ORIGINAL ARTICLE

Implementation of Global NCD Monitoring Framework in Punjab, Haryana and Chandigarh–A Feasibility study

Sudip Bhattacharya, Jarnail Singh Thakur

Resident, Professor, Department of Community Medicine, Postgraduate Institute of Medical Education and Research (PGIMER), Sector-12, Chandigarh - 160 012, India

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Corresponding Author

Address for Correspondence: Dr Sudip Bhattacharya, Department, Postgraduate Institute of Medical Education and Research (PGIMER), Sector-12, Chandigarh - 160 012, India
E Mail ID: docbilu@gmail.com

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Abstract

Background: In India, a national NCD monitoring framework was developed (June 2013) in consonance with the World Health Organization (WHO) global NCD monitoring framework with 10 targets and 21 indicators. A feasibility study was undertaken in Punjab, Haryana, and Chandigarh with few objectives. **Objectives**: To review the existing monitoring framework, identify the possible data sources, and collect the secondary data for NCDs. **Methods**: In-depth interview was conducted with the three state program officers (SPOs), and Health Management Information System (HMIS) reports (2010) were reviewed. Data from non-health sectors were collected and possible data sources were identified. **Results:** It was observed that SPOs were not clear of the data for indicators and targets. Food and drug licensing authority, schools, colleges, and offices may be possible sources of additional data. Current HMIS was inadequate. Multiple issues such as scarcity of data, excess dependency on hospital-based data, lack of manpower, inter-sectoral coordination, and periodic STEP wise approach to surveillance (STEPS) surveys are the major barriers for implementation. **Conclusion**: We concluded that with the existing resources, it was not feasible to implement the NCD monitoring framework. **Recommendations:** National surveys should incorporate NCD indicators, and periodic STEPS survey at state level are necessary for indicator generation.

Keywords

Non Communicable Disease; Monitoring Framework; Surveys

Introduction

Worldwide, non-communicable diseases (NCDs) are the leading cause of death. In Southeast Asian region, NCDs are the leading killers and are responsible for 7.9 million deaths annually. (1) Poverty and NCD create a vicious cycle. Poverty exposes people to behavioral risk factors for NCDs and, in turn, NCDs become an important driver to the downward displacement that leads families toward below poverty line. From economic point of view, it has been observed that each 10% increase in NCDs is associated with 0.5% lower rates of annual economic growth. (2,3)

World Health Organization (WHO) developed a global monitoring framework for prevention and control of NCDs, which was endorsed by the 66th World Health Assembly (WHA) in May 2013.The

framework included a set of 9 targets and 25 indicators. (4)

Subsequently, a national framework was established in consonance with the WHO global monitoring framework with 10 targets and 21 indicators. (4)

However, obtaining complete data for such indicators remains a challenge in many countries including India. As India is a signatory nation, we are also committed to achieve the targets (10) and indicators (21) proposed by WHO for the year 2025. The present study was undertaken to see whether implementation of this framework is feasible?

Aims & Objectives

To review the existing monitoring framework, identify the possible data sources, to collect the secondary data for NCDs which may be linked with the national monitoring indicators and targets.

Material & Methods

The study was conducted in two states Punjab and Haryana and in one union territory (UT), Chandigarh from 1st November 2013 to 31st June 2014.

An interview guide was used for state program officers (SPOs). This tool contains four major themes. They are monitoring framework for NCDs, existing data sources, additional data sources, and routine Health Management Information System (HMIS) (Figure 1).

An in-depth interview was conducted with the three SPOs (NCDs) of Chandigarh, Haryana, and Punjab, and HMIS reports (2010) were reviewed. Data from related departments such as central excise department and food department were also collected and possible data sources were also identified.

An interview guide was used regarding monitoring framework for NPCDCS, targets, and indicators. Topics regarding feasibility of implementation of monitoring framework, 10 targets, and 21 indicators suggested by WHO and adapted as national monitoring framework in India were discussed in detail. In this monitoring framework, we considered our baseline data for the year 2010. Because hardly any data were available, we have considered any data available for the past 10 years. A literature searches to identify reviews was conducted in government reports, HMIS and PubMed, using the search terms from 2004 till to date. The reference lists of relevant articles as well as university, district health board, and government department websites were also investigated. Titles and abstracts of publications (articles, reports, and thesis) extracted from the search strategies above were assessed for relevance.

