



Public-Private Mix Model in Enhancing Tuberculosis Case Detection in Dakshin Dinajpur

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Abstract

Object- To increase the TB cases detection using proposed trail tool for notification in collaboration with Public-Private Mix model (Charitable Hospital, Private Laboratory, Private Practitioner and Medical retail Shop) in the district of Dakshin Dinajpur, West Bengal, India.

Method- The organizations were selected on the basis of following criteria defined in private- public partnership. The design study showed a change in the TB notification d rate (NR).

Results- Tuberculosis case notification rate after implementation of public-private mix model have increased for the last three month. Chalon and Hili TU showed a good responds regarding private notification. The new trail methodology was applied and twenty four (Table:2) specific retail shops were identified out of nearly 400 Medical retail shops of Dakshin Dinajpur. Simultaneously nearly 168 private notification was gathered from the medical retail shop in the month of December 2016. The new proposed trail tool may help to solve different type of questions like patient history, category of the patient, treatment protocol, patient compliance, follow up, drug resistance, death rate and diagnosis pathway of unregistered patients and we will be also understanding whether the patients is following the standard of TB care in India, So there was a huge need of extending the research to control and eradicate TB from the district like Dakshin Dinajpur as well as India.

Conclusion- Public private mix (PPM) model was effective in increasing the CDR of TB cases in district Dakshin Dinajpur, West Bengal. And the proposed new trail tool may be effective to get the unidentified TB cases who were not registered in the RNTCP, Nikshay portal. The new trail methodology may created a bridge between unregisters case finding and the format provided by the government of India for notification. The tool showed a unique technique to reach the unregister cases of tuberculosis. The last step of the proposed trail tool became the most important mechanism to find out the real purpose of notification from the private stakeholders. It is also is recommended that the public private partnership model in Tuberculosis case detection needs to be taken on a larger scale so as to reduce the huge TB burden in India

Keywords- PublicPrivateMix, NR, Tuberculosis, Notification, Standerddeviation.

Introduction

The paper reflects the vital role of notification by the public private mix concept to identify the unidentified tuberculosis case detection in Dakshin Dinajpur, West Bengal. The data from the intensified PPM sites have shown an overall increase in the number of TB cases notified under RNTCP. Still now there are a large number of patients are not under the direct purview of the Revised National TB Control Programme (RNTCP). "To address emerging threats to health, new forms of action are needed. There is a clear need to break through traditional boundaries within government sectors, between governmental and nongovernmental organizations, and between the public and private sectors. Cooperation is essential; this requires the creation of new partnerships for health, on an equal footing, between the different sectors at all levels of governance in societies".¹ More burden of tuberculosis occur in India than in any other country in the world. An estimated 2.2 million new cases of tuberculosis and 2,80,000 tuberculosis related deaths occurred in 2014, representing one fifth of the global burden of incident cases of tuberculosis and mortality.² The Indian Revised National Tuberculosis Control Programme began large scale nationwide implementation of the World Health Organization's global tuberculosis control strategy (DOTS) in 1998 and has since expanded rapidly. Country-wide coverage is anticipated by April 2006. However, almost large amount of patients with tuberculosis in India may initially need help from the private healthcare sectors, where diagnosis, treatment, and reporting practices often do not meet national or international standards for tuberculosis.³⁻⁵

Public-private mix has been defined by WHO as strategies that link all healthcare entities within the private and public sectors (including health providers in other governmental ministries) to national tuberculosis programmes for expansion of DOTS activities.⁶ Published reports of public-private mix projects indicate that the approach is feasible and effective, but previous evaluations are largely limited to local and individual experiences.⁷⁻

