



**Asia-Pacific
Economic Cooperation**

Advancing Free Trade
for Asia-Pacific **Prosperity**

Summary Report of the Regional Workshop on Lung Cancer Prevention and Control

Beijing, China | 22-23 October 2019

APEC Health Working Group

March 2020

APEC Project: HWG 06 2018A

Produced by

National Cancer Center of China

17 Panjiayuan Nanli, Chaoyang District, Beijing 100021, China

Tel: +86-10-87787428

Fax: +86-10-67713359

For

Asia-Pacific Economic Cooperation Secretariat

35 Heng Mui Keng Terrace

Singapore 119616

Tel: (65) 68919 600

Fax: (65) 68919 690

Email: info@apec.org

Website: www.apec.org

© 2020 APEC Secretariat

APEC#220-HT-04.1

Table of Contents

1) Introduction to the workshop	4
2) Key outputs	7
3) Key outcomes compared with the objectives	9
4) Overall impact and lessons learned	10
5) Conclusion	12

1. Introduction to the workshop

On 22-23 October 2019, the Regional Workshop on Lung Cancer Prevention and Control was held in Beijing International Hotel. Two speakers from International Organizations (WHO/IARC and WPRO), 11 speakers from APEC economies (Chile; People's Republic of China; Indonesia; Japan; Republic of Korea; Mexico; Russia; Thailand; and the United States), 6 participants from APEC economies (Indonesia; Russia; the Philippines; and Thailand) and around 40 participants from the regional cancer centers of China attended the workshop. Among the speakers/participants, most of them are from Ministry of Health or Department of Disease Control of their economies, economy-level Cancer Centers/Institutes, Universities, Research Institutes etc.

In the opening ceremony of the workshop, Project Overseer and the Director of National Cancer Center of China, Dr Jie He, addressed the welcome remarks. Then the Vice Director of Department of International Cooperation, Mr Jiangan Nie and the Vice Director, Bureau of Disease Prevention and Control, Mr Zhenglong Lei, from National Health Commission of China, gave the opening remarks. They welcomed all the speakers and participants to the workshop and wished the workshop a complete success with an outstanding contribution to the lung cancer prevention and control in APEC economies and around the world.

There were eight sessions during two days. On the first day, the speakers shared their experience of lung cancer prevention and control in the world and in their economies. On the second day, more detailed discussions focused on the tobacco control, lung cancer screening, standardization of lung cancer diagnosis and treatment and networking were covered.

In session 1, two speakers introduced the global views and regional perspectives of lung cancer prevention and control. *Hilary Robbins* from International Agency for Research on Cancer / World Health Organization (IARC/WHO) introduced the global lung cancer burden and lung cancer control continuum including the etiology, prevention, detection, diagnosis, treatment, and survivorship. MPOWER program is the key for the tobacco control. *Hai-Rim Shin* from World Health Organization Regional office for the Western Pacific introduced the regional actions on lung cancer prevention and control such as Regional Action Plan for Tobacco Control in the Western Pacific (2020-2030) and the reduction of air-pollution leading by WHO Asia-Pacific Center for Environment and Health. During the discussion after two speakers, a focus on the relationship between e-cigarette and risk of lung cancer was raised.

In session 2-4, five speakers from Chile, China, Republic of Korea, Mexico and Thailand shared their experience in lung cancer prevention and control in their economies. They introduced their programs on controlling the key factors for lung cancer such as tobacco smoking, indoor air pollution from the imperfect combustion of local bituminous coal (China) and wood smoke (Mexico), Arsenic Exposure in drinking water (Chile), and the occupational exposure to asbestos, etc. During the discussion, the necessity of lung cancer screening was raised.

In session 5, tobacco control was systematically discussed. *Mark Parascandola* from the United States introduced the population-level interventions to promote tobacco cessation, including the Quitlines, internet and mobile technologies such as mobile-optimized websites, text message-based interventions and mobile APPs, targeted Interventions with specific populations including women and young smokers, media campaigns, price and taxation. Another speaker, *Jiang Yuan* from China, introduced the high consumption of cigarettes in China and the China Convention Inter-ministerial Coordination Mechanism (CICM) on tobacco control. Under CICM mechanism, MPOWER strategic package on tobacco control was implemented in China, including building the tobacco surveillance and evaluation system, protection from exposure to tobacco smoke and tobacco control policies, cessation services including the Quitline, website, and mobile text message, package labelling, media activities, bans on tobacco advertising, promotion, and sponsorship. During the discussion, more details on tobacco control were raised, such as the period of follow-up after the smoking cessation, controlling the increasing use of e-cigarettes, policies of banning smoking and secondhand smoking (SHS) in indoor public places such as hospitals, schools, restaurants, etc.

