

## The Use of Social Media for Strengthening the Program Management and Service Delivery in ART Centers: Experience from India

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### Abstract

**Issue:** As supply chain of ARVs is decentralized, more focused monitoring and mentoring of the ART centers is needed to ensure regular availability of the ARV drugs, undertake timely relocations and to avoid any stock outs.

**Activities:** A group was created in “WhatsApp” that had pharmacist from 27 ART centers providing ART to 44593 PLHA, in Gujarat, India. They were mentored and capacitated to address key issues and suggest solutions to complement and strengthen the existing National ARV recording and reporting system.

**Results:** The group had high acceptability amongst users who utilized it for:

1. Mentoring on new reporting formats, and correct compilation of stock reports
2. Reminder for reports
3. Stock/consumption reporting channel, with internet failure
4. Confirmation of drug relocations

Correctness of the reports improved immediately in 30% centers, and 25/27 centers reported immediately in new adopted format in 1 week and 100% centers in 3 weeks.

Group reminders increased the timeliness of ARV stock reports, with >90% reports on time. In 8 instances of inability to send report by email, centers transmitted information using the group.

On 20 occasions members used group to inform about impending shortage needing urgent relocation. Around 200 relocations acknowledged in group provided real time information. 46 communications demanded immediate attention- 40 regarding receipt/shortage, 6 about relocation to prevent possible expiry of any drug.

**Lessons learned:** Decentralization of ART poses several challenges and use of social platforms like ‘WhatsApp’ can be effective mentoring mechanism, in complementing the national reporting systems.

#### Keywords:

Social media; WhatsApp; HIV; Quality of healthcare; Peer group; Policy

### Background

The provisions of free antiretroviral treatment to eligible patients seeking services at designated public hospitals were started in 2004 under National AIDS Control Program (NACP) phase 2. The NACP is now in fourth phase of implementation from 2012-2017. The ART (Anti-Retroviral Therapy) program currently has been scaled up to 519 ART centers across the country where in 9.02 lakh PLHIV (People Living with HIV) are receiving free ART [1, 2].

At state level, the NACP is implemented and monitored by the state AIDS (Acquired Immunodeficiency Syndrome) Control Societies. The state of Gujarat is located in the Western part of India, having an estimated 1.27 Lakh PLHIV. As of April 2015, there were 30 ART centers in the states providing ART to 44593 (3.10 April 2015 Monthly Progressive Report) PLHIV [3].

The ARV drugs are procured at the central level and distributed to the ART centers. During the earlier phase of the program from April 2004 to September 2011, the ARV drugs were procured by NACO (National AIDS Control Organization) and distributed to ART centers by the suppliers directly. From October 2014 onwards, the onus of managing the supply chain/distribution of the ARVs within the state was mandated to be done by the (State AIDS Control Society) SACS [4] while procurement was done centrally by NACO.

As the system decentralized over time, a need was felt to have more focused monitoring and mentoring of the ART centers to keep a track of the continuous availability of the ARV (Anti Retro Viral) drugs, undertake timely relocations to avoid any shortages or expiries. The pharmacists at the ART centers are the key personnel involved in maintaining the drug stocks while the data managers are the key personnel responsible for compiling and transmitting weekly and monthly reports on time [5]. To enhance interaction between the care, support and treatment division of the Gujarat SACS and all the ART centers in the state, it was conceptualized at GSACS (Gujarat SACS) to create a group of key functionaries individuals on the frequently used and popular social media platform "WhatsApp" (WhatsApp is an instant messaging app for smartphones. This proprietary, cross-platform app uses the Internet to send text messages, images, video, user location and audio media messages) that would complement and strengthen the existing ARV recording and reporting system during the transition.

## Method

It was assumed that this group would promote interaction between the health care providers, particularly those involved in maintaining the ARV stock and distribution of ARVs within state of Gujarat and hence, the members of the group were the pharmacists and the data managers of ART center along with the officials from GSACS (Joint Director (JD) and his team). It was also hypothesized that the members are already using the WhatsApp facility for other social activities and hence will be well familiar with the way WhatsApp group's functions. Hence, it would be an appropriate medium to enhance the interaction, get timely updates on drug requirements, expected drug relocations, confirmation on receipt of drugs as well as a means to mentor the group on any questions that they might be related to reporting formats and reporting issues. Hence, the WhatsApp group was a clarification additional tool, and was not a substitute to the national recording and reporting system for ARV drug supply management.

Consequently, group of all Gujarat ART centers Pharmacists created on December 23 2013. The group was administered by Mr. Sandip Rathod, Pharmacist Gandhinagar, ART Centre and moderated by Dr. Sudhir Chawla, JD, CST and CST (Care, Support and Treatment) team at GSACS.

