

Original Article

Developing national framework of monitoring and evaluation of non-communicable diseases control and prevention: an experience from Iran

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Abstract

Background: Islamic Republic of Iran, as a country has undergone dramatic and rapid demographical and economic transition leading to increase mortality and morbidity of Non-Communicable Diseases (NCDs). Furthermore, the prevalence of risk factors of NCDs is at alarming range for the population. In response to this challenge, a number of different high level policies have been developed dealing with NCDs, directly or indirectly. However, the fragmentation of policies makes monitoring of NCDs control difficult. Therefore, the aim of the present study was to develop a comprehensive framework for monitoring and evaluating of NCDs control and prevention.

Methods: A qualitative approach with content analysis method was conducted. Components of NCDs monitoring and evaluation framework were extracted and adaptation of components based on requirements of Iran's health system was made.

Results: Based on the proposed framework, the three main components of NCDs surveillance are as follows; 1) monitoring outcomes (morbidity and mortality); 2) monitoring risk factors; and 3) assessing health care system response, which includes national capacity to prevent NCDs.

Conclusion: The developed framework is a political tool to strengthen activities to control and prevention of NCD and making more effective inter-sectorial collaboration.

Keywords: Framework; Iran; Monitoring; Non-communicable diseases

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Introduction

In Iran, as a country in epidemiologic transition, similar to most countries that have gone through rapid demographical and economic transition, non-communicable diseases, especially cardiovascular disease, have been the major cause of mortality and morbidity (1).

Apparently, out of 380,000 dead registered in Iran, approximately 45% was attributed to ischemic heart diseases, cancer, and stroke in 2011 (2). Furthermore, the prevalence of risk factors for NCDs is at significant range with high level of hypertension (19.1%); obesity (16.8%); abnormal blood glucose (13.8%);

high cholesterol (28.4%); cigarette smoking (10.9%); physical inactivity (40.1%); and unhealthy diet (88%) (3).

As a matter of fact, because of the alarming condition of NCDs, it appears that the country would encounter more burden of NCDs in the future. The burden of NCDs in 2025 could be 1.5 times greater than 2003 mainly because of aging in the population. In addition, NCDs contribution to the total burden of diseases will be 5% greater than 2003 (4-5). Evidently, it should be mentioned that the trend of risk factors in non-communicable diseases; such as, physical inactivity, overweight and obesity, and smoking is rising which leads to more complications in the future (6-12).

The constitution of Iran, the instruction of supreme leader in 2013, article 32 and 37 in the 5th development plan, all direct or indirect, support the attempts for prevention and control of NCDs (13). Macro policies for health, recently announced by the Supreme Leader of the Islamic Republic of Iran, emphasized NCDs as the main challenge for health system and development of Iran. Additionally, it was obliged the Ministry of Health and Medical Education (MoHME) to prioritize and act upon effective control and prevention of NCDs. Iran has been determined to incorporate its NCDs national plan through developing PHC (Primary Health Care) and local governance for health. Since 2006, Iran has successfully integrated interventions for diabetes control, and hypertension in the PHC system (14-15).

In spite of different attempts to control NCDs in the country, it seems that there has not been a transpicuous and comprehensive monitoring and evaluation framework. Based, on the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of NCDs, World Health Organization (WHO) developed a comprehensive global monitoring framework including a set of indicators to examine the progress which was made in implementation of national strategies and plans regarding NCDs (16).

In addition, WHO prepares recommendations for a set of voluntary global targets for the prevention and control of NCDs, which could be used by Iran to develop its own framework indeed.

The provided framework requires to be adapted in the national level; particularly, considering national legislations, priorities, and policies. Therefore, the aim of the present study was to develop a comprehensive framework for monitoring and evaluating of NCDs control and prevention.

Methods

A qualitative approach with content analysis method was selected in order to extract the components of NCDs monitoring and evaluation framework.

Primarily, a desk review on policies and documents related to the prevention and control on NCDs was conducted; then, a database of policies was developed. Secondary, the main surveys, surveillance reports and reliable and technical assessment reports were reviewed to develop a situation analysis on the existing monitoring and evaluation for NCDs control and prevention.