Qualitative data analysis was done for in-depth interviews. Interviews were recorded and transcribed. The transcriptions were reviewed. The data were examined through thematic analysis consisting of open coding (data were read and fragmented into groups of related concepts) and axial coding (dominant ideas that emerged were organized into overarching themes). Finally, the subthemes which emerged were categorized into themes related to feasibility of implementation of monitoring framework for NCDs. Also, secondary data from various reports were collected and analyzed for the states of Chandigarh, Haryana, and Punjab.

For ethical justification, permission from the concerned nodal officers of the respective programs was obtained to access the documents, records, and reports of the program. The interviews, audiotapes, and transcription of the program managers were kept in secured location.

Results

It was seen that of the three, only two program officers were aware of the monitoring framework, targets, and indicators for NCDs. From the interviews, it was clear that the program officers of three states were not clear of data for indicators and targets.

Data sources: Regarding data sources, most of the data were being collected from outpatient departments (OPDs) at different levels of health facilities. Although in Punjab and Haryana it was mentioned in the interview that they were collecting the data for salt, tobacco, and alcohol consumption. In Punjab, NCD STEP wise approach to surveillance (STEPS) survey was being undertaken in collaboration with School of Public Health, PGIMER, Chandigarh, which provided data for 12 indicators. For Punjab and Haryana, data sources were limited or not available.

Additional data sources: Regarding additional data sources, the program officers of Punjab and Haryana thought that food and drug licensing authority can give data on salt and fat consumption. Data for physical inactivity could be available from schools, colleges, and offices but could not identify the source (number of yoga, pranayama, and physical exercise sessions held). According to them, essential NCD

medicines and raised cholesterol data may be available from hospitals.

HMIS: According to the program officers in Punjab and Haryana, the reporting performa should be changed. Because in the current performa there is nothing mentioned about national monitoring indicators or how this data will be generated. They suggested that there should be adequate human resource without any diversion to other programs (e.g. Punjab), proper infrastructure, change in reporting format of HMIS, and finally adequate funding is necessary for implementation of monitoring framework. Along with the interviews, the current status of HMIS reports for the three states was collected. Apart from the reports, the current studies are also considered. Details of the current status of monitoring framework have been described.

Current status of NCD targets and indicators in the three states

The secondary sources of data were reviewed which included data from national-level surveys, HMIS, and relevant studies from two states and UT Chandigarh for targets and indicators available under the national monitoring framework for NCDs, and they are illustrated in Table 1 and Table 2. For collection of estimates pertaining to 10 targets, 31 studies were included along with government reports and national surveys. Overall, it was observed that very few data pertaining to targets and indicators were available in two states and UT Chandigarh.

Discussion

The study was undertaken to check the feasibility of implementation of global and national monitoring framework for NCD in Punjab, Haryana, and Chandigarh. After that in 2013, national NCD monitoring framework came into existence with 21 indicators and 10 targets. So it is obligatory at national and state levels to implement the monitoring framework for achieving the targets and indicators for NCDs. Although India is a party nation according to United Nations declaration, the main question in our mind was whether India can implement the monitoring framework with resource-poor setting? Whether India can achieve the targets? Whether in India the data for indicators were really available? We had conducted the study in three states and a UT and interviewed three SPOs, and went through all possible government reports, surveys, and related studies in the past 10 years