In session 6, experiences of lung cancer screening were shared. *Hirokazu Takahashi* from Japan introduces their lung cancer screening program with annual X-ray to the people aged above 40 years. This program was launched in 1987 and the participation rate increased gradually from 20-30% in 2010 to 40-50% in 2016. However, the long-term effect of lung cancer screening program was not shown although a lot of quality control activities have been carried out. *Yeol Kim* from Republic of Korea introduced their lung cancer screening program as well. It targets the smokers with more than 30 pack-years and aged between 55 and 74 years old. Low-dose spiral CT (LDCT) was used annually (2015) but changed to biennially (2019) due to the lack of the funding resources. The Korean Lung Cancer Screening project (K-LUCAS) was launched in 2017, aiming at assessing the effectiveness, harm, and feasibility of population-based lung cancer screening, as well as evaluating the reporting form of LDCT using Lung-RADS. During the discussion, more details on the lung cancer screening were mentioned such as the definition of the high-risk population, frequency of LDCT scan, potential harm of LDCT etc. More researches are needed to explore the feasibility, effectiveness and harm of the lung cancer screening with LDCT among Asian Pacific populations.

In session 7, the experience of standardized diagnosis and treatment of lung cancer was shared. *Vitaly Barmin* introduced the high level of smoking rate and lung cancer incidence in Russia. The standardized diagnosis on lung cancer and verification of lung nodules were introduced, including the routine methods, clarifying methods and functional tests. Moreover, domestic guidelines for diagnosis and treatment of lung cancer in Russia was introduced as well, including the surgery, radiation therapy, individual treatment etc. *Shugeng Gao* from China introduced the importance of quality control for lung cancer surgery, particularly the data-based quality control. He introduced the details of the National Surgical Quality Improvement Program (NSQIP) in the United States and the establishment of lung cancer clinical database in China, in order to improve the quality control of lung cancer diagnosis and treatment. During the discussion, more attentions

were paid to the details on the database establishment for lung cancer, particularly the different format of the clinical data, new methods for the diagnosis and treatment of lung cancer such as immunotherapy, artificial intelligence (AI) etc.

In session 8, *Min Dai* led the discussions on the networking and potential collaborations. She summarized the above sessions during the last two days as below: Policies on lung cancer prevention and control in the world and in each economy were shared; The leading role of economy-level Cancer Center/Institute in each economy, with the governmental support; Tobacco control is the key to the lung cancer prevention and control and more actions need to be implemented, including the MPOWER strategic package and evaluation of e-cigarettes and other new types of smoking; Exposure to indoor air pollution caused by imperfect combustion of coal, wood smoke and arsenic pollution is another key factor to lung cancer. Lung cancer screening is more complicated in technical and political aspects and most of economies need to study the feasibility, effectiveness and harm of LDCT in their populations. Standardization of lung cancer diagnosis and treatment is difficult and challenging in most of the economies. For the funds, more policies need to be developed, particularly the policy of medical insurance on tobacco control and lung cancer screening.

For the potential collaborations, most of the participants agreed that lung cancer is one of the most common cancers in APEC economies and all the economies should collaborate together to fight against lung cancer, with ultimate goal of decreasing the disease burden and economic burden of lung cancer. There are two types of potential collaborations were proposed: 1) data sharing, including the common data such as lung cancer burden, risk factors, activities implemented etc. 2) Collaborative surveys or researches: ① New or uncertain factors for lung cancer, e.g. e-cigarettes, arsenic pollution; ② New techniques or pending questions for lung cancer screening, e.g. the definition to the high risk population, particularly the non-smoking women, frequency of LDCT scan, follow-up, harm of LDCT, evaluation and effectiveness, AI use; ③ New techniques or pending questions for lung cancer diagnosis and treatment, e.g. molecular or genetic test, immunotherapy. For further collaborations, three types of collaboration were proposed: ① Each economy can take the leading role in one aspect of lung cancer prevention and control, under the supports from other economies; ② Holding the continuous meetings or mutual visits among the APEC economies; ③ Continuing to apply for funds from APEC or other resources.

In the closing remarks, both *Yuankai Shi* and *Min Dai* from National Cancer Center of China addressed the successfulness of the workshop and the agreement that we will work together on the lung cancer prevention and control has been reached. All the economies, including China, will try their best to follow the direction of APEC and contribute to their effort to the NCD prevention and control, with the ultimate goal of building Healthy Asia-Pacific.

