

ADDRESSING OVERCROWDING IN OPD AT PHC BANAVARAM, DIST. VELLORE (TAMIL NADU) BY PROCESS MAPPING AND PROCESS RE-ENGINEERING



Photo 1: OPD Consultations Before and After the Intervention

Problem Statement

Out Patient Department (OPD) of any health facility acts as a “Shop – Window” and is the first point of contact of a patient with Health Care Delivery System. Overcrowding is one of the commonest problems of OPDs across Health facilities, especially in the Registration Counter, Waiting Areas, Consulting room, and Dispensary among others. It contributes significantly towards patient dissatisfaction because of long waiting and less consultation time. The reasons for this is manifold such as lack of familiarity to the hospital environment (‘alien’ feeling for first timer), absence of guidance for OPD procedures, uneven flow distribution of the patients, impression in the community that to avail the services one must reach in morning hours. To improve the quality of health care and provider - patient relationship, the NHSRC facilitated the implementation of one of the ‘Business Process Re- Engineering’ models, in OPDs of Health Facility of Tamil Nadu.

Program Description

Quality Management System (QMS) was implemented in 48 Primary Health Centres of Tamil Nadu, facilitated by technical support from NHSRC.

A situational analysis ‘*As Is study*’ was conducted as the first step to elucidate gaps and identify mechanisms to traverse these gaps. It was noted that utilization of Public health services in Tamil Nadu was good, in most PHCs, with the number of daily out – patient’s attendance ranging from 200 to 350 per day. However, overcrowding remained an overarching issue in all these PHCs. Banavaram PHC was one such PHC, which was identified to study ‘*Business Process Re-engineering*’ of the Out Patient Department.

The Process approach comprised of ‘Process Mapping’ and ‘Process Redesigning’. A process map is a visual graphical representation of a series of processes documented through direct observation of service delivery at the OPD.

The first step was to identify the bottle necks by using a ‘*basic flow chart*’. This tool documents every step from the entry of the patient into the OPD to his/ her exit. (Figure 1)

The second step was to do a ‘*root cause analysis*’, with active participation of local and State Medical Officers and Health Staff. The root cause analysis helps identify the actual reason for the bottlenecks and issues. (Table 1)

Table 1: Bottlenecks in OPD Processes and their Root-cause Analysis

S.No.	Bottleneck/Issues	Root cause
1.	Patients and visitors were facing problems in locating OPD area	No directional signages were available.
2.	Overcrowding at Registration counter.	Only one Registration counter was functional.
3.	Overcrowding in waiting area.	All the patients entering waiting area simultaneously
4.	Overcrowding in doctor's chamber (Photo 1)	a) 8 to 10 Patients were entering the OPD chamber together b) Male and female OPD s were conducted in single room c) No assistance / help was available
5.	Time spent by doctors for examination and prescription was very less.	Cascading effect of all of above

The third step was to identify cost effective and simple mechanisms were then initiated to remove the identified bottle necks such as intermediate links in existing processes, duplication of activities etc. These included

- Installation of directional signages in local language to locate the Registration counter and other departments.
- Operationalization of separate counters for male and female patients.
- Introduction of a token and patient calling system with electronic display, to enable patients to sit and relax while waiting for their turn. Those with longer waiting time were seated outside the waiting area to decrease the patient inflow and resultant overcrowding. (Photo 2).
- The patients were also sent in batches of 15 – 20 to stagger the patient numbers in the patient waiting areas.
- Segregation of male and female OPD Consultation rooms, within the spaces available. For this no new construction was initiated, instead there was slight rearrangement and relocation of certain services such as the store rooms to another location within the premises.
- The Health Inspector activities were rescheduled in a manner that he could oversee

and coordinate the activities of the morning OPD and conduct field visits in the afternoon



