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Item 16 of the Conference's provisional agenda  
(GC(59)/1, Add.1 and Add.2)

## Programme of Action for Cancer Therapy

*Report by the Director General*

### Summary

- This report on the Programme of Action for Cancer Therapy (PACT) is herewith submitted to the Board of Governors for consideration, with a view to its subsequent transmittal to the General Conference.
- The report responds to General Conference resolution GC(57)/RES/12.A.2, and provides an overview of the progress achieved in delivering the Programme during the period October 2013 to June 2015.
- The Annex provides a list of Integrated Missions of PACT (imPACT Review Missions) conducted during the reporting period.
- Further information on the Agency's activities related to cancer can be found in the *Nuclear Technology Reviews* for 2014 and 2015 (documents GC(58)/INF/4 and GC(59)/INF/2), the *IAEA Annual Reports* for 2013 and 2014 (documents GC(58)/3 and GC(59)/7) and the *Technical Cooperation Reports* for 2013 and 2014 (documents GC(58)/INF/5 and GC(59)/INF/3).

### Recommended Action

- It is recommended that the Board take note of this report and authorize the Director General to submit the report to the General Conference at its fifty-ninth regular session.



# Programme of Action for Cancer Therapy

## *Report by the Director General*

1. This document responds to the request by the General Conference to the Director General to report on the implementation of resolution GC(57)/RES/12.A.2 at its fifty-ninth regular session.
2. The document provides a brief overview of the current cancer threat worldwide, and places PACT's work within the context of the Agency's overall cancer control activities. Section B reports on PACT's cancer control activities, and on the alignment of PACT with the IAEA's technical cooperation programme.
3. PACT's contribution to global policy development and coordination efforts, including to the UN Interagency Task Force on the Prevention and Control of Non-communicable Diseases and UN health-related discussions on the post-2015 development agenda, is presented, as is progress made by the Advisory Group on Increasing Access to Radiotherapy Technology in Low and Middle Income Countries (AGaRT).
4. Achievements in strengthening cancer control capacities and programmes at country level are described in section E, which covers imPACT Review Missions carried out during the reporting period and efforts to increase the effectiveness of these missions, as well as activities in support of PACT Model Demonstration Sites, and training of health professionals in cancer control, including radiation oncology.
5. Section F is dedicated to strategic partnerships advocacy and resource mobilization, key areas of activity for the strengthened PACT.
6. The Annex lists the imPACT missions carried out during the reporting period.

## **A. Agency-wide Cancer Control Activities**

7. Cancer poses a major threat to public health worldwide, and incidence rates are on the rise. The International Agency for Research on Cancer (IARC) estimates there were 14.1 million new cancer cases and 8.2 million deaths in 2012, placing cancer as the second leading cause of death after cardiovascular diseases. IARC estimates that this burden will increase, due to population growth, ageing, and an increasing prevalence of risk factors for non-communicable diseases (NCDs). This trend is of particular concern in low- and middle-income (LMI) countries, in which 5.3 million cancer deaths occur every year, representing over 60% of cancer deaths worldwide. The high mortality to incidence ratio in developing countries is not only associated with the stage of many common cancers at diagnosis (curable versus incurable), but also with weak health systems and limited access to quality cancer care, particularly among poorer and more marginalized populations.

8. PACT has been recognized by Member States as an Agency flagship programme. Working with the IAEA's partners, the World Health Organization (WHO), IARC and the Union for International Cancer Control (UICC), among others, PACT enables Member States to introduce, expand and improve their cancer control capacity by integrating radiation medicine into a comprehensive National Cancer Control Programme (NCCP). Such programmes integrate and align activities and investments in all areas of cancer control, namely, cancer prevention, surveillance, early detection, diagnosis, treatment, and palliative care into a public health system. The Agency, through its technical cooperation (TC) and human health programmes, has a long and continuing history of supporting Member States in developing the capacity and infrastructure required for the safe and secure diagnosis and treatment of cancer. In addition, the Agency maintains the Human Health Campus website, an online informative resource for health professionals working in nuclear medicine, radiation oncology, medical physics and nutrition, which provides insight into the different aspects of modern clinical practice.

## **B. Alignment of PACT with the Technical Cooperation Programme**

9. The General Conference, in resolution GC(57)/RES/12.A.2, welcomed the upgrade of the PACT Programme Office (PPO) to a division in the Department of Technical Cooperation (TC), with a view to enhancing the performance of PACT and to making optimum use of the synergies between TC and PACT activities. In response to General Conference resolution GC(57)/RES/12.A.2, para 1, which requested the Director General to report on the impact of the move of PACT from Major Programme 2 to Major Programme 6, the Secretariat briefed Member States in September 2014 on PACT's integration in the TC Department.