In the next phase, in order to define challenges and future strategies, in-depth interviews and expert panels were performed. The project team developed an interviewing guideline based on an extensive internal and external literature review according to the goals of the project. Remarkably, before beginning data collection, we thoroughly reviewed the project aims, project tools, and specific data collection techniques in order to collect more effective and efficient data. During in-depth interviews, lasting approximately 35 min, we used an interview guide. The interview started by asking the concept of framework for monitoring and evaluating of NCDs control and prevention. In order to record the data, notes were taken during the interviews. The details of the method for gathering information are summarized as below. Three different steps were taken to

compile the entire needed information regarding monitoring and evaluating NCDs control and prevention.

Searching the literature

The main purpose for the literature search was to identify the components of monitoring and evaluation frameworks for prevention and control of NCDs. In a structured approach, we assessed Farsi and English documents relevant to monitoring and evaluation of NCDs. A review of the available literature on NCDs monitoring and evaluation was carried out as outlined below.

- Google Scholar and Google searches were performed by using the terms 'Non-communicable diseases', 'monitoring and evaluation', 'framework', 'process', 'surveillance', 'Iran', and other similar search terms.
- Website of WHO.int/emro was searched by using the terms
- The documents provided by WHO Iran were reviewed
- The available reports on the NCDs data management in Iran were reviewed.

Published Farsi articles until 2015 were collected by using IranMedex (index of Iranian medical Journals; <http://www.iranmedex.com>) and Magiran (index of more than 1300 Iranian journals; <http://www.magiran.com>) databases by using various combinations of the following terms (translated in Farsi): "indicator", "framework", "monitoring", "evaluation", and "non-communicable diseases". Experts, as well were asked regarding the existing relevant documents.

In-depth interviews

In order to develop the framework for monitoring and evaluation, our steering committee selected participants from different backgrounds. The individuals were selected based on the level of their interest, specialty, and their influence in the field of NCDs. According to the aforementioned criteria, this committee selected participants. Then, the participants

were informed about the details and provided more information regarding the issue; additionally, the aim of the study was thoroughly explained. Consequently, we made a semi- structured interview with experts. In fact, for providing a relaxed environment for the participants, we conducted the interviews in the experts' office.

Several interviews were held with 15 individuals including the former head and officers of national NCDs surveillance office and other stakeholders including: program manager of cancer, diabetes, musculoskeletal disorders, cardiovascular and respiratory diseases, genetic disorders and oral health; head of risk factor management group and representatives of community health nutrition department, headquarter of tobacco control, mental health department, and deputy for health in a medical science university.

Data was analyzed according to the content analysis approach of Graneheim and Lundman. Meaning units from interview texts, the were extracted and coded. Then, the number of interview was inserted next to each of the coded unites. In the next step, similar codes were categorized and the primary categories were made. Categories were named and reviewed again to extract the main themes.

Meetings and field visits

Numerous meetings and field visits were undertaken by the international consultant to discuss the major challenges of designing the framework and observing the activities of selected sites. The aim was to assess infra-structures necessary for monitoring and evaluation system.

Results

The obtained data for the present study was indicated in three different areas; review of national high level policies; assessment of Iran health, and NCDs information system; development of NCDs control framework for Iran.

High level policies

There are many national policies developed to control and prevention of NCDs in Iran.

High level policies has been reviewed and summarized in table 1.