despite the fact that our reference year was 2010. Regarding orientation of the program officers, it was evident that the two SPOs knew about the national monitoring framework, indicators, and targets. But they did not have any clarity and were confused about the data sources for monitoring indicators, because relevant data were unavailable for them. One of the program officers had no idea regarding the monitoring framework, targets, and indicators; it maybe because he was an EMO of a government hospital. Therefore, there was a poor capacity of nodal officers as they had no sensitization and training on that topic. According to the program officers in Punjab and Haryana, it was very difficult to say at that time that they could achieve the targets with this existing monitoring framework. To achieve the targets, the most important thing was the requirement of the indicators, and for this indicator relevant data were mandatory, which were mostly unavailable. They knew very well that for indicator generation, periodic surveys should be conducted. In the current HMIS performa, only the total number of diagnosed cases of diabetes, cancers (not by type), CVD, and hypertension cases was mentioned in a calendar year which is not sufficient. The reason may be that NPCDCS program was new, being launched 4 years back; the modified framework being proposed just 1 year back. So we are in a very early stage. Although the program was conducted in Punjab and Haryana for the past 4 years, the data sources for all the three states were mainly facility-based, either from OPD records or from in-patient records. Most of the data for monitoring framework come from STEPS survey. Unfortunately, we do not have national-level and state-level data for NCD risk surveillance except for seven states which undertook such surveys. (5) In Punjab, STEPS survey has begun very recently in 2014 which is being undertaken by PGI and state medical colleges and will provide data for 12 indicators in 2015 (JS Thakur et al Personal communication and the report has published). Because NCD is multi-factorial, if we have to retrieve data for NCDs, we have to involve other sectors. It is a well-known fact that in health sector multi-sectoral coordination is a challenging task. Because NCDs are of great concern for health sector, it may not be the same as the tobacco industry or agricultural industry. So multi-sectoral participation and accountability of relevant stake holders are important. Additional data sources are also important. There is a need to undertake national- and state-level NCD STEPS

survey in the country which has not happened in the past decade except Punjab. According to the SPOs, food and agriculture department, tertiary care hospitals, tobacco industries, alcohol industries, and pollution control board can help them provide additional data but no mechanism for pooling is available in any state. The Ministry of Health and Family Welfare at the national and state levels needs to conduct periodic STEPS surveys. STEPS survey can generate a maximum number of indicators. It is seen that of 21 indicators, 13 indicators can be generated by STEPS survey alone. From NFHS-3, data of alcohol consumption, body mass index (BMI)/obesity, and fruit and vegetable consumption are available. From District Level Household and Facility Survey (DLHS), we can obtain the data on hepatitis B vaccination (third dose) and household use of solid fuels. Global Adult Tobacco Survey (GATS) provides the data of tobacco consumption in the country state-wise. Besides, the reports of assessment of burden of NCDs by Indian Council of Medical Research (ICMR) and National Commission on Macroeconomic and Health are other sources, although quite old. From individual studies, the data on individual NCDs and risk factors such as physical inactivity, salt intake, solid fuel use, age-standardized prevalence of diabetes, hypertension, alcohol intake, screening for cervical, breast, and oral cancers are available. Apart from that, we need to improve Medical Certification of Cause of Death Data. ICMR has been identified as a nodal agency at national level for implementation of national monitoring framework; however, credible steps are required in this direction.

Lack of uniformity in data collection and parameter is a major problem, so collation of data is difficult. So there is a need for a concerted effort from multiple stake holders for compilation and collation of the existing data. From the above discussion, it is clear there are multiple issues such as lack of data, excess dependency on hospital-based data, lack of trained human resources, lack of inter-sectoral coordination, and lack of periodic STEPS surveys which are the major barriers for implementation of the monitoring framework. Most of the NCD clinics are running within the existing infrastructure. In one state, it was seen that the manpower of NPCDCS is diverted to other programs such as malaria and RMNCH+A. It is very problematic and there is a need to integrate NCD surveillance as part of routine healthcare delivery system so that we have to depend exclusively on special surveys.

Although there is an existing national monitoring framework, most of the data required for targets and indicators are not available in selected states. Hospital-based data are not sufficient enough for achieving the targets and indicators.

Conclusion

With the existing data sources, it is not feasible to implement national monitoring framework and achieve the targets and indicators for NCDs.

Recommendation

The following are the recommendations: Firstly, the program officers of NPCDCS are required to be trained and oriented toward the national monitoring framework for NCDs. Secondly, periodic STEPS survey should be conducted at national and state levels in the country with a designated nodal agency at national and state levels. Lastly, national-level health surveys such as NFHS, DLHS, and Annual Health Surveys should include key NCD targets and indicators to have a sustainable system.

Limitation of the study

There are some limitations in our study. Firstly, we searched only for the past 10 years (2004–2014). Secondly, we searched only one database (PubMed). Mostly the data were not age-standardized. Thirdly, most of the relevant data for Punjab, Haryana, and Chandigarh were not available.