10. The upgrade and departmental move was operationalized in 2014. Particular attention was paid to ensuring programmatic efficiencies and effectiveness, and to developing mechanisms for systematically involving relevant PACT staff, as part of the TC Project Team, in the planning and design of cancer related TC projects.

11. The Division of PACT has subsequently contributed to national and regional TC planning processes (Country Programme Notes and Country Programme Frameworks) in the area of cancer control, as well as to national development processes such as national cancer control plans (NCCPs) and UN Development Assistance Frameworks (UNDAFs). The Division of PACT has also provided input to the development and design of cancer-related TC projects for the 2016–2017 TC cycle, with the aim of ensuring the alignment of the proposed projects with known national health priorities in cancer control, and of bringing a partnership perspective to enhance country level implementation. The Division of PACT is also coordinating resource mobilization efforts to address funding gaps in cancer-related TC projects. A footnote-a/ interregional project has been proposed for the 2016–2017 TC cycle, which will integrate PACT services within the TC programme framework.

12. During the period under review, 134 TC projects related to radiation medicine were implemented. This included activities funded by the Peaceful Uses Initiative and other extrabudgetary contributions to support capacity building for radiation medicine professionals. In 2014, 25.9% of all IAEA technical cooperation (TC) programme funds were disbursed in the area of human health, largely in areas related to cancer diagnosis, treatment and management.

13. PACT supplemented comprehensive cancer control activities supported through regional TC projects in Africa (RAF/6/046), Asia and the Pacific (RAS/6/069) and Europe (RER/6/027). Further

cancer control activities were carried out in the Latin America and the Caribbean region under RLA/6/067, 'Establishing a Subregional Plan for Cancer Prevention and Integral Cancer Care in Central America and the Dominican Republic (ARCAL XCIII)'. Other regional projects also provided support to Member States in radiation medicine. These included RAF/6/045, 'Strengthening Regional Human Resource Building and Treatment Capacity in Radiotherapy', RLA/6/072, 'Supporting Capacity Building of Human Resources for a Comprehensive Approach to Radiation Therapy', and RLA/6/068, 'Improving Quality Assurance in Radiotherapy in the Latin America Region (ARCAL CXIV)'.

14. During the reporting period, the Division of PACT, together with the relevant regional technical cooperation and technical Department Divisions, co-organized five training courses, collaborating variously with WHO, WHO Regional Offices, IARC, UICC and national governments, to enhance Member States' cancer control capacities within the framework of the 2012–2013 and 2014–2015 TC programme cycles. A regional training course on 'Priority Actions for Cancer Control Planning Based on imPACT Review Experience' took place in Vienna in October 2014, under RAF/6/046. Under TC project RAS/6/069, a regional meeting on 'Prioritizing Cancer Control Interventions based on Country Context and Resources' was held in Malaysia in March 2013.

15. A regional thematic training course on 'Priority Actions for Cancer Control Planning' took place in Tbilisi in October 2013, under RER/6/027. Under the same project, a regional workshop was organised in Vienna in December 2013 to assess progress in cancer control planning with a view to exploring training needs and opportunities through regional networking and other international collaborations. Also under RER/6/027, a regional thematic training course 'Developing a Radiotherapy Plan within the National Cancer Control Programme' was organized in Ljubljana in January 2014. Under RLA/6/067, PACT facilitated a meeting on cancer control challenges in Latin America and the Caribbean region in Panama in October and November 2013.

16. Under the 2016–2017 TC programme cycle, the regional TC Divisions and the Division of PACT will work closely to ensure the synergy of activities implemented in support of cancer care and control.

## **C. Contribution to Global Policy Development and Coordination Efforts**

### **C.1. Contribution to the UN Interagency Task Force on the Prevention and Control of Non-communicable Diseases and UN health-related discussions on the post-2015 development agenda**

17. In 2012, the international health community endorsed the '25 by 25' strategy as part of the WHO Non-communicable Diseases (NCD) Global Monitoring Framework. The goal is to reduce avoidable mortality from NCDs, including from cancer, by 25% by 2025. This challenging goal requires extensive commitment and contributions from a broad range of partners at the global, regional and national levels, including the IAEA, with its mandate to advance sustainable socioeconomic and human development through the peaceful use of nuclear technology.