Table 1. The national policies and programs for NCD prevention and control

| Policy | Notes |
|--|---|
| National Constitution | In the national constitution of Iran, the principles 3, 29, and 43 were dedicated for highlighting importance of provision of basic needs, poverty alleviation and resolving any kind of deprivation in terms of nutrition, individual and social welfare. The principle 50 is dedicated to the environmental protection. |
| The Fifth Five Year National Development Plan of 2010-2015 | The Fifth Five Year National Development Plan of 2010-2015 has addressed the necessary attention required for promotion of the healthy life style and physical activity, as well as prohibiting the harmful products for health in article 32 and 37. It has highlighted the importance of establishing the inter-ministerial task forces enhancing inter-sectorial collaboration to prohibit the hazardous products for health by; developing the annual forbidden list of hazardous activities and products to health; defining the taxes on hazardous product; and banning advertises which promotes unhealthy behaviors. |
| The document of Monitoring Health Equity and its indicators | According to the request from the High Health Council, the cabinet in the meeting held on January 2, 2011 approved the monitoring of health equity and its indicators. Health equity indicators based on routine system should be estimated annually by age, sex, economical status, education, and the place of residence (including urban and rural) in each district. Data from routine information system is the main source for measuring health equity indicators. Data from national surveys will be used in specific subjects. Health Council at the district level is responsible for gathering, analysis and dissemination of the reports of measuring health equity. Health council supports and advocates appropriate interventions on reducing inequalities in health at district level, between districts of a province and national level. |
| The Comprehensive Act on National Control and Campaign against Tobacco | In 2006, Iran adopted the Comprehensive Act on National Control and Campaign against Tobacco and ratified the relevant executive bylaw in 2007. The Act and the Bylaw addressed the obligations under the convention covering its substantive articles. Accordingly, the National Headquarters for Control and Campaign against Tobacco was established with a multi-sectorial coordination function under the leadership of MoHME. |
| The taxes of import duty | Since 2007, the taxes of import duty (39% of CIF: Cost, Insurance, Freight) were enforced. The taxes applied for cigarette domestic production of cigarette are: 12% VAT (value added tax) based on of manufacturing price and 3% based on manufacturing price for municipalities' fees. |
| National Standards of products | In 2007, MoHME and ISO (Iran Standard Organization) obliged all the governmental organizations to merely use of standard oils with less than 10% trans fatty acids when catering for their personnel. The Iran ISO has issued a series of standards for the contents of tobacco products. According to the ISO standards and the guidelines for implementing Article 9 and 10 which has been adapted, due to absence of laboratory for testing tobacco products at ISRI (Institute of Standards & Industrial Research of Iran), currently the testing is conducted at the Iran Tobacco Company 's laboratory. The bylaw in its Article 22 mandates the MoHME to provide necessary facilities and laboratory equipment for assessing the materials and compounds emitted by tobacco products. |
| The National Health Plan of 2011-2015 | The National Health Plan of 2011-2015 sets the objective of reducing the prevalence of water pipe (Shisha) consumption by 10% and tobacco consumption by 1%. |
| Edible oil standards | During several revisions of national standards, MoHME and ISO enforced reduction of level of fatty acids content of edible oils (solid oil, corn oil, palm oil, frying oil and mixed liquid oil and solid oil) for the industrial food processing. |
| Healthy City Programs | Since 2011, the municipalities have been implementing Urban HEART and healthy city programs establishing the health clubs in each locality based on infrastructure in the parks, with few permanent staff and several community professional volunteers in each locality to contribute in awareness and health |

| Policy | Notes |
|--|---|
| | education program as well as random screening of hypertension, hyperlipidemia and hyperglycemia. |
| National policy of promoting social health | In 2011, the national policy of social health with emphasis on social problems such as suicide, violence and substance abuse was developed. |
| National policy of promoting mental health | In 2011, the national policy of mental health was developed with emphasis on mental disorders such as depression, anxiety disorder, bipolar disorder and substance abuse. |
| National Health Reform Map | In 2012, the National Health Reform Map approved by the Cabinet, has clearly addressed NCDs prevention and control program. |
| National standards of salt content of industrial foods | In 2012, the standard for salt content of industrial foods was revised. |
| UNDAF 2012-2016 | The UNDAF (The United Nations Development Assistance Framework) 2012-2016 of Iran addressed NCDs prevention and control at outcome level for supporting government of Iran for improving healthy lifestyle, surveillance, NCDs prevention and care, and enhancing the monitoring and evaluation mechanism for evidence based policy making. UNDAF third outcome addressed the environmental friendly sustainable development, through multi-sectorial approach and targeting the most-at-risk groups. |
| The Health Policy for Provincial Health System Management | In 2013, the Health Policy for Provincial Health System Management was reformulated and ratified and jointly instructed by minister of interior and minister of health for implementation. This policy document emphasized on community engagement and inter-sectorial collaboration, particularly for NCDs prevention and control. |
| The National Policy Document for Nutrition and Food Safety 2012-2015 | In 2012, "the national policy document for nutrition and food safety 2012-2015", and "the operational plan for prevention, care and harm reduction of Alcohol Abuse 2011-2015 were endorsed. |
| National Action Plan for Promotion of Physical Activity | In 2014, National Action Plan for Promotion of Physical Activity was developed and submitted for ratification. |

Health information system of Iran

It appears that health statistics in Iran, in some cases, allow production of reliable epidemiological reports. While, there is a well-functioning health information system in the primary health care level of rural area, data gathering in the urban area is more challenging; in which, many people use private health providers for not only common health problems, as well for complex interventions. In private sector, there is no mechanism to routinely collect data. Evidently, with few exceptions, Iranian hospitals have no particular plan for computerization. In spite of the expansion of Health Information System of Hospitals, existing computerization mostly focuses on financial aspect and dividing the revenues between the institution and its attending physicians. Health insurance agencies have some computerization; nonetheless, it is

ambiguous if they would be capable of providing valuable information for policy making, other than financial matters.

