



## National Plan for Chronic Respiratory Diseases Prevention and Control in Iran

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### Abstract

**Background:** Lower respiratory tract infections, chronic obstructive pulmonary disease (COPD), tuberculosis, and lung cancer are among the leading 10 causes of death worldwide. The Board of Respiratory Diseases Research Network (RDRN), a sub-committee of the Iranian Non-Communicable Diseases Committee (INCDC) is particularly concerned that there should be a coordinated National strategy to address the burden caused by chronic respiratory diseases.

**Methods:** Iranian Ministry of Health and Medical Education (MoHME) has decided to give promotion to the establishment of research networks and use them as the milestones for research management, particularly for the national health priorities.

**Results:** National Service Framework (NSF), which was designed for Chronic Respiratory Diseases, is one of the main outcomes of the chronic respiratory diseases sub-committee of INCDC. The main seven strategies were represented by the Steering Committee in 2010 for a period of 10 years. Successful development and implementation of our goals provide the CRDs sub-committee of INCDC with the opportunity to develop a paradigm to prevent chronic respiratory diseases.

**Conclusion:** A stronger national plan for controlling chronic respiratory diseases will ensure stronger advocacy to support respiratory health at national, sub-national, and regional levels.

**Keywords:** Chronic Respiratory Diseases, Framework, Network, Iran

**Conflicts of Interest:** None declared

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### Introduction

Lower respiratory tract infections, chronic obstructive pulmonary disease (COPD), tuberculosis, and lung cancer are among the leading 10 causes of death worldwide. Chronic respiratory diseases (CRDs) include COPD, asthma, pneumoconiosis, interstitial lung diseases, and pulmonary sarcoidosis (1). COPD is considered as a global

health burden that affects 300 million people worldwide resulting in more than 3 million deaths annually (1, 2). Globally, COPD was reported as the fourth leading cause of death (5.1%) in 2004 and is projected to occupy the third position (8.6%) in 2030 (3-5). In Iran, different aspects of CRDs have been mentioned as health priorities by aca-

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#### ↑What is “already known” in this topic:

Several effective plans exist in the world for chronic respiratory diseases, but they are rarely deployed and fulfilled at the national level. Given the history of CRDs, prevention and control of this group of diseases could be considered a pilot program for other chronic diseases.

#### →What this article adds:

This document from the sub-committee of INCDC will evolve with greater clinical experience and publication of new information at national and sub-national levels. It may be used as a model for scaling up activities at sub-national, national, or regional levels and other chronic diseases.

demographic institutions and governments, and consequently Burden of Obstructive Lung Disease (BOLD) the study was carried out from 2010 to 2018 (6-8).

The prevalence of airflow limitation was higher in individuals who had ever smoked and among patients with COPD according to the spirometry tests (9, 10), which implies that non-fully reversible airflow obstruction also occurs in never smokers. Moreover, it is demonstrated that poor lung growth, before and after birth, as a result of malnutrition, infections and/or passive exposure to indoor and outdoor pollutants, can also lead to CRDs (11, 12).

Health and care services in the world are rapidly changing to adapt systems to the growing demands caused by the expansion of chronic diseases, health disparities and the aging population. This restructuring involves the development and testing of innovative solutions as well as the implementation of the most successful plans. A comprehensive and multi-dimensional scaling-up strategy at the national level seems to be vital at this stage (13).

The number of deaths from CRDs rose by 17.5% between 2007 and 2017. The main burden of mortality from CRDs in low- and middle-income countries (LMICs) has been rather high due to low lung health awareness, challenges with COPD diagnosis, and increased exposure to additional risk factors (14).

Given the history of CRDs, prevention and control of this group of diseases could be considered as a pilot program for other chronic diseases. Several effective plans exist in the world for chronic respiratory diseases, but they are rarely deployed and fulfilled at the national level. The Board of Respiratory Diseases Research Network (RDRN), a sub-committee of the Iranian Non-Communicable Diseases Committee (INCDC) has been particularly concerned that there should be a coordinated National strategy to address the burden caused by chronic respiratory diseases. We are to reduce premature deaths from non-communicable diseases (NCDs) by 25% by 2025 (15). As part of INCDC, we report our activity to disclose the issues involved and explore potential ways to improve the situation.

We want to present a decade's experience in the chronic respiratory diseases sub-committee of INCDC. These documents from INCDC will evolve with greater clinical experience and publication of new information at national and sub-national levels.

## Political Response

### Global and national commitment

In 2011, the Iranian Ministry of Health and Medical Education (MoHME) decided to give promotion to the establishment of research networks and use them as the milestones for research management particularly for national health priorities (15). General assembly of RDRN was

held in April 2011 with the participation of pulmonologists, related research centers working on respiratory diseases and other stakeholders comprised of Health experts, officials in executive or leading positions in MoHME, Ministry of Education, and related NGOs.

CRDs sub-committee of INCDC has the responsibility to organize and reinforce the cooperation among its national members. The main objective of the CRDs sub-committee is to reduce at least 25% of premature deaths from chronic respiratory diseases. Table 1 presents the national objectives for the prevention and control of CRDs.

