index.php).

12. The Governing Council welcomed Morocco as the first Participating State of IARC from the African continent.

13. The Governing Council approved the 2016–2017 budget at a level of €43 413 599 (which includes €500 000 from the Governing Council Special Fund), as compared to the requested budget of €43 927 213.

14. The Governing Council requested the Secretariat to present a review and an evaluation of the implementation of its Open Access policy at the Scientific Council in 2017.

15. The SC noted the Report of the 57th Governing Council.

PRESENTATION OF STANDARD REPORTS: DIRECTOR'S UPDATE FROM THE 51st SESSION OF THE SCIENTIFIC COUNCIL (Document SC/52/4)

16. The Director presented a brief written update from the last Scientific Council.

17. The SC noted the Director's update from the 51st Scientific Council.

PRESENTATION OF STANDARD REPORTS: BIENNIAL REPORT OF THE OCCUPATIONAL HEALTH AND SAFETY COMMITTEE (OHSC), 2014–2015 (document SC/52/5)

18. The OHSC Biennial Report (2014–2015) was presented by the Chair of the Committee, Dr Florence Le Calvez-Kelm.

19. The SC thanked Dr Le Calvez-Kelm and noted the Report.

PROPOSED RECOMMENDATIONS FROM THE WORKING GROUP FOLLOWING THEIR REVIEW OF THE PRODUCTION OF CURRENT STANDARD REPORTS (Document SC/52/6)

20. At its last meeting (see document SC/51/14, page 3), the SC suggested to set up a Working Group (WG) to review the list of current standard reports and advise the Secretariat as to their possible change or termination. This suggestion was approved by the Governing Council and the WG was established (see Resolution GC/57/R5).

21. The proposed recommendations from the WG are summarized below:

SC – Standard reporting[1]

	GC	SC
IARC Biennial Report	✓	✓
IARC Interim Annual Report (alternate years) (oral presentation)	✓	✓
Report of the previous Governing Council session (oral presentation)		✓
Director's update from the previous Scientific Council (oral presentation)		✓
Proposed Programme and Budget (biennial)	✓	✓
Biennial Report of the Occupational Health and Safety Committee (GC only)	✓	✓
Biennial Report of the IARC Ethics Committee	✓	✓
Biennial Report of the Education and Training Group		✓
Requests for equipment	✓	✓
Cross-cutting themes		✓
Discussion on a special scientific project		✓
Actions taken as a result of the previous year's Section Reviews (oral presentation)		✓

[1] **Bold font** = retained; lighter grey font = not retained (changes appear in (red font))

GC – Standard reporting[2]

	GC	SC
IARC Biennial Report	✓	✓
IARC Interim Annual Report (alternate years) (oral presentation)	✓	✓
Director's Report to the Governing Council	✓	
Report of the previous Scientific Council session	✓	
Director's response to recommendations of the Scientific Council	✓	
Financial Report, External Auditor Report and Financial Statements	✓	
Proposed Programme and Budget (biennial)	✓	✓
Biennial Report of the Occupational Health and Safety Committee (GC only)	✓	✓
Biennial Report of the IARC Ethics Committee	✓	✓
Report on publication activities, including on funding allocation (biennially)	✓	
Acceptance of donations	✓	
Acceptance of grants and contracts, including report on interest	✓	
Request for use of funds from the Governing Council Special Fund	✓	
Statement by the IARC Staff Association	✓	
Appointment of new SC members (consider update of the procedure)	✓	

22. The SC supports the recommendations of the WG. The SC suggested the IARC website could display information about scientific activity such as publications, and other important reports and this could facilitate the SC's understanding of the work of the Agency.

23. The Director replied that the suggestion would be considered, also taking into account activities that are collaborations between Sections.

24. The SC suggested it would remain important to continue to report the actions undertaken by the Agency after the peer-review of Sections as part of the Director's oral presentations.

25. The SC recommends that the Governing Council approves the above-mentioned changes in the production of IARC standard reports to the SC.

[2] **Bold font** = retained; lighter grey font = not retained (changes appear in (red font))

DIRECTOR'S RESPONSE TO THE REVIEWS OF THE SECTIONS OF INFECTIONS (INF) AND MECHANISMS OF CARCINOGENESIS (MCA), HELD AT IARC IN JANUARY 2015
(Document SC/52/7)

26. The details of actions taken following the reviews of the Sections of Infections (INF) and Mechanisms of Carcinogenesis (MCA) were discussed.

27. The Director noted with satisfaction the positive overall evaluation of both Sections.

28. The SC noted the Director's response to INF and MCA Reviews and agreed that good progress was being made on the points raised by the Review Panels. In particular, the SC noted the recruitment of additional post-doctoral fellows in mechanistic studies and the newly initiated collaborations with external groups. The SC noted that the collaboration between mechanistic and epidemiological studies was under development. The important role of IARC to promote international collaborations in this area was again highlighted by the SC.

29. The SC reviewer of ICB mentioned that the review of ICB was very positive and only minor comments were made. The ICB Group Head noted the review process was very constructive for the Group. In France, mechanistic studies face competition with national groups, which is challenging for IARC. However, the Section is now establishing good collaborations with French researchers on animal models and will submit grants within the French system in 2016.

30. The SC noted for ICE, it remains essential to collaborate to avoid any potential duplication of effort with other Sections of IARC.