18. The Agency actively participates in and contributes to the UN Interagency Task Force on the Prevention and Control of Non-communicable Diseases (UNIATF), focusing on joint UN action towards progress against global targets for cancer and related social determinates of health in the NCD Global Action Plan. Within the UNIATF framework, the Agency participated in discussions with

WHO and other UN agencies, including UNAIDS, the United Nations Population Fund (UNFPA) and UNICEF, to initiate development of a pilot project to prevent and control cervical cancer.

19. The Agency and its partners have been active in supporting a comprehensive and well defined health target as part of the post-2015 development agenda, advocating for a strong reference to global NCD commitments and for expanding access to safe, effective, quality and affordable essential medicines and health technologies.

20. The Agency's activities to address NCDs (including the WHO-IAEA Joint Programme on Cancer Control) were included in the 2013 and 2014 reports of the UN Secretary General to the Economic and Social Council.

## **D. Strengthening Cancer Control Capacities and Programmes at Country Level**

### **D.1. Cancer control assessment missions / imPACT Review Missions**

21. imPACT Review Missions evaluate the status of a Member State's capacities in cancer information and registration, cancer control planning, prevention, early detection, diagnosis, treatment and palliative care, as well as relevant civil society activities. Conducted in collaboration with the relevant IAEA technical cooperation and technical department divisions, WHO, IARC and other stakeholders, imPACT reviews provide Member States with recommendations for the development or strengthening of comprehensive NCCPs. Preliminary imPACT review findings and recommendations are provided to the Minister of Health or national health authorities at the end of the mission. The number of imPACT missions each year varies depending on the requests received from Member States, availability of financial and human resources, security considerations and commitment of national counterparts.

22. During the reporting period, the Division of PACT coordinated 20 imPACT review missions in Algeria, Bangladesh, Bosnia and Herzegovina, Costa Rica, Croatia, Dominica, El Salvador, Fiji, Georgia, Kyrgyzstan, Lao PDR, Lebanon, Mozambique, Pakistan, Panama, Papua New Guinea, Peru, Rwanda, Tunisia and Uzbekistan. The review missions were funded through the generous contributions of France, Ireland, the Republic of Korea, Spain and the United States.

23. During the period under review, the effectiveness of imPACT review missions was enhanced with the systematic participation of TC Programme Management Officers, and radiation safety and security experts. The structure and timeliness of submission of imPACT reports was improved with a view to facilitating the implementation of expert recommendations at country level. During each imPACT review mission, the importance of compliance with international quality assurance and radiation protection standards was highlighted.

24. Close collaboration with partner organizations has enhanced the provision of follow-up support. The implementation of imPACT review recommendations related to the work of the IAEA will be considered through relevant TC projects, as appropriate, based on Member State prioritisation and availability of resources.

## **D.2. The Advisory Group on Increasing Access to Radiotherapy Technology in Low and Middle Income Countries**

25. In 2009, during the International Conference on Advances in Radiation Oncology (ICARO), the Agency established the Advisory Group on Increasing Access to Radiotherapy Technology in Low and Middle Income Countries (AGaRT) under PACT, with the technical support of the Division of Human Health (NAHU) and the Division of Radiation, Transport and Waste Safety (NSRW). The aim was to respond to the growing gap in access to radiation therapy which persists in LMI countries. AGaRT brings together radiotherapy users in LMI countries and major suppliers of diagnostic and radiotherapy technology, as well as other stakeholders, to encourage awareness of the importance of safe, affordable and reliable equipment that meets the specific requirements of radiotherapy centres in LMI countries.

26. During the reporting period, AGaRT proposed an integrated basic radiotherapy equipment package recommended for a basic radiotherapy clinic, and best practice guidelines for warranties and maintenance contracts along with lifecycle costing and professional training. Contributions to the guidelines were made by radiotherapy equipment manufacturers and experts from LMI countries, as well as NAHU, NSRW, the Nuclear Fuel Cycle and Waste Technology (NEFW), the Office of Procurement Services (MTPS) and PACT.

27. The Advisory Group recommended that the next cycle of activities, covering the period 2015-2019, focus on increasing access to affordable, quality, sustainable radiotherapy technology and services.

## **D.3. PACT Model Demonstration Sites**

28. PACT Model Demonstration Sites (PMDS) are projects in eight Member States<sup>1</sup>, which aim to demonstrate synergies between international partners, donors, cancer therapy experts and national authorities for effective cancer control planning and implementation.