⁹ India has the largest collection of such experiences of public-private mix, few of which to date have been reported.¹¹⁻¹⁴ We describe the effect of a series of pilot public-private mix projects in India on case notification of tuberculosis and treatment outcomes and discuss the potential role of public-private mix in improving tuberculosis control in India. The term notification means that tuberculosis is diagnosed in a patient and reported in the system. From 2013 onwards, the numbers of cases are reported to WHO in the following categories: New pulmonary bacteriologically confirmed TB cases; New pulmonary clinically diagnosed TB cases; New extra pulmonary TB cases, bacteriologically confirmed or clinically diagnosed; Relapse pulmonary bacteriologically confirmed TB cases; Relapse pulmonary clinically diagnosed TB cases; Relapse extrapulmonary TB cases, bacteriologically confirmed or clinically diagnosed; Previously treated cases, excluding relapse cases, bacteriologically confirmed or clinically diagnosed.¹⁵ Some patients under treatment for active TB disease in the country move to another country before completing treatment. To assist in treatment completion and continuity of care, CTD has developed a process for international notification. Notification of TB control personnel in the patient's country of destination, TB control personnel in that country advise patient to complete treatment, Patient is advised and educated on the importance of completing treatment.¹⁶

Method

Study design and study population

The operational and cross-sectional self monitored structured process was conducted during the months of August to October 2016 to notify the TB patients to identify the unregistered tuberculosis case detection. The organizations involved exclusively and actively in this process is Office of the CMOH, RNTCP Wings, Government of West Bengal, Dakshin Dinajpur, German leprosy & TB relief association Chennai, Dakshin Dinajpur, Wings, West Bengal, private laboratories, one charitable Hospital and 24 Medical Retail Shop of the same district. Simultaneously an innovative trail tool is

discovered to find out the specific number of patients who were under private practitioner in the districts of Dakshin Dinajpur, West Bengal.

Study Sample

The organizations were selected on the basis of following criteria: (1) should come within the definition of private- public partnership. (2) Be exclusively and actively involved in health social work and business. The organizations selected for the study were: 1-Holy cross Hospital, Gangarampur. 2-Sonoscan Healthcare Pvt.Ltd, Balurghat.3-DishariDiagnostic, Balurghat, 4-Ghosh Sonoscan Centre, Gangarampur, 5-Raghunathpur Diagnostic Centre, Balurghat and 24 Medical Retail Shop. All the personnel from the above organisations (those who were present at the time of the survey and those who were actively involved in health social work and business) were selected for the survey.

Contribution of public-private mix model to case notification.

The public-private mix model that primarily involved private hospital, diagnostic centre and medical retail shops were evaluated for a median of 3 months. During this time, 44 new cases of tuberculosis on the basis of sputum smears positive for acid fast bacilli were reported from private laboratory (Table1, Figure1) and 168 patients were found from the Medical Retail Shop of the district (Table 3,Figure 3). In each of the organisation involving private hospital, diagnostic laboratory and Medical Retail Shop with data available from before and after implementation of a public-private mix model, the average quarterly number of positive case notifications increased.

Table 1: Tuberculosis case notification rate after implementation of public-private mix model.

TU Name	August	September	October	Average	SD
Hili TU	3	4	3	3.3333	0.6
Khaspur TU	0	0	0	0	0
HarirampurTU	0	0	0	0	0
Bansihari TU	0	0	0	0	0
KumargangTU	0	0	0	0	0
Kusmandi TU	0	0	0	0	0
Tapan TU	0	0	0	0	0
Chalon TU	5	13	16	11.333	5.7

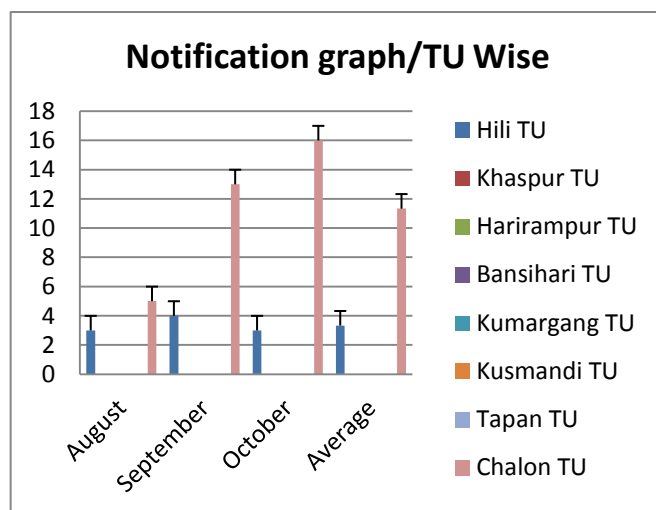


Figure 1 Proposed Trail Tool for notification:

The new trail methodology may create a bridge between unregisters case finding and the format provided by the government of India for notification. The tool showed a unique technique to reach the unregister cases of tuberculosis. Technique is explained in the form of (Figure 2).