## Results

At the time of inception of the group, there were 27 ART centers functional in Gujarat. Out of these, 25 ART centers joined the group immediately. The group messages were reviewed at end of one year to understand the most common purpose for which members used the group. It was seen that there were following categories that could be recognized

- Compilation, cleaning and monitoring of drug stock reports and passing on instructions regarding dispensing practices.
- Reminder for weekly drug stock reports to be sent by email to SACS and NACO.
- Provide the weekly drug stock and consumption report, in case of internet failure at ART center.
- Disseminate information on the introduction of new reporting formats for ARV drugs.
- To request urgent drug requirements.
- Emergency drug stock management in case of shortage or near expiry drugs.
- To provide real time confirmation of receipt of ARVs.
- To provide information on drugs in transit.

27 ART centers were reporting to SACS and NACO in the National M&E (Monitoring and Evaluation) tools using the monthly and weekly ARV reports. However, there were some fields in the M&E tools which were not clear to them. Out of these 27 centers, 09 centers reported the data incorrectly. 9 out of 27 ART CENTRE was found to have difficulty in accurate reporting. Between Aug to Dec 2014, GSACS officials conducted mentoring of the centers on the queries they had on the reporting formats. Based on these queries and field level difficulties communicated on the WhatsApp group as well as through emails and phone calls, the GSACS officials, during their supervisory and mentoring visits to the ART centers, had individualized discussions to develop the ART centre's understanding on consumption, stock management with physical verification, correct pill count, FIFO (First Expiry, First Out) principle, use of the drug stock and dispensing registers etc.

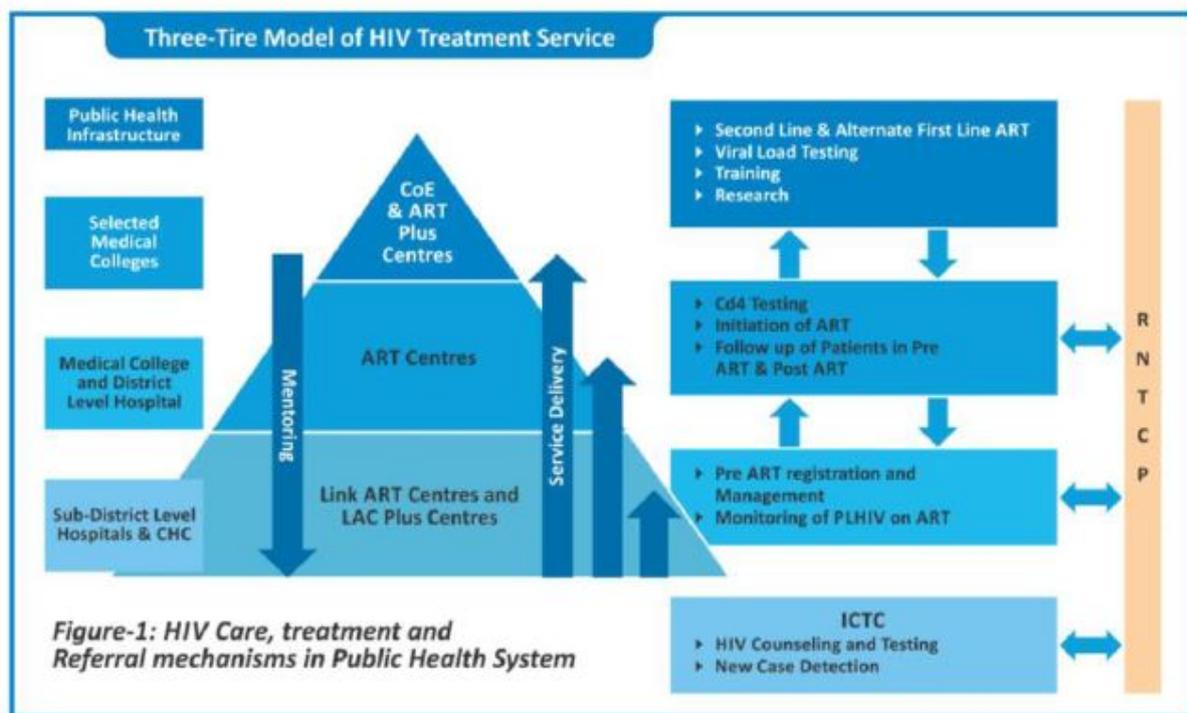
As the program was experiencing critical stocks of some ARV drugs during the period, it was important to gather regular information on the stock levels and the consumption pattern of the ARVs and this was done every week. The group moderator used to send a reminder to all the members before the scheduled weekly reporting day. This was seen as highly effective reminder and out of 27 centers, 25 submitted the reports on time every week. The regularity and timeliness of the weekly reports from the ART centers maintained a high level over. Between Aug-Dec 2014, there were 8 instances when different ART centers were unable to send the weekly report by Email due to non-functioning computer or due to issues with internet connectivity. On all the eight occasions, they provided the report to GSACS through the WhatsApp group so that information became timely available. In a large public health program, introduction of new reporting formats can often lead to multiple formats circulating in the service delivery sites and there can be a time lag before the uniformity