Relevance of the study

National surveys should incorporate NCD indicators, and periodic STEPS survey at state level are necessary for indicator generation.

Authors Contribution

Concept, study design was done by SB and JST. Data collection, analysis and draft prepared by SB.

Acknowledgement

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Tables

TABLE 1 DATA AND SOURCES AVAILABLE FOR TARGETS (1–5) AND INDICATORS (1–9) UNDER NATIONAL MONITORING FRAMEWORK

Targets	Indicators	Status of data sources (HMIS—2010 and others)		
		Punjab	Haryana	Chandigarh
1. 25% relative reduction in overall mortality from major NCDs	1. Unconditional probability of dying between 30 and 70 years of age from major NCDs	80.6/1 lakh(5) (cancer mortality)	120/1 lakh(5) (cancer mortality)	Not Available
	2. Cancer incidence, by type of cancer, per 10,000 population	Not Available	Not Available	Not Available
2. 10% relative reduction in alcohol use	3. Age-standardized prevalence of current alcohol consumption in adults 18+ years of age	43.4% M, 0.2% F (6)	27.7% M, 1% F (6)	#26.8% M, 1.2% F (6)
3. Halt the rise in obesity and diabetes prevalence	4. Age-standardized prevalence of obesity among adults 18+ years of age	30.3% M, 37.5% F (in 15–49 years) (6)	17.6% M, 14.4% F (in 15–49 years) (6)	58.9% (30 years and above) (7)
	5. Prevalence of obesity in adolescent	Not Available	Not Available	Not Available
	6. Age-standardized prevalence of raised blood glucose/diabetes among adults 18+ years of age	20% U, 11% R(7)	19.36% M, 16.98% F(8)	16.4%(6)
4. 10% relative reduction in prevalence of insufficient physical activity	7. Age-standardized prevalence of insufficient activity in adults 18+ years of age	Not Available	14.8% M, 55% F(8)(15–64 years)	23.2% M, 52.4% F (30 years and above)(9)
	8. Prevalence of insufficiently physically active adolescents	Not Available	Not Available	Not Available
5. 25% relative reduction in raised blood pressure	9. Age-standardized prevalence of raised blood pressure among persons 18+ years of age.	35.9% (20–60 years)(9)	55% M, 29.1% F34 (18–65 years)(8)	43.6% overall (more than 30 years) (10)

TABLE 2 DATA AND SOURCES AVAILABLE FOR TARGETS (6–10) AND INDICATORS (10–21) UNDER NATIONAL MONITORING FRAMEWORK

Target	Indicator	Status of data sources (HMIS—2010 and others)		
		Punjab	Haryana	Chandigarh
6. 30% relative reduction in mean population intake of salt	10. Age-standardized mean population intake of salt per day in grams in persons 18+years of age	NA	NA	30% overall prevalence(10)
7. 30% relative reduction in prevalence of current tobacco use	11. Age-standardized prevalence of current tobacco use among adults 18+ years of age	21.6% M, 0.5% F (11) (15 years and above)	39.6% M, 5.6% F (11) (15 years and above)	23.7% M, 1.7% F (11) (15 years and above)
	12. Prevalence of current tobacco use among adolescents	NA	NA	NA
8. 50% relative reduction in household use of solid fuels as primary source of energy for cooking	13. Proportion of household using solid fuels as a primary source of energy for cooking	30% rural, 5% urban(12)	55% rural,18% urban(12)	25.7%(12)
	14. Age-standardized prevalence of adults consuming less than five total servings of fruits and vegetables per day	98.7% M, 85.2% F (1 fruit/week, 15–49 years) (6)	95.3% M, 90% F(1 fruit/week, 15–49 years) (6)	35% (5 servings per day, age more than 30 years)(10)
9. 50% eligible people receiving drug therapy and counseling to prevent heart attacks and strokes	15. Proportion of eligible adults receiving drug therapy and counseling to prevent heart attacks and strokes	NA	NA	NA
10. 80% availability and affordability of quality, safe, and efficacious essential NCD medicines	16. Availability and affordability of quality, safe, and efficacious essential NCD medicines	NA	NA	NA

Figures

FIGURE 1 KEY FOCUS OF INTERVIEW GUIDE WITH PROGRAM OFFICERS