Utilization of the format provider for notification: Monthly Stock report of the Anti TB Medicine Sold in the district should be collected from the Direct Stockist. The report will help us to get the specific information regarding the retail medical shops that use to sale Anti TB Drugs. From the retail medical shops Unidentified Patients Details can be recovered for notification. The staffs of RNTCP wings (STS-Senior treatment supervisor) will take the details & will generate to the PPM Coordinator. And then patient visit is required for informing him/her regarding the DOTS provided by Government of India to return the patient in the RNTCP-DOTS system.

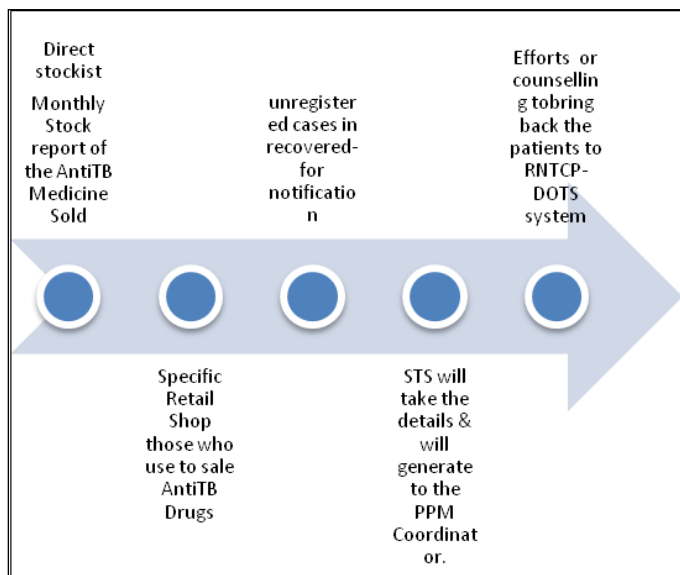


Figure 2: Proposed Trail Tool for notification-Model

Table 2: Name of the Medical Retail shop

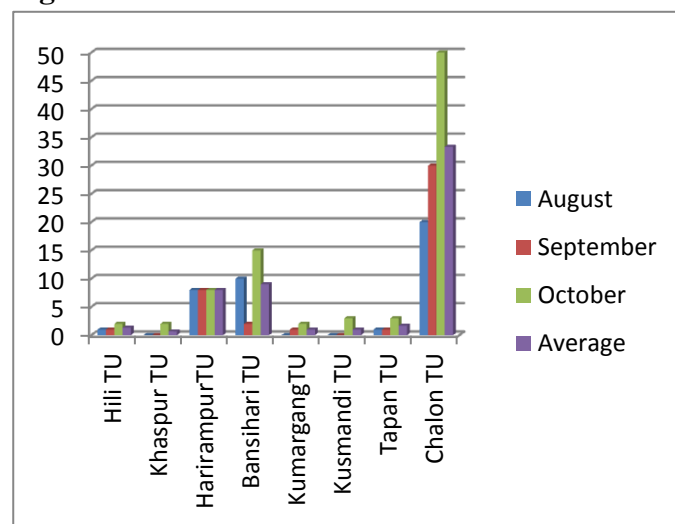
PLACE	NAME OFD THE PHARMACY
KHASHPUR	AROTI MEDICAL STORES
	GHOSH MEDICAL HALL
	MITRO MEDICAL AGENCY
	SAGARIKA ENTERPRISE
GANGARAMPUR	INDIA DRUG HOUSE
	THE DRUG CENRE
KARDAHA	HARIDASHI PHARMACY
KUMARGANJ	DAKHYA PHARMACY
NAYABAZAR	USHA MEDICAL STORES
KUSUMUNDI	CHAUDHURY MEDICAL
HILI	QUANTAM DRUGS
TRIMOHINI	MONDOL DRUG HOUSE
	SARKAR PHARMACY
PATIRAM	JANAKALAYAN PHARMACY
	RAKA MEDICINE
BUNIADPUR	JANATA MEDICAL STORE
	MUKTI AND SONS
BALURGHAT	LOKNATH MEDICAL STORES
	NANDA PHARMACY
	NEW ROY PHARMACY
	GHOSH MEDICINE,
	SONALI MEDICAL AGENCY
	ROY MEDICAL STORES
	MR PHARMACEUTICALS