31. The importance of studying the involvement of HPV in the development of tonsil cancer and current efforts to study pre-carcinogenic lesions in France was reiterated by INF staff. A grant from the French National Cancer Institute (INCa) provides key support for the ICE Group in this area.

32. The SC agreed with the INF Section Head on the importance on studying the role of HPV in skin and head and neck cancer.

33. The SC agreed that the work of the MCA Groups, EGE and MMB, was highly rated both in terms of quality and relevance for the Agency. The SC suggested that:

a) Research in the laboratory could be linked to Monograph priorities. Candidate agents identified in the Monographs that indicate key data is lacking could be complemented by additional work in collaboration with this Section.
b) Lack of animal facilities was noted and may be covered by collaboration with a group in Lyon who have such facilities.
c) Analytical validity could be sought to adopt the epigenome methodology for epidemiological studies.
d) A leadership position focused on exposure signatures could be considered. The P53 database, as well as the COSMIC database, are opportunities for IARC to serve as a curator.
e) More hypothesis driven studies are expected with the recent hiring of a new junior scientist for the MMB Group.

34. Both Group Heads stated that they appreciated the review process and that the reviewers provided constructive comments assisting the Groups to focus on key areas.

35. The SC raised the issue of ensuring an adequate level of bioinformatics support for scientists throughout the Agency. It was agreed that meeting current needs of researchers in this area is challenging and external collaborations provide one solution.

36. The SC reiterates the high importance of this area in maintaining the competitive research edge.

37. The SC would welcome a future approach for the development of bioinformatics and biostatistics support for analysis and possible expert consultation programme within the Agency.

38. The Director informed the SC that he expects further growth in the need for bioinformatics human resources and infrastructure at IARC and the Agency is reviewing its needs in this area, balanced with other demands.

39. The SC noted that the reviews are part of the key work of the SC, and the reviews were very useful. The SC concluded that the response provided by the Director and the Section/Group Heads was comprehensive and highly appropriate.

DISCUSSION WITH THE DIRECTOR, THE DIRECTOR OF ADMINISTRATION AND FINANCE (DAF) AND THE SCIENTIFIC COUNCIL

40. The SC requested, at its last session, that time be made available earlier in the agenda for discussions with the Director and the Director of Administration and Finance.

41. The Director welcomed the opportunity to report to the SC the broad view on IARC strategic direction, and where concerns exist. The discussion would assist the dialogue between SC and GC and ensure advice is consistent and relevant.

42. The Director communicated the six main pillars of IARC which occupy his daily attention: recruitment and retention of leading scientists; scientific strategy; infrastructure (buildings, equipment); finances; administrative support; and communication.

1. Recruit top scientists to IARC. During the last five years there have been some major scientific leaders recruited and retained by the Agency. However, several senior scientists will retire in the coming years and the WHO Rules on retirement age are changing and need to be closely monitored.
2. The Agency's activities need to be coherent with the three main areas identified in its newly adopted scientific strategy (2016–2020): "to describe the occurrence of cancer; to understand its causes; and to evaluate interventions and their implementation".
3. IARC's infrastructure needs to be at the appropriate level in terms of building, laboratories and IT systems.
4. To be fully successful IARC needs to continuously attract increasing financial resources.

5. To be successful IARC also needs modern administrative structures which are able to adapt to the changing environment while ensuring to manage potential risks.

6. The communications of IARC's results is improving and needs continuous effort to effectively convey the contribution it is making and attract the attention it deserves.

43. The financial base for the Agency is an on-going challenge. Participating States provide income as do new countries that join. However the introduction of new Participating States is not about new income but rather about getting the right representation around the table to assist in formulating the research agenda. Participating States are unlikely to increase financial contributions. For the size of IARC the research is very successful, but the extra-budgetary income is difficult to obtain as it is very competitive. Bilateral contracts with foundations or individual countries have been expanded, and there may be further opportunities in this area. IARC has recruited a consultant with experience in working with WHO to assist the development of relationships between IARC and potential donors. There are discrete projects in the Agency that may be quite attractive to potential donors.

44. The SC recognizes that expanding external funding for IARC is a key issue. IARC is eligible to apply to NIH, EU, and national funds in France. However, applying beyond that is often not possible. There are opportunities in some countries to apply for grants in collaboration with that country's scientists, but this funding is quite limited. In terms of private sector, one of the greatest issues is the integrity, independence and reputation of the Agency, and conflict of interests that must be avoided. At the same time the funding models are evolving.

45. The GC Chair acknowledged that IARC has difficulties in generating greater assessed contributions from Participating States. The financial constraints going forward are clear and an increase in the Participating States' contribution over time would be very important. The GC Chair suggested that SC members convey to their country's GC members the importance of the scientific work of IARC and the need to increase the IARC budget over time.

46. Communication strategy at IARC is working well, and the IARC website, Monographs and press releases remain very important. The Agency has recently improved its processes to inform stakeholders of the release of important new evidence. The SC was informed that efforts to communicate using social media will be increasingly important in the future, with more development expected in this area.

PRESENTATION OF POSTERS BY IARC SCIENTISTS

47. Scientists presented posters with their research to SC members. The SC congratulates the IARC scientists for the breadth and depth of the studies presented in this session. The SC agreed that this opportunity for the SC to interact directly with these clearly enthusiastic and driven scientists in the Agency was important and very impressive work was presented. The SC suggests that this opportunity be retained at future meetings.