29. The Palliative Care Department of the National Cancer Centre in Ulaanbaatar received equipment, and training for health professionals in palliative care was conducted in 21 provinces, funded by the Principality of Monaco. The Centre's radiotherapy treatment planning system was upgraded with funding from the Government of Japan and the Principality of Monaco. In November 2014, experts assessed the current status of Mongolia's radiation oncology and medical physics.

30. In Viet Nam, a pilot project on the early diagnosis and screening of women's cancers was funded through PACT by the OPEC Fund for International Development (OFID). A training programme in screening was developed for health professionals.

31. In March 2014, the Division of PACT organised expert missions to Ghana and Tanzania to assess their respective cancer control priorities and to identify cancer control needs to be addressed during the 2016–2017 TC project cycle. With PACT support and OFID funding, Tanzania made further progress in enhancing its palliative care services. The Ocean Road Cancer Institute (ORCI) received five paediatric care beds through a contribution from the UN Women's Guild in Vienna.

32. In Nicaragua, an evaluation of mammography services and related staff training was conducted under a project funded through PACT by Spain, to strengthen cervical and breast cancer diagnosis at the Bertha Calderon Hospital in Managua. An OFID-funded project on early detection, diagnosis and treatment of cervical and paediatric cancers was completed in 2015.

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<sup>1</sup> Albania, Ghana, Mongolia, Nicaragua, Sri Lanka, United Republic of Tanzania, Viet Nam and Yemen

## **D.4. Training of health professionals in cancer control, including radiation oncology**

33. The Virtual University for Cancer Control (VUCCnet) comprises Ghana, Tanzania, Uganda and Zambia as pilot sites, with two mentoring countries: Egypt and South Africa. It is complemented by a regional African training network. This initiative seeks to facilitate the education and training in comprehensive cancer control of professionals in their home countries and to make educational materials more easily accessible to and affordable for trainees through an e-learning infrastructure.

34. In the period under review, three training courses were deployed on an e-learning platform hosted by Makerere University in Kampala, Uganda. Feedback from the more than 500 health professionals who have accessed and successfully completed modules in *Cervical Cancer Prevention and Early Detection*, *Cancer Skills Package for Community Health Workers* and *Palliative Care* has been positive, reinforcing the relevance of modern e-learning tools to support traditional teaching approaches in cancer control. Additional courses on clinical oncology and cancer registration are currently under development, the latter in partnership with IARC.

35. The Division of PACT further facilitated the participation of cancer professionals from LMI countries in training courses on cancer control, in partnership with US-NCI and the Korea Institute of Radiological and Medical Sciences (KIRAMS). Through in-kind contributions, the US-NCI has sponsored 18 health professionals in the NCI Summer Programme on Cancer Prevention and Control. The Republic of Korea supported fellowship training in radiotherapy and paediatric oncology for 26 radiation oncologists, medical physicists and radiation therapists and one paediatric oncologist from four PMDS countries in Asia Pacific, namely Sri Lanka, Mongolia, Vietnam and Yemen, at KIRAMS.

## **E. Strategic Partnerships, Advocacy and Resource Mobilization**

### **E.1. Collaborative efforts under the WHO-IAEA Joint Programme on Cancer Control**

36. In 2014, the Division of PACT further strengthened the Agency's relations with two key partners, WHO and IARC. Both organisations play a critical complementary role in PACT's cancer control efforts, and participate in impACT reviews and other PACT activities, such as regional cancer control training events.

37. The Division of PACT continued to coordinate the Agency's engagement with these key partners to further strengthen and operationalize the current WHO-IAEA Joint Programme on Cancer Control. A more integrated and actionable framework for collaboration is under development to ensure coordinated programmatic delivery in cancer control to Member States, strengthened public health approaches to cancer control, and increased resource mobilization potential. Several high level meetings have been held to develop a joint project to coordinate support in cancer control to seven common Member States.

### **E.2. Strategic partnerships advocacy and outreach**

38. The Secretariat is making significant efforts to raise awareness of the global cancer burden, the crucial role of radiation medicine in cancer diagnosis and treatment, and the need for increased resources. During the period under review, the Division of PACT participated in many important

cancer related global events, some in conjunction with other Divisions, in order to raise the global visibility and recognition of the Agency as a key player in cancer control. These included the 2014/2015 World Health Assemblies and Regional Committee Meetings; the International Medical Physics Symposium; the 8th Stop Cervical, Breast and Prostate Cancer in Africa Conference; the Harvard Global Health Cancer Summit; the Conference on the Burden of Cancer in the Gulf Region; the World Oncology Forum; as well as the World Cancer Leaders' Summit and the World Cancer Congress; the 'War on Cancer' sponsored by the Economist in Hong Kong and a side event titled 'Investing in Our Future' at the US–Africa Leaders' Summit in the USA.