Table 2: Indicate the name of the medical retail shop those who sale AntiTB drugs in the district of Dakshin Dinajpur, West Bengal.

Table 3: Notification from Medical Retail shop of Dakshin Dinajpur.

TU Name	August	September	October	Average
Hili TU	1	1	2	1.3333333
Khaspur TU	0	0	2	0.6666667
HarirampurTU	8	8	8	8
Bansihari TU	10	2	15	9
KumargangTU	0	1	2	1
Kusmandi TU	0	0	3	1
Tapan TU	1	1	3	1.6666667
Chalon TU	20	30	50	33.3333333

Figure 3:



Results

The (Figure: 1& Table: 1) clearly define that Tuberculosis case notification rate after implementation of public-private mix model have increased for the specific three months. Chalon and Hili TU showed a good responds regarding private notification. The new trail methodology was applied and twenty four(Table 2) specific retail shops were identified out of nearly 400 Medical retail shops those who sale Anti TBdrugs in Dakshin Dinajpur. Simultaneously nearly 168 private notification was gathered from the medical retail shop in the month of December 2016.

Discussion

The public private mix model was a newer concept in Dakshin Dinajpur so we faced an initial difficulty in involving all the stakeholders but the response received was encouraging. There was an increase in case detection rate of tuberculosis by involving private organizations. It was found that the private notification in Chalon TU was increasing in rapid manner .This means the concept of DOTS in that specific area was not clear / reaches to the population of the area. Intensification of the ACSM program should be increased on that area. So we can propose a private DOTS centre on that area. In the case of notification the government has provided a format to collect the unregister names of the tuberculosis patients but the methodology of working was not clear .So a unique technique to

reach the unregistered cases of tuberculosis was formed. And a trail was done maintaining the proposed protocol. It was found that the stakeholder (Medical Retail Shop owners) actively generated nearly 168 names. Following the pathway the effectiveness of the work may increase. The work of the field staff may have reduced. This technique can help to solve different type of questions like patient history, category of the patient, treatment protocol, patient compliance, follow up, drug resistance, death rate and diagnosis pathway of unregistered patients and we will be also understanding whether the patients is following the standard of TB care in India, So there was a huge need of extending the research to control and eradicate TB from the district like Dakshin Dinajpur as well as India.

Conclusion

Public private mix (PPM) model was effective in increasing the CDR of TB cases in district Dakshin Dinajpur, West Bengal. And the proposed new trail tool may be effective to get the unidentified TB cases who were not registered in the RNTCP, Nikshay portal. The new trail methodology may created a bridge between unregisters case finding and the format provided by the government of India for notification. The tool showed a unique technique to reach the unregistered cases of tuberculosis. The last step of the proposed trail tool became the most important mechanism to find out the real purpose of notification from the private stakeholder. It is also recommended that the public private partnership model in Tuberculosis case detection needs to be taken on a larger scale so as to reduce the heavy TB burden in India

Limitations

This study has several limitations

Firstly, we were not able to involve the entire private organisation and private practitioners working in the area because some of the organisation was reluctant to join the partnership due to the fact that they may lose their patients. So 100 percent cases were not been registered under RNTCP.

Secondly, few of the cases may not come to the system for more faith on the private practitioner and private organisation by the patients.

Thirdly, the final step of the new proposed trail may requires more systemic technique to revert the patient in the standard for TB care in India (STCI).

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