State level Community monitoring survey (based on SMS) regarding Availability of essential medicines in PHCs of Maharashtra

Background

Since inception of the Community Based Monitoring and Planning (CBMP) process in Maharashtra in 2007, the issue of inadequate availability of medicines has been consistently raised in various public hearings and multi-stakeholder meetings. Unfortunately since then, despite official assurances, the situation has not improved significantly, and health facilities still continued working with major shortage of medicines.

In the last State monitoring and planning committee meeting held in August 2012, it was promised that 'we are improving the procurement system and after December 2012, Public health facilities will no longer face any shortage of medicines'. Hence to analyze the current situation of medicine in PHCs across Maharashtra in early December 2012, a quick overview was taken by gathering data by means of SMS sent by activists from across the state using mobile phones. In the CBMP process, detailed data gets generated once a year through a time consuming process of filling the PHC tool and preparing report cards. Thus for regular and rapid monitoring, now a SMS based data collection and analysis process is being developed.

Process of data collection through SMS

On 5th December 2012 a first round of SMS data generation was conducted in 12 districts of Maharashtra, covering 36 PHCs in these districts. For data collection, 10 essential medicines were selected from the list of PHC essential medicines (Inj, Methergine, Inj, Anti Snake Venom (ASV), Inj, Anti Rabies Vaccine (ARV), Inj, Tetanus toxoid, Inj.

Atropine, syrup Co-trimoxazole, Tablets Paracetamol, Furazolidone, Metronidazole, Ciprofloxacin). Prior to the SMS data generation, the detailed procedure for sending relevant data by SMS was communicated to all field partners.

A four digit code was prepared for each PHC with digits for district, Block, and PHC. Formats of medicine codes and amount of medicines were also provided to partners (format 1). A detailed plan and timeline was shared to facilitate this information collection. Guidelines for data transformation into SMS were shared. With this background, data was collected by CBMP activists on 5th December who visited designated PHCs in their area, accessed information about medicine stocks, filled the formats and then communicated this in SMS form.

For SMS communication, the following sequence was followed: firstly name of the PHC; then a four digit code of that PHC, Block and District; then code of each medicine followed by stock of that medicine. Each Code of the medicine is

Format 1

Name of the medicine	Code of medicine	Amount *(To be filled by field coordinators – indicative amounts given as example)*
Inj. Methergine	1	*200*
Inj, ASV	2	*100*
Inj. ARV	3	*50*
Inj. Tetanus toxoid	4	*150*
Inj. Atropine	5	*0*

separated by a dot. The data for the 10 medicines was forwarded in two messages, since stock of five medicines was communicated in each SMS.

For example:
- Name of PHC – **Ganjad** in Dahanu block in Thane District
- Four digit code – **0412** (District Code - 04; Block Dahanu code -1; PHC code -2)
- Medicine codes – **1,2,3,4,5**
- Stock amounts of medicines (for example) – **200, 100,50,150,0**
- SMS message to be sent - **Ganjad.0412.1.200.2.100.3.50.4.150.5.0**

Analysis of data

As per government guidelines, PHCs must have medicine stock adequate for three months at any given point of time. Using this guideline as the basis, data on medicine stock was categorised into four categories:

1. Zero stock available- Not Available
2. Stock sufficient for less than two months- Insufficient availability
3. Stock sufficient for 2 to 12 months –Satisfactory availability
4. Stock sufficient for more than one year-Excess availability

The level of availability of medicines in 36 PHCs has been calculated. 10 medicines and 36 PHCs = (36*10) = 360 instances for availability of all 10 medicines in 36 PHCs.

Table 1

Availability of medicines in 36 PHCs– instances classified by availability

No.	Availability Condition	Percentages for availability instances
1	Not available	13%
2	Insufficient availability	50%
3	Satisfactory availability	32%
4	Excess availability	5%

The above table shows that **in 63% of instances, there are unsatisfactory stocks of medicine in PHCs**. In only about one third of the instances, is there sufficient stock of medicine.