### National Targets and key priorities

CRDs sub-committee of INCDC's main functions include need assessment, priority setting, and directing the public health programs at the national and regional level towards the prevention and control of chronic respiratory diseases. All researchers, research centers, universities, and activists in the field of pulmonary disease have joined their forces under the umbrella of the CRDs sub-committee with the mission to conduct applied research to decrease the burden of respiratory diseases and promote Lung Health among the general population.

### Multi-sectoral approach

Stakeholders and beneficiaries of the CRDs sub-committee could be addressed in three main categories.

The first group comprises all researchers, research centers, medical universities, and activists in the field of pulmonary disease. The main objective of this network is to concentrate on controlling respiratory diseases and to make a connection between research centers and the industrial sector.

The second group of beneficiaries includes the policy-makers and the authorities in the field of health care, particularly MoHME, as well as the health sector in general. It is expected that this network actively participates in strategy planning, policy-making, and programming for the management of pulmonary diseases and provides enough evidence for making the right decisions.

The third and probably the most important group of beneficiaries are Iranian citizens who will ultimately benefit from the results of research, and cooperation between the researchers and health authorities in the public and private sectors, leading to improvement in the quality of care of public health management. Realizing this need is the most important indicator of success in this network.

### Move to Action

CRDs sub-committee of INCDC has the responsibility to organize and reinforce the cooperation among all stakeholders and beneficiaries. Its main strategy has been based

Table 1. The main objectives of the Chronic Respiratory Diseases sub-committee of INCDC

Reduction in incidence and prevalence of Chronic Respiratory Diseases
100% registration of cases and create databases and integrate into national health network programs
Improving the quality of life of patients with Chronic Respiratory Diseases
Reduction in mortality rate from Chronic Respiratory Diseases
Reducing the economic burden of Chronic Respiratory Diseases

**Table 2.** Six operational strategies of Chronic Respiratory Diseases sub-committee of INCDC

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| <ol style="list-style-type: none"> <li>1. Adapt and expand current national health care systems for Chronic Respiratory Diseases</li> <li>2. Reduction of exposure to common risk factors for Chronic Respiratory Diseases</li> <li>3. Improve insurance coverage for Chronic Respiratory Diseases</li> <li>4. Benefiting from Pharmaceutical Products and Equipment in medical services given preventive and reactive approach</li> <li>5. Governance, integrity and leadership of programs for the prevention and control of Chronic Respiratory Diseases</li> <li>6. Capacity building and resource mobilization</li> </ol> |
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on four pillars: Governance, Prevention, and reduction of risk factors, Health care, and Surveillance.

The main strategies at first were represented by the members of the Steering Committee in 2010 for a period of 10 years. This was used as the starting point to develop six operational and strategic agendas for the next years (Table 2).

CRDs sub-committee led the research among all members to explore evidence for optimal intervention in different aspects of respiratory disease, including prevention, diagnosis, treatment and rehabilitation, and palliation. In other words, we have been actively on boards to design and implement a national and regional comprehensive program for control of CRDs and mitigate the risk of incidence, prevalence and mortality of different respiratory illnesses in Iran (16, 17).

In 2016, INCDC announced that a National Service Framework on the future outlook of the I.R.Iran on chronic respiratory disease should be developed and published by the Iranian Ministry of Health and Medical Education.

Chronic Respiratory Diseases National Service Framework (NSF) is one of the main outcomes of the CRDs sub-committee of INCDC. We consider NSF as long-term strategies for improving specific areas of lung care. we set measurable goals within time frames.

#### Future plan

One of the submissions of the CRDs sub-committee is to raise public and political awareness of chronic respiratory diseases. Other emerging issues in CRDs which need special attention topic area include:

- Establishing a monitoring and surveillance system for COPD and Asthma
- Developing novel treatments to alter the progression of disease severity and, ultimately, to prevent early onset diseases
- Increasing exposures to respiratory hazards such as Asbestos
- Increasing use of nanotechnology and resulting exposures to engineered nanoparticles
- Assessing the impact of climate change (temperature, increased geographic span of allergens, and air quality) on chronic respiratory diseases.

There are other important respiratory diseases not included in this topic area, including lung diseases caused by COVID-19. In some cases, effective preventive interventions do not exist. It is hoped that, as preventive interventions and surveillance for COVID-19 continue to improve, we could achieve some important measurable goals for some of these additional respiratory outcomes.

#### Lessons learned

The National Service Framework for chronic respiratory

diseases and the first results of national projects have been published (15-18). Several meetings have been organized by the Chronic Respiratory Diseases sub-committee since 2011. There are some obvious recommendations: (i) to give appropriate consideration to prevention, early diagnosis, and treatment, (ii) to strengthen cooperation with relevant stakeholders, (iii) to exchange best practices, (iv) to support national research centers (v) to find cost-effective procedures by using health technology assessment, (vi) to improve health care system standards relating to chronic respiratory diseases, (vii) to support MoHME in emerging diseases by developing and implementing effective policies, networking, and implementing national programs.

#### Conclusion

A stronger national plan for controlling CRDs will ensure stronger advocacy to support respiratory health both at the national and regional levels. We are confident that a joint effort involving MoHME leadership, INCDC stewardship, and Chronic Respiratory Diseases sub-committee will ensure a successful design and implementation of the different plans.

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#### Conflict of Interests

The authors declare that they have no competing interests.

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