PRESENTATION OF CROSS-CUTTING THEMES AND DISCUSSION (Document SC/52/8)

48. Sections were asked to present three cross-cutting themes where SC input would be valuable.

Topic 1: Mobile health (mHealth) technology implementation across IARC

49. Dr Iacopo Baussano (Scientist, Infections and Cancer Epidemiology Group (ICE)) presented Topic 1. Sections participating are: CSU, ENV, EDP and INF.

50. Mobile Health (mHealth) is the practice of medicine and public health assisted and supported by mobile devices and information and communications technologies (ICT), to collect, transmit, process and analyse information. mHealth is an emerging and rapidly developing field, at a global level, and is playing a key role in transforming the practice of medicine and public health by improving the efficiency of data transfer and their validation.

51. Over the past five years, mHealth has been instrumental to some of IARC's research activities on a study-by-study basis. In September 2015, a Working Group of IARC mHealth users held a meeting to identify mHealth initiatives conducted within the Agency, to compare aims, methods, operational approaches, and ethical issues across the different initiatives, and to envisage a common ground for mHealth governance within the Agency.

52. The SC discussed:

- Ethical and security issues that should be taken into account in developing mHealth approaches at IARC. This included the possibility that IARC could take a leading role in developing the business rules for sharing data or making data available to third parties.
- The extent that IARC should develop mHealth facilities and skills in-house or the advantages of outsourcing mHealth systems was discussed. The SC suggested that it was important for the Agency to maintain control of this development recognizing the IT development may need to be done with a commercial partner.
- The extent to which IARC should be engaged in developing mHealth approaches transferable to low- and middle-income (LMIC) settings for cancer control and prevention was discussed.

53. The SC suggested that caution with the security issues would be necessary given moving information across boundaries may require consideration of security and legal issues. Cloud solutions exist which allow secure accessing from different physical places in a secure manner. Long-term investment for IARC in this area would be advisable, as IARC is unique and well positioned to do this work across countries. Current WHO policy is ad hoc review for each project using "the Cloud". There are obvious commercial opportunities for collaboration, as the investment from IARC in developing all tools internally by itself would be very costly and time consuming. Other jurisdictions such as the National Intelligence Network in the UK has developed rules for access to data by external researchers, companies, and other interested partners. As there are companies already developing solutions, it may be a better use of resources to use tried and ready developed methods instead of creating new tools in-house.

54. LMICs are moving to use mHealth tools. Security issues as well as maintenance issues are important. As technology evolves fast, programs or companies may become obsolete quickly, with the consequence that data is eventually lost.

55. WHO works with mHealth; 9.4 billion people use mHealth to access information on health. However, scientific evaluation of the use of mHealth has not been sufficiently developed. Implementation of mHealth would be important and may be an important research niche for IARC.

56. There are opportunities in research by using mobile technology, and it may be of great value in particular in developing countries. mHealth tools could be focused on cancer registry work for obtaining key demographic or perhaps adding clinical information to the standard data. All Sections at IARC are interested in using mHealth. The Section of Environment and Radiation is already working with tools for data collection on mHealth, notably on a breast cancer survival study using mHealth tools exclusively. Researchers and participants are more motivated by the use of mHealth tools to collect data. Motivation increases with availability of data in real time. Pathologists or other special skills are rare in some areas, and mHealth could improve pathology diagnosis in remote areas. Reading of mammography by sending files to distant central sites is another example where mHealth would be useful. IARC's role may be to research the implementation and the value of such innovation.

Topic 2: Key IARC activities that link surveillance, prevention, screening and implementation science in the context of health in the UN post-2015 development agenda

57. Dr Isabelle Soerjomataram (Scientist, Section of Cancer Surveillance (CSU)) presented Topic 2. Sections/Groups participating are: CSU, EDP, INF, ENV, NME, IMO, MCA, GEN and ETR.

58. IARC has a mandate to reduce the burden of cancer worldwide by conducting high quality, multi-disciplinary and multi-collaborative research. The nine scientific Sections at IARC provide an integrated approach to cancer research that focuses on surveillance, prevention and early detection for national, regional and global cancer control planning. The Agency provides the evidence base for cancer control action that supports WHO in implementing the noncommunicable disease (NCD) Global Action Plan, and Member States in monitoring progress of the 25 indicators and targets agreed at the 66th World Health Assembly[3], as part of the Global Monitoring Framework for NCD.

59. More recently the Sustainable Development Goals (SDGs)[4] were launched as an integral part of the UN development agenda beyond 2015. The SDGs consist of 17 goals, of which one specifically on health (Goal 3), each comprising a number of specific targets.

[3] http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_8-en.pdf
[4] http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

60. The SC discussed:

- The main priorities for the Agency's research programme in support of public health policy development in:

  i) Providing the evidence base for supporting cancer control planning in WHO Member States (low-, middle- and high-income) as part of their response to the high-level SDG.

  ii) How IARC should go about this task given the broad scope of opportunities presented through increased liaison with WHO and other UN agencies and non-governmental organizations.

61. Many aspects within the SDGs encompass other health conditions beyond the scope of IARC's research agenda. The SC discussed how IARC should address this issue.