2. Key outputs

1) Events: The Regional Workshop on Lung Cancer Prevention and Control was held in Beijing International Hotel during 22-23 October 2019. Two speakers from International Organizations (WHO/IARC and WPRO), 11 speakers from APEC economies (Chile; People's Republic of China; Indonesia; Japan; Republic of Korea; Mexico; Russia; Thailand; and the United States), 6 participants from APEC economies (Indonesia; the Philippines; Russia; and Thailand) and around 40 participants from the regional cancer centers of China attended the workshop. Among the speakers/participants, most of them are from their Economies' Ministry of Health or Department of Disease Control, economy-level Cancer Centers/Institutes, Universities, Research Institutes, etc. More than half of the speakers/participants were female.

2) Tools: A survey guideline/questionnaire was developed, and a pre-workshop survey was conducted to know better about the current status of local, regional, and domestic lung cancer prevention and control initiatives and specific needs for the workshop. The questionnaire covered five main areas: ① Lung cancer burden in each economy; ② Policies, regulations and related actions on cancer prevention and control; ③ Policies, regulations and related actions on tobacco control; ④ Policies, regulations and related actions on lung cancer screening; ⑤ Policies, regulations and related actions on standardized diagnosis and treatment of lung cancer.

A total of 94 participants from seven economies were involved in the questionnaire survey. Two returned questionnaires were incomplete and deleted. Therefore, 92 questionnaires were involved in the final analysis. The survey analysis report has been sent to PD.

Among the 92 questionnaires, 19(20.65%) were from China, 7 (7.61%) from Korea, 20 (21.74%) from Russia, 22 (23.91%) from Thailand, 10 (10.87%) from Japan, 9(9.78%) from Chile and 5(5.43%) from the Philippines.

Among 92 participants, 8(8.70%) were governmental officials, 16(17.39%) public health workers, 3(3.26%) policy makers, 39(42.39%) medical doctors, 39(42.39%) researchers.

A protocol for the workshop was developed to identify the workshop faculty, participants, location, invited speakers, agenda, topics discussed during the workshop.

A public website (<http://www.apecbeijing-2019.com/>) for the workshop was established and approved by APEC. All participants can access all the information on the workshop. The website was built and maintained by PO (China National Cancer Center). On the website, the information on the workshop, including the participants, agenda, main topics, presentations (after permission) can be publicly accessed. Ideally, this website will be maintained for at least one year after the workshop.

3) Survey Analysis Report: All the survey questionnaires from each APEC economy were returned to PO and the survey analysis report was drafted and sent to PD. It gave the train of thought to the experts who take part in the workshop and discuss the potential co-operations on lung cancer prevention and control initiatives.

4) Presentations and videos: Presentations and videos of the workshop were collected and will be shared among participating economies. A summary report will be uploaded onto the workshop website for the accessibility of a broader audience.

5) Summary Report: This summary report includes medical and public health interventions, innovations, public policies, best practices, policy briefing and suggestions for advancing lung cancer prevention and control in the region. It can be referred by each economy of APEC to develop their own strategy on lung cancer prevention and control.

3. Key outcomes compared with the objectives

The objectives of the projects are following:

- (1) To share the progress, experience and lessons in lung cancer prevention and control, with a focus on the application to healthcare systems in the Asia-Pacific region;
- (2) To discuss the innovative prevention and control measures in use and under investigation for lung cancer prevention and control in Asian Pacific region;
- (3) To identify the medical and public health interventions, innovations, public policies, and best practices for lung cancer prevention and control.
- (4) To discuss the possibility of establishing a lung cancer prevention and control network within the Asia Pacific Region.

The key outcomes are summarized below compared with the above objectives:

- 1) Participants shared a lot of experience in lung cancer prevention and control from international organizations and APEC economies during the workshop, so they can apply these knowledge to their daily jobs, including making related polices, conducting the public health programs, providing the consultations and carrying out more scientific or technical researches.
- 2) During the workshop, the participants also discussed the innovative prevention and control measures in use and under investigation for lung cancer prevention and control in Asian Pacific region, e.g. mobile technology based tobacco cessation such as mobile-optimized websites, text message-based interventions and mobile APPs, with specific populations including women and young smokers, and media campaigns. Controlling the use of e-cigarettes and the indoor air pollution by imperfect combustion of coal and wood, arsenic pollution in the drinking water were proposed as well.
- 3) The workshop shared the progress, lessons and experience of lung cancer prevention and control in the world and in each APEC economy, and also identified the medical and public health interventions, innovations, public policies which will be served as a basic guideline for policy makers and consultants to refine their domestic policies on lung cancer prevention and control, including the tobacco control, lung cancer screening, standardized diagnosis and treatment of lung cancer.
- 4) During the discussion of the workshop, all the participants agreed the necessity of building a regional network for lung cancer prevention and control in order to promote the long-term cooperation. However, more details need to be discussed and established step by step.