Disease registration

A comprehensive surveillance system, including all the indispensable or reportable diseases, does not exist in Iran health system; nevertheless, for special groups of diseases well-developed surveillance systems producing, reliable, and valid data has been used (cancer, myocardial infarction, etc.).

Non communicable diseases and related risk factors information system

Assessment of information system for NCDs and related risk factors has been performed based on 3 criteria: Information resources; data processing; which includes health indicators and data management, and data usage which concerns the usage of the information and publications.

- Information resources

Data collecting procedures for NCDs and related risk factors are conducted in a paper-based manner in general. There is no comprehensive national standard system for gathering data. In recent years, establishment of “Iranian electronic health record” has provided proper infra-structure to pool data.

- Data processing

Data processing addresses how and by whom the data are processed. To manage NCDs, with few exceptions, the original data is commonly transmitted in written form. In fact, in medical schools, with few exceptions, the data was manually integrated at the district level and then sent to the health network for computerization.

- Data usage

There are some publications by different departments; such as, Iran cancer report (the last version has been published in 2011); and reports of STEPwise approach to Surveillance (STEPS).

Main challenges of Iran NCD surveillance system

Based on the conducted content analysis, extracted themes, and sub-themes, challenges of Iran NCD surveillance system were identified. They are summarized in table 2.

Framework of monitoring and evaluation

A conceptual framework, as a theoretical structure of assumptions and principles, outlines the relation between several components and defines pathways between key components. Similarly, conceptual framework for monitoring and evaluation of NCDs control and prevention shows how components are interrelated. To achieve this purpose, we employed the recommended WHO framework. Based on the proposed framework, the three main components of NCDs surveillance are as follows; 1) monitoring outcomes (morbidity and mortality); 2) monitoring risk factors; and 3) assessing health care system response, which includes national capacity to prevent NCDs.

Table 2. Main challenges of Iran NCD surveillance system

| Area | Challenge |
|------------------------|---|
| National policy | Priorities of NCDs surveillance are not well-established. There are different and non-consistent indicators in multiple related national plans. Governance structure and coordination are not sufficient. |
| Indicators and targets | There is no a unique national set of indicators. A number of targets are not consistent in different related policies. |
| Quality of data | There is some concern about quality of data, especially in disease registries. |
| Mortality data | Publication of reports is not timely. The last published death report consists of 2010 data. |
| Morbidity data | Different disease registries are fragmented. Coverage of cancer registry is not complete. There is not harmonized and fully utilized data collection through health facilities, especially in private sector and urban areas. |
| Risk factors | Estimated indicators of child and adolescent have not comprehensively reported in recent years. |
| Data management | There is not a clear data policy for data dissemination and utilization to meet needs of MoHME. There is not clear pathway for use of data in decision making. |

To outline a monitoring framework by 2025, we used a framework to implement the United Nations Political Declaration on Non communicable Disease, containing indicators to assess progress by 2018, (Updated October 2014, based on resolutions EM/RC59/R.2 & EM/RC60/R.4. Annex to resolution EM/RC61/R.3).

Table 3 shows the framework details. The suggested WHO framework was analyzed

and adapted based on Iran health system conditions.

Discussion

It appears that according to the conducted analysis, the challenges were determined and WHO framework for NCDs monitoring and evaluation, key discussions and recommendations for improving monitoring and evaluation of NCDs control and prevention in Iran have been developed.