62. The SC supports the matrix approach for collaborations within IARC. There is good communication across Sections. The Senior Leadership Team can provide discussion across the Agency. The "Director's Development Provision" (DDP) can provide some support for these initiatives. Also, the SC supports the initiative for the "Junior Investigators Award", started this year, for which fresh resources have been allocated.

63. The WHO Representative stated that WHO is highly appreciative of IARC's actions in the context of the NCD plan. While the WHO should encourage countries to achieve targets and monitor them in relation to NCDs in reducing mortality, IARC has an important and fundamental role in providing information on how the progress of the initiatives in different nations should be monitored. IARC research and implementation work on cancer registries is fundamental in relation to SDG Goal 3: the monitoring on incidence is unique in relation to NCDs; it can monitor prevention action, and incidence reflects the risk factors and disease burden.

64. The SC discussed the development of cancer registration including risk factors, bio-sampling or clinical data that could accompany cancer registration in the future. Registries in high-income countries are particularly well placed to collect biological samples together with cancer registry data. In LMICs the Global Initiative for Cancer Registry Development (GICR) aims mainly to support a collection of more complete basic cancer incidence information.

65. The SC discussed the importance of cancer survival as a key indicator of quality of health services. IARC can play a role in cancer survival monitoring.

66. The European Parliament has initiatives on privacy that may affect cancer registration negatively. IARC could have a firm view on the privacy legislation on the EU level, and this opinion should be voiced to all scientific community and public health community.

67. Early detection is another fundamental area that IARC has a role in. For screening it is difficult to convince countries of the need for it, and the evidence from IARC is very important in this aspect. The SC suggested that there may be potential for collaboration between donors supporting research both on cardiovascular disease and cancer, given common risk factors.

68. IARC could provide the evidence which would be the basis for implementation programmes, such as making better use of public resources and decreasing mortality. Research on primary prevention in relation to infections is a fundamental area where IARC has and should continue to have an important role worldwide.

69. Also, nutritional epidemiology (including obesity) is an area that the SC suggested that IARC should continue investing and providing scientific evidence for cancer prevention. Development of programmes in areas of need but where countries are not active enough could be considered, for example on gallbladder cancer.

70. The Director made the following observations:

- Etiological and primary prevention work will continue.
- New opportunities in support of GICR are being developed.
- WHO Action Plan on NCDs includes now a sentence about cancer incidence by sex, which is a political advance, allowing IARC to communicate the importance of cancer registration and to expand cancer registration worldwide.
- Cervical cancer screening and HPV vaccination is mentioned in the Action Plan for the UN, and IARC is a member of the UN Interagency Taskforce on NCDs to mobilize action worldwide.
- The next Handbook of Cancer Prevention (April 2016) will be focused on overweight and obesity. This will support public health decisions at country level in terms of setting targets for controlling obesity.
- EU legislation debate: IARC has participated actively but not taken the lead in terms of concerns over the new legislation and its effects on use of cancer registry data for research, as IARC was aware of many actions by the research community in this area.

Topic 3: Evaluation of biomarkers for cancer screening and early detection

71. Dr Raul Murillo (Implementation Scientist, Prevention and Implementation Group (PRI)) presented Topic 3. Sections/Groups participating are: EDP, NME/BMA, INF, MCA, GEN/GEP, GEN/GCS and DIR/LSB.

72. Detection of malignant neoplasms at early stages determines to a large extent the success of cancer treatment. Major achievements in knowledge of cancer biology and biomarker development are observed; however, only a few markers specific to early detection or screening have become incorporated into clinical practice.

73. IARC has a long tradition on biomarker development research and currently most of the research groups are working in different stages of the pathway for this purpose. Discovery of biomarkers for exposure and cancer risk is an area with intensive activity, with robust models and extensive internal and external collaborations in place.

74. At the same time, multi-faceted research programmes on epigenetic mechanisms of carcinogenesis and identification and validation of epigenetic-based biomarkers of exposure and cancer risk have enabled the testing of new etiological hypotheses.

75. The preliminary evaluation as to the validity of a putative biomarker as well as the application in subsequent epidemiologic research relies on large case-control and cohort studies with increasing availability of biobanks linked to databases with exposure and long-term follow-up data on health outcomes. These methodologies and tools have proven to be important in enabling multidisciplinary studies on cancer etiology.

76. The SC discussed:

- The best use of the limited resources in IARC to increase research activities on biomarker development for cancer screening and early detection, including the issue of clinically validated biomarkers developed outside the Agency (including in the private sector). The SC discussed whether work on such markers amenable to cancer screening and early diagnosis in LMICs was the role of IARC.
- The role of IARC in high-throughput, large-scale clinical studies for biomarkers developed in-house. It was recognized that different models of in-house biomarker development through to validation are open to IARC, recognizing the constraints to working with the commercial sector faced as a part of the UN family.

77. The SC discussed exposure, early diagnosis and susceptibility biomarkers as fundamental to understanding the natural history of diseases. Full clinical implementation of biomarkers is obviously a challenging field for IARC. The SC suggested that IARC's strength is to discover biomarkers but not to fully validate them clinically as that would require close collaboration with hospitals and industry that is not a current strength of IARC. Thus risk assessment biomarkers and exposure biomarkers are the areas where IARC should focus its research. The SC does not encourage the Director to focus resources in the extensive validation of clinical biomarkers.

