



## Summary

Upon an official request from the Government of the Kyrgyz Republic, the IAEA, through its [Programme of Action for Cancer Therapy \(PACT\)](#), in collaboration with the WHO Regional Office for Europe, the WHO Country Office and the IARC conducted an [imPACT review](#) mission from 9-13 March 2015 within the framework of the [WHO-IAEA Joint Programme on Cancer Control](#). The imPACT Review's main objective was to support the Kyrgyz Republic's Ministry of Health in developing a comprehensive national cancer control programme and to improve access to quality cancer care.

The imPACT Review expert team, nominated by the IAEA, the World Health Organization (WHO) and the International Agency for Research on Cancer (IARC), assessed the Kyrgyz Republic's cancer control capacity and needs in the areas of cancer control planning, cancer registration, prevention, early detection, diagnosis and treatment, and palliative care, as well as radiation safety infrastructure and practices, and the security of radioactive sources used for medical purposes.

The team conducted visits in Bishkek and surrounding areas and met with the Director of the Osh Interregional Cancer Centre (southern Kyrgyzstan) in Bishkek. Meetings were held with the IAEA's National Liaison Office, the WHO Country Office, the Ministry of Health, including the Minister, as well as with the National Oncology Centre, Private Hospital "Kafmedcentre", municipal hospital, trauma centre, family medical centre, National Children's Centre, the National Republican Centre, Kyrgyz Medical Academy and hospital-based palliative care services. On the final day, the expert team briefed His Excellency Mr Talantbek Batyrallyev, Minister of Health, together with WHO, NLO and other cancer control stakeholders, on the main findings and preliminary recommendations.

## Main findings

1. The main causes of mortality in 2011 were cardiovascular diseases (50.1%), injuries and poisoning (10.1%), cancers (9.4%), and respiratory diseases (7.1%).
2. According to GLOBOCAN 2012, Kyrgyzstan has one of the highest rates of cancer incidence and mortality in the South Central Asia region. According to the Kyrgyz 2013 cancer data, there were 5126 new cancer cases and 2983 cancer deaths, reflecting a relatively high incidence – 89.6/100 000 population, and mortality – 52.1/100 000 population. Significantly, the majority of cancer cases are detected at advanced stages: in 2013, 35.5% of all cancer cases were detected in stage I-II, while 38.4% and 27% were detected in stages III and IV, respectively. Partly due to the late detection, the survival rate was low: in 2013, the one-year survival rate was around 50%, while the five-year rate was 38.6%.



3. The IARC's GLOBOCAN 2012 estimated there were 5803 new cancer cases (2680 cases among men and 3123 cases in women) in Kyrgyzstan. The most frequent cancers in men were stomach (23%), lung (17%) and liver (7%) and in women, breast (21%), cervix (21%) and stomach (7%). The estimated cancer deaths in 2012 were 3974: 2101 in men and 1873 in women. The highest mortality rates among men were stomach (26%), lung (19%) and liver (9%). Among women, the highest mortality rates were cancers of the cervix (15%), breast (14%) and stomach (11%).
4. Kyrgyzstan had an operational National Programme on the Prevention and Control of NCDs for 2013-2020.
5. The state cancer registration system has a manual population-based cancer registry (PBCR). The cancer registration system continued to function, while the quality and completeness of data needs strengthening. The manual processing of the paper-based registration forms makes it difficult to assess the completeness and accuracy of the aggregated data and raises further questions about the accuracy of estimates of the cancer scale and profile.
6. The most recent data available for Kyrgyzstan dates from 2005 when the estimated standardized death rate among men due to smoking-related causes was 973/100 000, which was the highest among Central Asian countries (Uzbekistan 708/100 000, Tajikistan 454/100 000) and much higher than the average for the WHO European Region (446/100 000) or the European Union (330/100 000) (HFA-DB 2014).
7. The age-standardized prevalence of obesity ( $BMI \geq 30 \text{ kg/m}^2$ ) in Kyrgyzstan among men aged 18 years or older was 11.5%, which was the second lowest among 51 WHO European Region Member States. For women, the corresponding figure was 30.5%, which was the second highest in the same Region.
8. Delayed referral, late diagnosis and a lack of screening programmes were recognized as causes for Kyrgyzstan's high one-year cancer mortality. In 2013, 46% of cervical cancer cases were diagnosed in stages III-IV.
9. Kyrgyzstan does not have a breast cancer screening programme. In 2013, 37% of breast cancer cases were diagnosed in stages III-IV. Opportunistic screening usually by conducted by ultrasound and mammography was available in the private sector, mainly in Bishkek.
10. In general, the expert team observed fragmented and underfunded cancer diagnosis and treatment services. The low government funding and out-of-pocket co-payments have constrained accessibility. Patients typically cover most imaging expenses, such as computerized CT and MRI. Basic cytostatic drugs that should be covered by public health insurance are not readily available causing many patients to procure from neighbouring countries, mostly Kazakhstan.
11. Kyrgyzstan's cancer burden indicates that a substantial proportion of its common cancers are treatable by radiotherapy alone or with complex treatment (radiotherapy plus one to two additional treatment modalities). However available radiotherapy resources are inadequate in terms of both equipment and trained specialists. Of more than 5126 patients diagnosed with cancer in 2013, 1954 received radiotherapy, including palliative regimens. The country's current treatment planning capacity was also insufficient with only one simulator and a 3D planning system.
12. Access to palliative care was particularly crucial in Kyrgyzstan since patients are generally diagnosed at advanced stages (42.2% in stage III and 22.2% in stage IV) or die within a year (around 50%).