4. Overall impact and lessons learned

1) Lung cancer prevention and control is very important for the health among APEC economies.

Most of the APEC economies have the high incidence and mortality of lung cancer, ranking the top three among all the cancer incidences and deaths. Due to the largest population, Asia Pacific Region has the most lung cancer incident cases and deaths in the world. Therefore, lung cancer prevention and control has become particularly urgent and challenging in Asia Pacific Region, particularly in the low and middle income economies.

2) Policies on lung cancer prevention and control are not enough in most of the economies

Most of the APEC economies have implemented some policies against lung cancer, especially on tobacco control (MPOWER program). However, no specific comprehensive policies on lung cancer prevention and control have been implemented. In particular, some new factors for lung cancer, screening, standardization of lung cancer diagnosis and treatment, haven't been paid much attention. Therefore, more policies on lung cancer prevention and control need to be developed and implemented.

3) Tobacco control is the key to the lung cancer prevention and control but more efforts are needed.

In most of the APEC economies, WHO FCTC framework and MPOWER strategic package for tobacco control have been implemented gradually. Some new techniques have also been used to expand the access to the tobacco cessation services such as mobile APPs, text message etc. In some economies, the smoking rate have shown the decreasing trend. However, there are still obstacles for the tobacco control, e.g. the economic interest brought by tobacco industries is still challenging for the economic development in some developing regions and taxation policy was not substantially implemented; Second-hand smoking (SHS) is less controlled, particularly for the females and children; New types of smoking (e.g. e-cigarettes) need to pay more attention.

4) Pollution is another key factor to the lung cancer and more attention should be paid.

Indoor air pollution by imperfect combustion of coal and wood, arsenic pollution in the drinking water, and some occupational carcinogens also contribute to the high incidence and mortality rate of lung cancer in some regions. More policies and actions need to be carried out to control these pollutions.

5) Lung cancer screening hasn't been widely implemented among APEC economies and needs more policies and researches.

Although LDCT has been widely used in some developed economies, e.g. the United States, and some trials have shown the LDCT can decrease the lung

cancer mortality among high risk populations, lung cancer screening with LDCT hasn't been implemented in most of the APEC economies. More researches on lung cancer screening need to be carried out, e.g. definition of high-risk population for screening (particularly non-smoking women), feasibility and effectiveness of LDCT scan, period of LDCT scan (annual or biennial), harm of LDCT etc. Meanwhile, policies on the lung cancer screening need to be explored as well, e.g. the support from medical insurance.

6) Lack of standardization of lung cancer diagnosis and treatment is another obstacle to the lung cancer prevention and control.

Multidisciplinary Teamwork (MDT) is the key to the standardized diagnosis and treatment of cancer, including lung cancer. However, building MDT team and following the MDT guidelines is a big problem for cancer diagnosis and treatment in most of APEC economies. More policies and measures should be considered to strengthen the standardized diagnosis and treatment of lung cancer. Some new techniques, e.g. Immunotherapy, molecular testing, need more researches and discussions for the lung cancer treatment.

5. Conclusion

- 1) Lung cancer prevention and control is important to the development of APEC economies, particularly to the low and middle income economies. A comprehensive lung cancer prevention and control system should be developed in Asia Pacific Region and in each economy.
- 2) Tobacco control is the key to the lung cancer prevention and control, including the restriction of tobacco advertising and sponsorship. Attention also need to be drawn on passive smoking which primarily affects women and children and new types of smoking (e.g. electronic cigarette). Decreasing indoor air pollution caused by incomplete combustion of coal and wood that is used in rural households and guaranteeing arsenic-free water are important to the lung cancer prevention and control as well.
- 3) Lung cancer screening is another key to the lung cancer prevention and control, but several questions need to be clarified by research before the implementation.
- 4) Standardization of lung cancer diagnosis and treatment needs more political support and follow of guidelines.
- 5) Support from the government and medical insurance are important to the implementation of lung cancer prevention and control programs.
- 6) It is necessary to strengthen the multidisciplinary and multi-sector work of prevention, diagnosis, and treatment of lung cancer, within a framework of a universal assurance system that allows access to timely treatment and palliative care.