78. An active role of IARC in seeking collaboration and partnerships is advisable to facilitate potential validation of promising biomarkers clinically. The SC suggested that investments have to be carefully planned to maximize impact within IARC's main cancer target areas.

79. The SC noted the importance of validation, while recognizing that retaining the independence of the Agency cannot be underestimated. Therefore the approach of the Agency in dealing with commercial companies will need to be developed carefully and transparently.

80. The Director agreed that clinical validation is not a priority for IARC, but opportunities for collaboration should not be missed if they arise. In the context of cancer screening there may be opportunities for markers used for triage in screen positive people. Evaluation of promising commercial biomarkers would not be ignored, provided that IARC scientific independence is maintained. There may be value to the cancer community and common good to do this type of research without compromising the integrity of the Agency.

SCIENTIFIC COUNCIL MEMBERSHIP OF SECTION REVIEW PANELS IN 2017

81. The Scientific Council discussed the Sections to be reviewed in 2017: Section of Cancer Surveillance (CSU), Head: Dr Freddie Bray and Section of Environment and Radiation (ENV), Head: Dr Joachim Schüz.

82. Drs Giske Ursin and John Spinelli will participate in the CSU Review Panel. It was agreed that Dr Giske Ursin would Chair the Review Panel.

83. Drs Martin Röösli and Jenny Chang-Claude will participate in the ENV Review Panel. It was agreed that Dr Chang-Claude would Chair the Review Panel.

84. The external members should be chosen by the Secretariat in consultation with the Chairs of the Review Panels and the Chair of the Scientific Council.

85. The Reviews will take place at IARC in the days immediately preceding the 53rd Scientific Council session, i.e. will take place at IARC on 23–24 January 2017.

PURCHASE OF SCIENTIFIC EQUIPMENT – MEDIUM-TERM SUPPORT TO THE BIOBANK (Document SC/52/9)

86. The Head of the Laboratory Services and Biobank Group (LSB), Dr Maimuna Mendy, presented the request for purchase of equipment for the medium-term support of the Biobank.

87. The SC was requested to advise the Director and the Governing Council on the proposed request to use funds from the Governing Council Special Fund to purchase the scientific equipment listed below, for a total allocation of €492 500, over a period of three years (2016–2018):

a) Automatic liquid nitrogen tank (x1);

b) Liquid nitrogen tanks (x5);

c) -80°C freezers with racks and temperature monitoring device (x12); and

d) -40°C freezers with racks and temperature monitoring device (x3).

88. The SC considered these items and agreed that these purchases are essential.

89. The SC noted that the annual maintenance costs of the requested equipment will be integrated into the IARC regular budget as well as from extra-budgetary sources and charges for Biobank services.

90. The SC discussed the balance between investing in equipment now instead of waiting for the move to the new building. Given that this equipment is needed soon, it is not possible to wait until the move to make basic investment in equipment. The SC received clarification that there is a cost recovery mechanism in place when biological samples are delivered to different projects, and it functions well, as it covers part of the salary of the staff employed in these tasks.

91. The SC strongly recommended that the Governing Council approves the above-mentioned purchase of scientific equipment as proposed.

92. The SC recognizes the critical importance of biobanking for all activities of the Agency.

SCIENTIFIC REPORT OF THE SECTION OF GENETICS (GEN) REVIEW AND DISCUSSION (Document SC/52/WP5)

93. The Consensus Statement of the GEN Review was presented by Dr John Spinelli, Chair of the Review Panel.

94. The external advisors and SC members of the Review Panel were thanked for their valuable contributions.

95. The Review Panel noted the following concerning the GEN Section: the Section was rated very highly in this review with scores of outstanding and forefront for its work. It has many strengths including leadership, high research productivity with outstanding publication record, international studies coordination, great success in obtaining grant funding, impressive work, for example on the genetics of Hodgkin lymphoma, and synergy with other Sections. The scientific impact of its discoveries was high with numerous examples.

Evaluation of GEP by the Review Panel

The **past performance** and **future plans** should be scored independently for **quality** and **relevance**, as follows:

a. Assessment of GEP's scientific quality (using the six-point scale below)[5]

Past performance: Outstanding

Future plans: Outstanding

b. Assessment of the relevance of GEP's work to the mission of IARC[6]

Past performance: Perfect fit

Future plans: Perfect fit

[5] The following classification will be used:

O (Outstanding)	Outstanding work of the highest international calibre, pioneering and trend-setting. This score will only be applied to exceptional programmes of work, not because a programme was particularly topical or in an under-researched area.
F (Forefront)	Work that is at the forefront internationally and that, it is considered, will have an important and substantial impact.
C (Competitive)	Work that is internationally competitive, of high quality, and will make a significant contribution.
NC (Not competitive)	Work that is not considered competitive or high quality and is unlikely to make a significant contribution.
U (Unsatisfactory)	Unsatisfactory or poor quality work.
P (Preliminary)	Work that is too preliminary to rate, which should be continued and monitored/reassessed by the Director in the short- to medium-term with subsequent update to the Scientific Council.

[6] The following classification will be used:

1: **Perfect fit**: This type of work is ideally suited to the mission of IARC.
2: **Good fit**: This type of work is suited to the mission of the Agency.
3: **Questionable fit**: Uncertain.
4: **Poor fit**: Work which should not continue.

Scores should be accompanied by justifications and recommendations for action, where necessary.