Table 3. Framework of monitoring and evaluation of NCDs control and prevention

| Framework Element | Target 2025 | Target 2018 | Indicator | Measurement Technique | Frequency |
|---|-----------------------------------|---|---|--|-----------------|
| MORTALITY AND MORBIDITY | | | | | |
| Premature mortality from NCD | 12.75% (25% relative reduction) | 14.5% (Baseline 2012: 17.3%) ¹ | Mortality of NCDs (unconditional probability of dying) | Death registry | Annually |
| BEHAVIOURAL RISK FACTORS | | | | | |
| Physical inactivity | 32.1% (20% relative reduction) | 36.4% (Baseline 2011: 40.1%) ² | prevalence of inadequate physically active among adults (<600 MET-minutes/week) | WHO STEPS | Every 3 years |
| Salt/sodium intake | 7 gr/day (30% relative reduction) | 8 g/ day (Baseline 2013: 10 g/day ³) | mean population intake of salt in persons aged 18 years and above | Appropriate method should be developed | Every 3-5 years |
| Tobacco use | 7.6% (30% relative reduction) | 9.1% (Baseline 2011: 10.9%) ² | Prevalence of current tobacco use among adults | WHO STEPS | Every 3 years |
| BIOLOGICAL RISK FACTORS | | | | | |
| Raised blood Pressure | 25% relative reduction | 16.6% (Baseline 2011: 19.0%) ² | Prevalence of raised blood pressure among adults | WHO STEPS | Every 3 years |
| Diabetes and obesity | Halt the raise | Halt the rise in diabetes & obesity (baseline of raised blood glucose 2011: 13.7%) (baseline of overweight and obesity 2011: 48.2%) | Prevalence of high blood glucose/diabetes among adults | WHO STEPS | Every 3 years |
| HEALTH SECTOR RESPONSE | | | | | |
| Drug therapy to prevent CVD | At least 80% | At least 70% | Proportion of eligible persons receiving NCD care | Appropriate method should be developed to measure coverage and quality of care | Every 3-5 years |
| Essential NCDs medicines and technologies | Major medicines basic | 80% availability | Availability of essential NCDs medicines, | SARA study | Every 3-5 years |
| Trans fatty acids in food products | 0% | 1% | The proportion of trans fatty acids in food products | Survey of food products | Annually |
| Two added indicators (for Iran) | | | | | |
| Reduction in air pollution | 25% increase | 10% increase (baseline 2014: 45.8 days) | The percentage of clean air days during a year for cities more than 1000000. | Air pollution index | Annually |
| Mortality from road traffic injuries | 25% reduction | 10% reduction | The number of deaths of road traffic injuries in 100000 of population | Death registry | Annually |

¹ Global status report on NCDs 2014

² Iran STEPS report, 2011

³ Systematic review of several provincial studies

National policies

MoHME is responsible for planning, monitoring, and supervising the health related activities for the public and private sectors. There are many national policies regarding the control and prevention of NCDs in Iran. In some cases, the cohesion of policies are not transparent; for example, some indicators and targets set for different plans, are not identical; therefore, the policy making process has to improve. These include the opportunities for a desirable policies coordination on different deputies, improvement in the mechanism of decision making; a more evidence-based policy making process; further engagement of stakeholders; reducing fragmentation of policy making foci; and improvement of progress monitoring and system evaluation.

Indicators and targets

All the targets of NCDs global action program could be adapted by Iran to be implemented except the indicators that are related to the area of Alcohol misuse. Due to the prohibition of alcohol consumption and some social concerns in Iran, the calculation of indicator is almost impossible.

Non communicable Diseases Stepwise Surveillance (NCDSS)

Three to five Interval of NCDSS rounds was appropriate. Since the last round of NCDSSs was conducted in 2011, the next round of NCDSSs has to be conducted in 2015. It is necessary to report the results and provide publications by the end of 2015. Gathering laboratory data is crucial in the next round.

Reporting results of NCDSS in National level, neither provincial nor district level is appropriate for Iran health system because of the centralized mechanism of policy making in the area of NCDs. Alternatively, it is possible to divide the country into 4 or 5 areas which consists a number of provinces based on the results previously conducted by NCDSSs. The aforementioned approach considerably decreases the cost and the need for human

resource to conduct NCDSS survey. The reports should certainly be organized based on the differences in gender, age group, and location (urban or rural). The sample size in the previous NCDSSs was between 10000 and 89000 individuals. Based on our recommendations regarding sample size, it is amenable to conduct a project with a sample size of approximately 10000 individuals which is much lower than the sample size in the previous surveys.