District wise analysis

District wise analysis shows that *Beed district is most deficient in medicine stock, where zero availability of medicines was found in 45% of instances*. In Gadchiroli, Raigad and Aurangabad districts, in over 20% of instances there was zero stock availability.

Beed also shows highest insufficient stock among all districts, this being the situation for 90% of instances. In Thane, Gadchiroli and Aurangabad districts insufficient stocks were found in 70% to 80% instances.

Medicine wise analysis: essential medicines that are inadequate in over 75% of PHCs

From the selected 10 medicines, stock of five medicines namely injection for dog bite Anti-rabies vaccine, Inj. Methergine required after delivery, Tab. Paracetamol for fever and pain, commonly required antimicrobials like Furazolidone and Metronidazole were found to be insufficient in over 75% of all PHCs. (see Table 2)

Table 2

Five essential medicines having insufficient stock in more than 75% PHCs

No.	Name of the medicine	% of PHCs having insufficient stock
1	Inj ARV/Rabipur	89
2	Inj Methergine	82
3	Tab Paracetamol	78
4	Tab. Metronidazole	78
5	Tab. Furazolidone	75

Paradoxical situation of deficiency of medicine co-existing with excess

In a few districts, *stock for the same medicine is found in excess (medicine sufficient for more than 6 months) and zero stock or deficient stock in other PHCs in the same district*. Amravati and Pune districts witnessed this kind of situation for 5 to 6 medicines. Fifty percent of PHCs in Amaravati have insufficient stock of Tetanus Toxoid injections while 33% of PHCs in Amaravati have excess stock of the same medicine. In Pune district, 60% of PHCs were having insufficient stock of Inj. Methergine while 40% PHCS had excess availability of this medicine. At the state level also, such paradoxical maldistribution was observed in significant number of PHCs for certain medicines (see Table 3).

Table 3
Paradoxical situation of same medicine being in excess and deficient

Name of the Medicine	Percentage of PHCs having insufficient stock	Percentage of PHCs having excess stock
Tab. Ciprofloxacin	44	26
Inj. Tetanus Toxoid	44	28
Syp. Cotrimoxazole	51	26

This data shows that the medicines are not being rationally distributed as per actual requirement. If demand driven distribution of medicines among PHCs were ensured as per the the actual requirement of each PHC (which varies considerably), then this kind of situation of 'shortage amid excess' could be avoided.

Implement a proven solution: Tamil Nadu model of procurement and distribution

This model of medicine procurement and distribution is running effectively since the last 15 years in Tamil Nadu and now both Kerala and Rajasthan have also adopted this model with some modifications. However despite considerable evidence of its effectiveness, Maharashtra has not yet adopted this kind of system, and instead some piecemeal reforms are being made. Just initiating e-tendering (that too in an inefficient manner since there is no dedicated body to carry this out) will be insufficient. What is required is formation of a dedicated and technically competent, autonomous corporation ensuring full transparency in purchasing, combined with a demand driven supply system for the Health facilities. Although this model is available as a solution to tackle the current medicine shortage, why the Health department of Maharashtra is not ready to implement this in a comprehensive manner is a key question. As long as this question is not answered satisfactorily, essential medicines which are a key component of health services, will continue to be denied to common people across the state.

Some suggestions for efficient medicine procurement and distribution

- Establishment of an autonomous and efficient body to ensure procurement and distribution of medicines.

- E- Tendering for procurement should be done efficiently and in timely manner, which would be possible through an autonomous and technically competent body.

- Each PHC should be provided with a pass book for decentralized and demand driven supply of medicine, as per local requirement

- Establishing medicine warehouses in each district.

- Formation of State and District monitoring committees, in coordination with the Community based monitoring process, to oversee effective medicine procurement and distribution.

- Regular coordination between PHCs and District medicine supply centres with computerised, online maintenance and regular communication of stock position.

- Regular quality check of medicines to be supplied with strict quality control measures.