Overall recommendations for GEP

The Panel notes the outstanding performance of this Group over the last five years, and recommend that GEP:

1. Continue focus on carefully selected cancers of contrasting incidences where GEP can make a difference;
2. Maintain the strong collaborations between GEP and GCS;
3. Carefully evaluate how best to integrate expertise in biostatistics to ensure high quality and reproducible research.

Evaluation of GCS by the Review Panel

a. Assessment of GCS' scientific quality

The Genetics Platform and the scientific projects were scored separately.

Genetics Platform:	Past	F/O
	Future	F
Research Projects	Past	F/O
	Future	F/O

b. Assessment of the relevance of GCS' work to the mission of IARC

Past: Perfect Fit

Future: Perfect Fit

Overall recommendations for GCS

- Maintain focus on the unique resources within IARC;
- Maintain very strong and synergistic interactions with GEP;
- Exercise caution in developing a large portfolio of projects – maintaining focus is important;
- Having a good balance of risk within the overall portfolio is important.

Evaluation of BST by the Review Panel

a. Assessment of BST's scientific quality

Past performance: F

Future plans: P

b. Assessment of the relevance of BST's work to the mission of IARC

Past performance: Perfect fit

Future plans: Perfect fit

Overall recommendations for BST

- BST does not function well as part of GEN, and a different structure is necessary. Nevertheless, the biostatistics contributions are still needed in GEN and at other Sections in IARC.
- Dr Byrnes should offer short courses or workshops on methodological developments arising from his collaborative work, accessible and encouraged for all trainees and scientists at IARC who do quantitative work.
- Dr Byrnes should carry methodological developments through to independent publication.
- The availability of biostatistical support should be presented to new scientists and trainees as part of the introductory package.

Overall evaluation of GEN by the Review Panel

a. Assessment of GEN's scientific quality

Past performance: O

Future plans: F/O

b. Assessment of the relevance of GEN's work to the mission of IARC

Past performance: Perfect fit

Future plans: Perfect fit

Overall recommendations for GEN

Please refer to the individual Group recommendations.

96. In response, the Director appreciated that the structure of the IARC influences the way this Section works. The depth and specificity of the comments are helpful. GEP received an outstanding evaluation. The integration within the Section between the Groups is an important strength. The Biostatistics Group within the Section has been discussed in depth; after careful consideration it was decided that biostatistics should be reinforced within each Section of IARC, and not create a Biostatistics Group separately to serve all IARC. However, in this Section, the work of biostatistics is fundamental, and includes BST providing training to junior scientists across the Agency. The interaction between statistical and bioinformatics expertise is essential in this Section.

97. The Section and Group Heads thanked the Review Panel for their input and commented on the report, clarifying some points in relation to the work of junior scientists, in-house collaborations, and opportunities for research and the balance between embracing new opportunities and being focused on ongoing areas of research on cancers where the Section is already strong. There is a challenge between focus and breadth in teaching, mentoring and producing original research.

98. This review highlights the importance of bioinformatics and biostatistics support and reinforces the SC view of the need for a comprehensive approach for providing such support over coming years. Dialogue with SC members with expertise in this area is recommended.

99. The Section of Genetics (GEN) Review Panel Report was formally accepted by the SC, as written. The Section members are congratulated for the high quality scientific programme.

100. The SC considers this an outstanding programme at IARC, clearly conducting cutting edge research at the highest level.

PROPOSAL FOR AN EVALUATION APPROACH OF THE IARC MEDIUM-TERM STRATEGY FOR 2016–2020 (Document SC/52/10)

101. The Governing Council, during its discussion on the IARC Medium-Term Strategy for 2016–2020 (MTS) in May 2015, highlighted the need for monitoring its implementation and requested the Director to make a proposal for an evaluation approach.

102. The purpose of the evaluation is to provide an assessment of the Agency's progress overall in implementing the MTS by monitoring achievement of results, assessing their alignment with the stated strategic priorities and their contribution to attaining the high-level objectives set out in the IARC Project Tree (see Annex 3 of MTS).

103. To conduct the evaluation, as with the approach adopted for the development of the MTS, the Agency will convene a Joint Working Group composed of six members of the Scientific Council and four members of the Governing Council.

104. The IARC Secretariat would prepare a report structured around the three broad areas mentioned in the MTS: advancing knowledge through research, increasing research capacity and strategic research leadership, including key performance indicators and other metrics.

105. This evaluation would be carried out mid-way through the MTS implementation, i.e. in mid-2018, and the conclusions and recommendations of the Working Group will be submitted to the Scientific and Governing Councils the following year. This would permit the Agency two years to implement the MTS before preparation of the report for assessment by the Joint Working Group.

106. The SC was asked to comment on the proposed evaluation approach, specifically on the establishment of a Joint Working Group and its composition, and to discuss the broad outline of the structure of the review and types of analyses proposed.

107. In response, the SC endorsed the establishment of the Joint Working Group and agreed this recommendation would be made to the Governing Council.

108. The SC commented that defining endpoints or goals, outcomes and process measures should be clarified but could consume resources unless already collected by the Agency.

109. The NIH uses a website for people to comment; this strategy could be implemented for IARC to receive comments on the MTS from the IARC and the international community.

110. The five-year review of Cancer Research UK centres includes the use of a specific international team to review overall impact, as well as the quality of science.