in the reporting format is achieved across all sites. The group made sure that key personnel at ART centre are aware of the changes in formats with addition of newer regimens and deletion of the regimes that were phased out (like Stavudine). The information was repeatedly shared amongst the group members and it was seen that the revised reporting format were almost immediately used by all ART centers. Within one week of introduction of revised format, 25/27 centers reported in revised format and in 3 week, 27/27 centers reported in the revised formats. During the time of transition for distribution of the ARVs from National to state level, it was important that based on the weekly reports of the centers, the drugs are distributed evenly. The ART centers send timely reminders to the GSACS on emergency need of drugs. Equally important is the information on quantity of ARV received and time it is received at the ART centers. During the period from 7th Aug 2014 to 30 December 2014, there were 20 instances when ART centers used the group to inform the GSACS about the critical drug stocks Based on guidance form SACS, the centres attempted to forecast their ARV needs based on consumption, and this was vital to meet the crisis situation and avoid any stock outs. All the relocations were acknowledged by the members as soon as they received the ARVs from any center or SACS in Gujarat from April to

December 2014. During the same time, there were 46 communications received in the group that needed immediate attention for possible shortage/relocation of any ARV/OI (Opportunistic Infection) drugs or on near expiry of any ARV/OI drugs. Out of the total 46 communications, 40 were related to shortage of a specific ARV/OI drugs or receipt of ARV/OI drugs while the 6 pertained to relocation to prevent possible expiry of one or more ARVs/OI drugs. From February 2015, as the fresh supplies from NACO started, the communications for impending stock outs decreased significantly, but the group remains active with peer interactions and information sharing.

## Discussion

Decentralization of HIV treatment services has been strongly recommended by the World health Organization recently [6]. The national program in India has already undertaken the decentralization of services from premier institutions and medical colleges and to district hospitals across the country with the concepts of centers of excellence in HIV care, ART plus and ART centers and with link ART centers forming the base of the service delivery structures [7] (Figure 1).



**Figure 1** HIV care, treatment and referral mechanisms in public health system.

A standardized system of monitoring and evaluation with uniformly used recording and reporting tools remains strength of any good performing public health program by virtue of good documentation. Regardless of how the data is collected, it is essential to standardize variable definitions and codes to facilitate the accurate analysis of data across facilities, districts

and countries [8]. Frequent changes in formats for these can lead to a lag time for timely recording and reporting thereby increasing the chances of information lag.

There have been various platforms of social media that have been used in the past for varying objectives. These include mobile application based survey [9], information sharing [10,

11], use of Facebook [12, 13], etc. The present study reinforces the important role that mobile based applications can play in a newer area of program management by mentoring of the field level staff.

Adherence to antiretroviral drugs has been defined as [14] “the extent to which a person’s behaviour—taking medications, following a diet and/or executing lifestyle changes – corresponds with agreed recommendations from a health care provider”. Multiple factors related to health care delivery systems, the medication and the person taking ARV drugs can affect adherence to ART. While the individual factors may include forgetting doses; being away from home; changes in daily routines; depression or other illness; a lack of interest or desire to take the medicines; and substance or alcohol use, medication-related factors can include adverse events; the complexity of dosing regimens; the pill burden; and dietary restrictions. Health system factors that can influence the adherence to ARV include need for people with HIV (Human travelling long distances to reach health services; and bearing the direct and indirect costs of care. Lack of clear information or instruction on medication, limited knowledge on the course of HIV infection and treatment and adverse effects can all be barriers to adherence to ART. Moreover, uninterrupted ARV drug supply and continuity of care are essential for people to adhere to their medication.

One of the most critical challenges to the global scale-up of antiretroviral therapy (ART) programs is the effective management of a supply chain for antiretroviral drugs [15]. Appropriate storage and distribution of HIV medicines, diagnostics and other commodities are important components of the supply management system. Product integrity and quality need to be maintained during storage and distribution, and waste from spoilage and expired products should be minimized [16].

WHO (World Health Organization) recommends that facilities should have trained personnel and the tools to manage supplies effectively [16]. Accurate inventory records should be maintained and a system created to track products that enter and leave the supply system. A routine consumption-based analysis at service delivery sites should be established. Flexibility should be introduced in the supply system such as procedures for reporting and redistribution of excess ARV drug supplies to minimize expiry and stock outs [17].

There is standardized recording and reporting system in India for the ART program, that is as yet primarily paper based and with the extensive scale up and decentralization of ARV distribution, challenges of training the field staff in inventory management, predicting consumptions, and timely relocations pose challenges, further complicated if there is a turnover of staff.

The present study is first of its kind in India that reiterates the use of standard recording and reporting tools and the efficacy of using social media (WhatsApp) as an effective mentoring and monitoring tool that can be used to strengthen

the national M&E system for ARV supply management. The use effectively in emergency situations.

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