39. The Division of PACT reinforced working relationships with KIRAMS, the African Organisation for Research and Training in Cancer (AORTIC), the American Cancer Society (ACS) and the International Network for Cancer Treatment and Research (INCTR), and also reaffirmed eCancer Partnerships with WHO, IARC and UICC, with consistent dialogue and collaborative mechanisms in place and participation in jointly planned projects and events.

40. The Division of PACT made important efforts to explore strategic partnerships with a wide range of potential partners during the reporting period. Among the major highlights of these efforts were the signing of Partnership Agreements between the Agency and two internationally recognized organisations. The Pink Ribbon Red Ribbon (PRRR) initiative of the George W. Bush Institute is a leading public/private partnership aimed at catalysing the global community to reduce deaths from breast and cervical cancer in sub-Saharan Africa. The Organization for International Economic Relations (OiER) is a global platform which supports UN agencies and governments in facilitating private sector involvement and funding for developing and expanding national and regional projects. The Practical Arrangement with the OiER includes three primary areas of collaboration: resource mobilization, partnership development and communication.

### **E.3. Resource mobilization**

41. PACT activities in support of Member States rely mainly on extrabudgetary contributions. Resource mobilization efforts capitalize on existing relationships with traditional donors as well as non-traditional funding partners. With the increased global focus on cancer and other NCDs, there is continuous commitment to strengthen and support national cancer control capacities. To date, PACT has mobilized a total of US\$33.3 million in funding from development banks, bilateral donors, Member States, partner organizations, the Peaceful Uses Initiative (PUI) and the private sector.

42. During the reporting period, PACT received over US\$1.8 million from Australia, France, Japan, the Principality of Monaco, the Republic of Ireland, the Republic of Korea, OFID, Roche African Research Foundation, the Korea International Cooperation Foundation (KONICOF), the United Nations Federal Credit Union (UNFCU), the UN Women's Guild (UNWG) and private donations, including from the IAEA Staff Association at the 2015 Staff Association Ball. This latter donation brought PACT activities to the attention of a wider audience within and outside the Agency.

43. In-kind contributions have been received from a number of partners, including the East African Development Bank (EADB) and US-NCI. The EADB provided a legal consultant to support VUCCnet participating Member States develop a constitutive legal instrument for the Virtual University Secretariat and a Headquarters Agreement to be concluded by and between the Government of Uganda and the Virtual University; and US-NCI offered scholarships for cancer professionals from selected IAEA Member States.

44. PACT continues to support cancer control resource mobilization efforts in Member States, and has supported Member States as they develop plans and project proposals for cancer control, including for TC projects. Apart from the expert review of these documents, PACT has developed a standard

template for bankable projects, which has been used by Albania, Benin, Lesotho, Namibia and Tanzania in seeking funding for comprehensive cancer control programmes.

45. In order to effectively address Member States' requirements, and despite progress achieved on a number of fronts, much remains to be done. With its programmatic activities supported mainly by extrabudgetary funding, PACT relies on the continued support of donor Governments and other partners to ensure that it has sufficient and dependable financial and human resource capacities to respond to Member State requests with flexibility and efficiency. Increased advocacy and communication to support enhanced resource mobilization efforts will thus remain one of the key priorities for the Division. The Division of PACT is currently formulating a comprehensive resource mobilization plan in line with the Agency's recently developed strategic guidelines on partnerships and resource mobilization, and is working on an associated communications strategy.

## Annex: imPACT Review Missions

*October 2013 – June 2015*

Algeria	February 2015
Bangladesh	October 2013
Bosnia and Herzegovina	June 2015
Costa Rica	December 2014
Croatia	September/October 2014
Dominica	January 2015
El Salvador	April 2015
Fiji	March 2014
Georgia	July/August 2014
Kyrgyzstan	March 2015
Lao PDR	April 2014
Lebanon	November 2013
Mozambique	August 2014
Pakistan	December 2013
Panama	February 2014
Papua New Guinea	November 2013
Peru	June/July 2014
Rwanda	November 2014
Tunisia	October 2013
Uzbekistan	March/April 2014