111. Changes in the volume of communications that IARC has with different countries is an important metric. Although important, the impact of IARC's research on policy is difficult to capture. Such evaluation would require a large team of experts.

112. Setting up a series of new indicators will be time consuming and expensive and may not be realistic.

113. The Governing Council Chair recognizes that an MTS evaluation will be resource-consuming, and cautions that the metrics should be kept to a minimum set of indicators, which are not too complex but are informative.

114. The SC agrees with the proposal that the Governing Council consider to establish a Joint Working Group to review the evaluation.

UPDATE OF THE GUIDELINES FOR PEER-REVIEWS AT IARC (Document SC/52/11)

115. The current Scientific Review Guidelines provide a good framework for the evaluation of the scientific outputs of IARC's research Groups/Sections. It was agreed the new evaluation framework was working well as was the scoring and it was an improvement on the previous framework. However the framework did not offer sufficient guidance on assessing some of the broader impacts of the research activities, in areas such as promoting research collaborations, development of research capacity and the impact on public policy which are central to IARC's mandate and mission.

116. In order to address this gap the Secretariat prepared an updated version of the Scientific Review Guidelines including additional evaluation parameters such as contribution to the creation of collaborative networks, contribution to training and impact on public health policy which should be consistently taken into account in the peer-review evaluations.

117. The SC reviewed these updated Scientific Review Guidelines, and recommended that the Governing Council approves the update.

118. The SC suggests that consideration be given to the training component of the Section under review. In addition, reviewers have commented on the value of obtaining the complete CVs of junior staff as well as senior research staff members.

Suggested format of Working Paper prior to review (changes in red)

For Sections composed of two or more Groups

i. General description of the Section

ii. Strategic vision of Section and contribution to IARC's Medium-Term Strategy (MTS)

iii. Role of Section within IARC

iv. Section's structure and operational management

v. Recommendations for the Section by previous Review Panel(s)

For integrated Sections and for individual Groups within a Section

1. Introduction

1.1 General description of the Section/Group

1.1.1 Strategic vision of Section/Group and contribution to IARC's MTS

1.1.2 Role of Section/Group within IARC

1.1.3 Current professional (indicate level) and other staff (including Ph.D. students) and visiting fellows

1.1.4 Current vacancies

1.1.5 Professional staff (indicate level) that left IARC in previous five years

1.1.6 Operational management/mandates and responsibilities of senior scientists

1.1.7 Brief CVs of P4 and P5 staff

1.1.8 Training programmes/courses attended by Section/Group personnel

1.1.9 Extended CV of Section/Group Head

1.2 The Section/Group's contribution to IARC's broader mission (as relevant)

1.2.1 Involvement in the creation and development of collaborative networks

1.2.2 Involvement in the organization of training programmes/courses or other examples of research capacity building

1.2.3 Impact on the development of public health policy, national or international guidelines/recommendations

1.3 Recommendations for the Section/Group by previous Review Panel(s)

2. Research report

2.1 Past performance by the Section/Group

2.1.1 Overall: landmarks/specific circumstances that influenced performance

2.1.2 List of all significant projects in past five years

2.2 For each finished and longer-term ongoing project: 1 page (maximum) summary in the following format:

Title of project [add as many as necessary]

2.2.1 Principal investigator

2.2.2 Role of the Section/Group: initiator or collaborator, names and affiliations of main collaborators

2.2.3 Funding source and amount

2.2.4 Background/motivation

2.2.5 Brief: design and methods

2.2.6 Results

2.3 Publication list, containing publications from the Section/Group over the past five years categorized in peer-reviewed papers, book chapters/reviews with the five most significant papers starred

2.4 Copies of two key publications; and title pages of other major publications

2.5 A list of meetings at which Section/Group members have been invited speakers

3. Future research proposal

3.1 Strategic vision of the Section/Group for the next five years

3.1.1 Overall

3.1.2 Short-, medium-, and long-term goals

3.1.3 Contribution to IARC's MTS

3.2 A one to two page summary for each shorter-term ongoing and planned project in the following format:

Title of project [add as many as necessary]

3.2.1 Ongoing/planned

3.2.2 Principal investigator

3.2.3 Role of the Group: initiator or collaborator

3.2.4 Funding source and amount/requested budget

3.2.5 Background/motivation

3.2.6 Design and methods (sufficient detail should be provided to allow the reviewers to form an opinion on the feasibility of the proposed work)

3.2.7 Expected results and impact

3.2.8 Expected completion date

3.2.9 Relevance of project to goals of Section/Group and of IARC as a whole

3.3 Priority score of the ongoing and planned projects:

3.3.1 Essential

3.3.2 Desirable

3.3.3 Useful

If individual projects have been specifically requested or commissioned (e.g. by WHO), please indicate this.

UPDATE ON THE "NOUVEAU CENTRE"

119. Mr David Allen, Director of Administration and Finance, presented the update on the "Nouveau Centre" project.

120. He gave a brief introduction on the status of the current IARC building (the tower), which had to undergo urgent major repairs to allow IARC to continue working. A long-term solution of building on a new site in Lyon was then reached. Timeline of the "Nouveau Centre" project is estimated at 5–7 years:

- *Spring 2016*: bid for a joint architect/building company.
- *Spring 2017*: choice of the company.
- *Spring 2017–Spring 2018*: design studies.
- *Summer 2018–Summer 2020*: building works.
- *Autumn 2020*: IARC works and move.
- *December 2020*: opening of the "Nouveau Centre".