Although over time, the methods and contents of NCDSSs have been changed, overall consistency (mostly on contents rather methods) would be the essential point of NCDSSs over years. Therefore, it is necessary to conduct NCDSSs with minimal changes in methodology; in addition, it is not necessary to do an expanded approach to validate STEPS questions, since they are standard and have been validated in different countries. It is also required to improve the quality of data gathering by a transparent supervision and the knowledge of interviewers. Electronic data gathering through several gadgets is a desirable way to ensure the quality of data. This approach dramatically improves the process of analysis and reporting the results. Due to conducting 6 rounds of NCDSSs within 10 years, it is the time to conduct a trend analysis for NCDs risks factors.

CASPIAN study (Childhood and Adolescence Surveillance and Prevention of Adult Non-Communicable diseases)¹⁷

It is not feasible to integrate CASPIAN study with NCDSSs because of the main differences in the content of scale questions for targeted age groups. Due to the last round of CASPIAN in 2014, it is necessary to report the results, especially to NCDs department. Evidently, the data would be used for evidence based policy making. Eloquenty, the scores which were obtained from individuals less than 12 years were not valid for the evaluation of monitoring NCDs.

The main reason for not conducting survey from individuals less than 12 years old were the following: the difficulties in getting blood samples, insufficient reliability of scales, and less feasibility of survey. Implementing WHO supported global school based student health survey should be considered as a technique to estimate adolescent risk factor estimates.

Cancer registry

As of now, population based cancer registry is conducted in 10 provinces. It is necessary to expand the population based registry in the remaining 21 provinces.

Monitoring other NCDs (asthma, cardiovascular diseases, stroke, osteoporosis, ...)

Regular sampling and epidemiologic approaches would not be efficient in this field due to the necessity of quite large samples. On the other hand, development and implementation of software for each disease is not feasible, due to several limitations; such as, budget deficiency, human resource, and technical support. Nonetheless, because of the existence of an infrastructure named SEPAS, Iran NCD control system should rely on hospital based data gathering system that are compatible with SEPAS, in order to extract data for non-communicable diseases. There are some concerns regarding the quality of collected data. For instance, in the private hospitals and clinics due to less authority of MoHME, an innovative approach is essential. In spite of low quality of data in hospitals and clinics, an electronic health information system could be compatible with SEPAS which is the only efficient approach to gather data on NCDs; in addition, implementing new disease registry is not a priority for NCDs prevention and control. Indeed, more data regarding NCDs and risk factors through health facilities and more integrated system for reporting health facility data is recommended, especially from the private sector.

SARA study

The Service Availability and Readiness Assessment (SARA) is a tool designed by WHO to examine the readiness of health system for providing main services to control NCDs. It consists of human resources, essential infrastructures; such as, equipment, technologies, drugs, and the availability of services. To monitor the 7th and 8th area of NCDs surveillance framework; "drug therapy to prevent CVD" and "essential major NCDs medicines and basic technologies", it is necessary to conduct the first round of SARA analysis in Iran.

Death registration

Improvement of the quality of data for death registry is crucial. Recently, MoHME and the National Organization for Civil Registration (NOCR) collected the mortality data in Iran. The MoHME death registration was performed by the Deputy of Research and Technology from 1996 to 2001, and also by the Deputy of Health from 2001 to 2010. This system has registered the mortality rate by age, gender, cause of death. The death includes: the place of residence, and the place of death. However, there are several records with missing values for different variables in the mentioned data sources. Besides, the problem of missing values, and death registration systems are subject to underreporting; therefore, it is essential to adjust mortality rates for incompleteness percentage.

Data stratifiers and inequity

The main recommended data are gender, age, and place of residency because of the high potential health inequity in gender and location. Other stratifiers related to socioeconomic status should be included as much as possible for better monitoring inequity in different population.

Capacity of monitoring and integrated approach

Institutional capacity strengthening should be an integral part for the country NCDs surveillance system. In addition, NCDs surveillance has to be integrated into other parts of health information system.

It was ultimately concluded that the developed NCDs monitoring and evaluation framework is a political tool to strengthen activities for control and prevention of NCDs in order to assist making more effective inter-sectorial collaboration. Up to now, different parts of Iran NCDs monitoring system has been working fragmented which caused not having a high quality information for policy makers, with some exceptions.

In the present study, we developed a comprehensive NCDs monitoring and evaluation framework for the first time in Iran which assists Iran health care system to integrate different surveillance approaches and make substantial improvement on evidence-based policy making. Developed framework was presented to Iran NCDs policy makers to be employed in the national NCDs plan.

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Conflict of interest

Authors declare no conflict of interests.

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