Photo 2: Electronic Display System in Patient Waiting Area

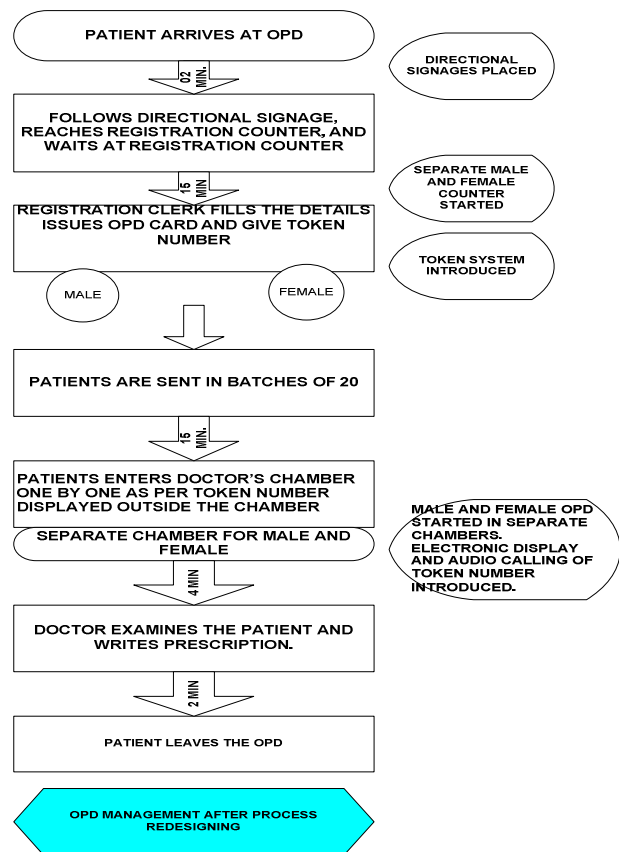
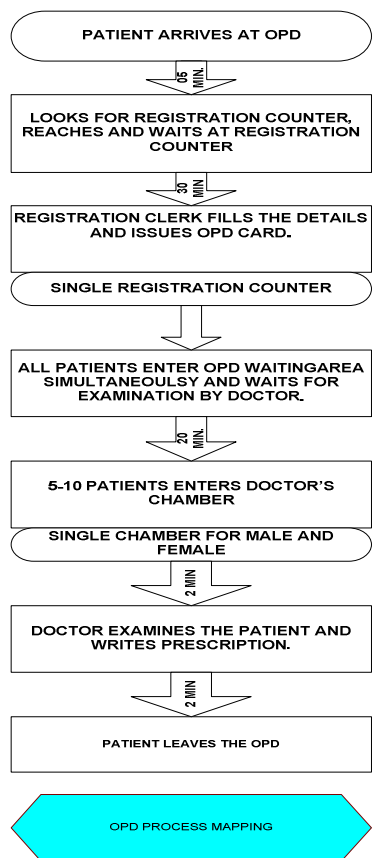
The fourth step was to redesign the entire process of the OPD to enable better patient management and put it into action.

Program Impact

With these measures in place, the turnaround time reduced by 18 minutes per patients. This was from their time of entry to time of exit from the OPD. At the same time the Consultation time increased from 2 minutes to 4 minutes, which greatly improved patient satisfaction. The other improvements are highlighted in table 2.

Table 2: Effect of Business Process Re-engineering

S. No	Indicator	Before intervention (‘As-is’ Study)	After Intervention
1.	Total journey time of patient in OPD	57 minutes	36 minutes
2.	Waiting Time taken for registration	30 minutes	15 minutes
3.	Waiting Time for OPD consultation	20 minutes	15 minutes
4.	Time spent by doctor per patient	2 minutes	4 minutes.
5.	Overcrowding at registration counter		Significantly reduced
6.	Overcrowding outside and inside the OPD chamber		Significantly reduced



Scalability

This intervention has been replicated in other PHCs of the state, with success. Thus Process mapping and redesigning principles and techniques can be adopted for any healthcare process to improve them.

For further details contact

1. Dr K Kolandaswamy, Additional Director Public Health & Preventive Medicine, Tamil Nadu.
Email - kkswamytnphs@gmail.com
2. Dr Parminder Gautam, Senior Consultant, Quality Improvement, NHSRC.
Email – drparmindergautam@yahoo.co.in