121. The SC had no comment.

DISCUSSION ON THE INFORMATION NEEDED TO GUIDE PARTICIPATING STATES IN MAKING THEIR NOMINATIONS FOR REPLACEMENT OF SCIENTIFIC COUNCIL MEMBERS

122. In recent years, the Governing Council considered it had insufficient information on which to base its choice of SC appointees. Participating States nominate candidates with excellent qualifications, but appointments need to be made based on a balance of expertise within the SC.

123. The interactions between SC members and their respective Governing Council Representatives vary widely between countries. More direct interaction in selecting candidates might be useful.

124. The SC discussed various ways to achieve a better balance of expertise among its members and concluded that the Governing Council member and the SC member of each country should closely interact in identifying future SC members taking into account the SC scientific needs and other criteria, such as gender balance. Two names should be submitted by the Participating States concerned as early as possible in the process to allow Governing Council members to review qualifications before voting.

125. The SC urges the Governing Council members to consult with the SC members and consider these issues in the deliberations.

126. The structure and operation of the SC may be discussed in future meetings to ensure the best scientific advice to the Agency.

ELECTION OF CHAIRPERSON AND VICE-CHAIRPERSON FOR THE 53rd SESSION OF THE SCIENTIFIC COUNCIL IN 2017

127. Dr Ellen Kampman was elected Chairperson.

128. Dr Giske Ursin was elected Vice-Chairperson.

DATE OF NEXT SESSION

129. Wednesday 25, Thursday 26 and Friday 27 January 2017. The CSU and ENV Review Panels will take place on Monday 23 and Tuesday 24 January 2017.

ADOPTION OF THE SCIENTIFIC COUNCIL REPORT (Document SC/52/12)

130. **The report of the Fifty-second Session of the Scientific Council was adopted.**

CLOSURE OF THE SESSION

131. The customary expressions of thanks were exchanged.

132. Dr Wild thanked the outgoing SC members, Drs Nuria Aragonés (Spain), James F. Bishop (Australia), Nicholas C. Jones (UK), Christos Sotiriou (Belgium) and Teruhiko Yoshida (Japan).

ANNEX 1

STATEMENT FOR THE DECLARATION OF INTERESTS

Declarations of interest were provided by all Scientific Council members.

Interests were declared by a minority of Council members and include:

- ✓ Research collaborations with pharmaceutical industry; and
- ✓ Consulting for a commercial entity.

The list of declared interests was made available upon request, from the Chair and the Vice-Chair, for consultation during the meeting.

Upon review by the Secretariat none of the declared interests were considered to represent a potential or clear conflict of interest with respect to the content of the meeting.

The individuals reporting interests were asked to check the contents of the table below, which they all subsequently approved.

Scientific Council member	Declared interest(s)
Jonas Bergh	Research support for clinical studies, "pre"-clinical molecular biological studies for prognostic and therapy, pharmacogenomics; research collaborations with various industrial companies (e.g. Amgen, Astra-Zeneca, Merck, Pfizer, Roche, Bayer, Sanofi-Aventis) to Karolinska Institute or Karolinska University Hospital. No personal honoraria.
Lukas Huber	Employment, consulting, research support and patents from commercial entity “Oncotyrol” – amount approx. US$ 1000/month
Giske Ursin	Research support from Merck/MSD to the Cancer Registry of Norway without direct personal involvement
Elisabete Weiderpass-Vainio	Research support from Merck/MSD to the Cancer Registry of Norway without direct personal involvement

ANNEX 2

Sections and Groups

Acronym	Full name of Section/Group	Responsible Officers
CSU	**Section of CANCER SURVEILLANCE**	**Dr F. Bray**
EDP	**Section of EARLY DETECTION AND PREVENTION**	**Dr R. Herrero**
PRI	Prevention and Implementation Group	Dr R. Herrero
SCR	Screening Group	Dr Sankaranarayanan
ENV	**Section of ENVIRONMENT AND RADIATION**	**Dr J. Schüz** Deputy: Dr A. Kesminiene
GEN	**Section of GENETICS**	**Dr P. Brennan**
BST	Biostatistics Group	Dr G. Byrnes
GCS	Genetic Cancer Susceptibility Group	Dr J. McKay
GEP	Genetic Epidemiology Group	Dr P. Brennan
IMO	**Section of IARC MONOGRAPHS**	**Dr K. Straif** Deputy: Dr D. Loomis
INF	**Section of INFECTIONS**	**Dr M. Tommasino**
ICB	Infections and Cancer Biology Group	Dr M. Tommasino
ICE	Infections and Cancer Epidemiology Group	Dr S. Franceschi
MCA	**Section of MECHANISMS OF CARCINOGENESIS**	**Dr Z. Herceg**
EGE	Epigenetics Group	Dr Z. Herceg
MMB	Molecular Mechanisms and Biomarkers Group	Dr J. Zavadil
MPA	**Section of MOLECULAR PATHOLOGY**	**Dr H. Ohgaki**
NME	**Section of NUTRITION AND METABOLISM**	**Dr I. Romieu**
BMA	Biomarkers Group	Dr A. Scalbert
DEX	Dietary Exposure Assessment Group	Dr N. Slimani
NEP	Nutritional Epidemiology Group	Dr I. Romieu