# Summary of recommendations

## Cancer Control Planning

- Design and implement NCCP with priorities and phases of development for which funding is either secured or will likely be available. The NCCP should be aligned with and ensure the *Programme of Oncological Care Development in Kyrgyzstan for 2013-2020* meets the set targets.
- Establish and convene regular meetings of the National Cancer Control Steering Committee with representation from a broad array of cancer control stakeholders in Kyrgyzstan; designate a national coordinator with a secure budget and clear set of expectations.

## Cancer Registration

- Update legislation on cancer registration in the context of the country's health care priorities. Modify procedures for collecting information about cancer patients in line with changes in the health care system.
- Review and, if required, update existing notification and registration forms.
- Develop procedures to allow the potential for the electronic exchange of information between health information systems (existing or planned) and the PBCR database.

## Cancer Prevention

- Increase and sustain health education on the harmful effects of all forms of smoking and smokeless tobacco in schools and among the general public and adopt simple tobacco excise tax structures to incorporate regular taxation increases that outpace growth in general price levels and incomes.
- Develop national policy on alcohol and implement education programmes in schools and among the general public on the harmful effects of all forms of alcohol consumption.
- Increase taxation on unhealthy foodstuffs.

## Early Detection

- For cervical cancer: Following normal cervical Pap cytology, avoid testing intervals that are shorter than five years; Avoid screening before the age of 25 or 30 years; Analyse and publish the results of cervical cancer early detection activities; Develop a population-based cervical cancer screening programme based on primary HPV testing in collaboration with IARC.
- For breast cancer: Analyse and publish the results of breast cancer early detection activities; Continue training medical personnel in the early detection of breast cancer, with a view to developing a population-based breast cancer screening programme in international collaboration with IARC.

## Diagnosis and Treatment

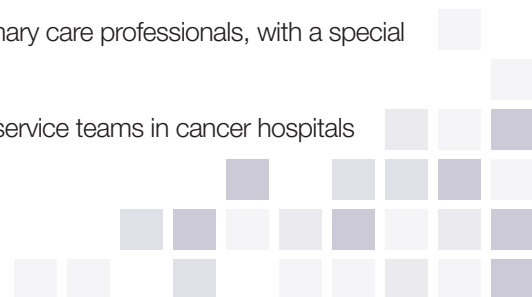
- Ensure appropriate education and training for imaging specialists, especially for radiologists, technologists, physicists, engineers, and radiopharmacists.
- Ensure appropriate financing of evidence-based health care services in cancer diagnosis and therapy.
- Establish two Nuclear Medicine Departments, each with at least one gamma camera and three to four PET/CT scanners.
- Develop a quality assurance programme in radiotherapy departments.

## Education and Training

- Strengthen continuous professional development for different cancer specialists (radiation oncologists, nuclear medicine physicians, pathologists, specialists in biomedical engineering and medical physics, technologists, nurses etc.).

## Palliative Care

- Develop 'general palliative care' to be provided by trained primary care professionals, with a special emphasis on the roles and responsibilities of family nurses.
- Strengthen existing and create new 'specialist palliative care' service teams in cancer hospitals and home teams in major cities.



## Follow-up actions taken by the Ministry of Health

- WHO, in collaboration with the Ministry of Health, conducted missions in 2016 and 2019 to advance with imPACT Review recommendations and identify priority areas.
- In 2019 WHO applied the new cancer control Costing Tool to the national cancer control programme and reviewed several protocols, such as treatment, availability of cancer medicines and childhood cancer.



Dr Sergei Nazarenko (top, right) and other imPACT Review experts discuss access to diagnostics at the National Oncology Centre, Bishkek. (Photo: A. Juric/ IAEA)

## IAEA-WHO-IARC joint activities on cancer control

In March 2009, WHO and IAEA signed arrangements at the Director-General level to implement a [Joint Programme on Cancer Control](#). The main purpose of this arrangement is to coordinate activities and resources to provide evidence-based and sustainable support to comprehensive cancer control programmes, particularly in LMI countries.

In response to a Government request, an [imPACT Review](#) is carried out as a comprehensive assessment of national cancer control capacities and needs. It is a partnership effort between the International Atomic Energy Agency (IAEA), the International Agency for Research on Cancer (IARC) and the World Health Organization (WHO). Where relevant, other partners are involved, such as the Union for International Cancer Control (UICC) and the United Nations Office on Drugs and Crime (UNODC). The IAEA Division of [Programme of Action for Cancer Therapy \(PACT\)](#) is responsible for coordinating the imPACT Reviews and for mobilizing the resources for their implementation.

**Link to imPACT Review news and related resources:**



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