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Streamlining clinic management

The organizational procedures in clinics run by the United Nations Relief and Works Agency for Palestine Refugees in the Near East were studied using the technique of patient flow analysis. As a result it proved possible to diminish patients’ waiting times and increase the efficiency of health care providers.

Many countries have followed the principles set out in the Declaration of Alma-Ata with a view to improving the health of their populations. However, problems of practical application have arisen, especially in first-entry health care services: the management of health centres and outpatient facilities has not received the attention it needs. Thus child health, antenatal and family planning services may be available only once or twice a week during a 2–3-hour period. This leads to time loss and frustration among users who may have to visit clinics twice a week for different types of services.

Patients may have to wait for long periods before obtaining individual services in health centres and outpatient departments, partly because of poor organization.

Improved management could lead to better coverage and acceptance of services by communities. Clinic schedules should suit the needs of the communities served rather than those of health staff.

Clinic managers have space, equipment and, most importantly, skilled personnel at their disposal. Optimally combined, these elements should provide a good service. Patient flow analysis (1, 2) offers an approach to achieving this end, provided that a certain level of resources is available. The technique can help to identify gaps in the distribution and utilization of personnel time and skills. It can thereby lead to an understanding of the relationships between service provider time and its use by clients.

Patient flow analysis

Patient flow analysis requires staff to record entry and exit times for every patient at their service stations. A microcomputer program provides graphic output of the time each client spends with each staff member and of the time the patient spends waiting for each service. The program also produces patient and staff statistics giving an insight into personnel time utilization, the average time spent on particular preventive, diagnostic and/or therapeutic procedures, and, if requested, a cost analysis of staff time utilization.

The graphs and statistics are interpreted in the clinic with all staff present; this allows...
on-site management training while real organizational problems are being solved. The application of the principle of participation is as vital in clinic management as it is in the community: staff interpret results and formulate strategies for change. An interest in the process of change is stimulated and some of the problems of psychosocial resistance to changes in work routines can be overcome more easily than would otherwise be the case. Patient flow analysis also involves reassessment after the implementation of change. The results of the further investigation are again interpreted by staff and study coordinators, and, if required, additional changes can be decided upon. In this way the initial momentum and the interest of staff can be maintained.

Patient flow problems in health centres

In 1986 a primary care review was conducted in the health facilities run by the United Nations Relief and Works Agency for Palestine Refugees in the Near East. Overcrowding was identified as a major problem of clinic management. The Agency’s health centres experience patient loads sometimes exceeding 800 per day. A relatively modest number of nursing,

empirical analysis of clinic management problems.

It was decided that not only should an attempt be made to devise strategies to overcome these problems but also that the whole system of patient flow analysis should be transferred to the Agency. This required training in analytical skills and the training of a microcomputer operator. It was considered that, in this way, the Agency would become self-sufficient in applying the method of patient flow analysis. In addition, the Agency’s staff would be able to serve as a resource group in patient flow analysis for the Arab-speaking countries of the Eastern Mediterranean Region of WHO.

Data were collected from three clinics in Jordan during August 1988. It was found that there was a traditional pattern of scheduling for different services on different days of the week.

An important solution to flow problems lay in modifying the arrival pattern of patients. Patients evidently tried to come to the clinics as early as possible in order to receive prompt attention and leave quickly. This caused great confusion and stress for both staff and patients. A simple appointments system was therefore introduced. The staff decided to ask their clients to return on follow-up visits at the time they left the last service station. After the system had been implemented and the community had decided to comply, half-hourly appointments were given. It was important at this stage for the staff to try and adhere to the appointments schedule so as to encourage continuing compliance by the community.

As regards the internal procedures for the handling of patients, several changes were discussed by study coordinators and staff. Health education emerged as one of the bottlenecks hampering a smooth flow. It was

midwifery and medical/dental staff serve in the facilities. With a view to reducing waiting times and improving services the Agency asked WHO and the United States Centers for Disease Control to assist with an
Fig. 1. Sequencing of service points before patient flow analysis

Clerk → Medical officer → Laboratory (processing of specimens) → Nurse → Medical Officer

suggested that education sessions involving large groups be abolished and replaced by education during routine antenatal nursing. At the same time nurses would provide more services at their service stations so that fewer providers would have to be seen. This, in turn, would diminish waiting times.

Prior to the patient flow analysis, diabetic patients first reported to a clerk, then proceeded to a medical officer. Specimens were delivered to and results were awaited from the laboratory. The patient then received nursing services and returned to the medical officer (see Fig. 1). The solution put forward after discussion of the patient flow analysis graph with staff was that patients should deliver specimens to the laboratory on arrival at the clinic, then proceed to register with the clerk. Laboratory analyses should be performed while the patients were waiting for nursing services. Finally, there should be the visit to a medical officer (Fig. 2). It was recommended that diabetic patients should be assigned to a single medical officer. Previously, two medical officers had attended to diabetic patients during a general medicine clinic. This meant that diabetic patients were placed at the end of a queue of general medicine patients and thus repeatedly experienced additional periods of waiting.

This is a good example of a result that can be based on patient flow analysis: a change in the sequencing of services and better utilization of time.

Benefits of changes

The giving of numerous tasks to each provider in an integrated manner and the changing of the order in which services were offered led to greatly improved efficiency. For example, at the Marka Health Centre the maximum time spent by patients in the general medicine clinic was reduced from four hours to 53 minutes. Before the patient flow analysis was conducted the average waiting time in the same clinic was 55 minutes; this was reduced to just eight minutes.

The clinic manager at the Marka Health Centre took a very active interest in the patient flow analysis. Having seen the improvements achieved, he suggested abandoning the system of scheduled services for particular days of the week, on the ground that the reorganization of procedures in the clinic had created additional time. This illustrates the point that involvement in patient flow analysis encourages personnel to consider the needs of the community when organizing clinic hours.

Fig. 2. Sequencing of service points after patient flow analysis

Laboratory → Clerk
Processing of specimens → Nurse → Medical Officer
At the same centre’s child health clinic the changes in internal procedures and the adoption of the simple appointment system led to an increase in the average time spent with each patient from 15 to 28 minutes.

The giving of numerous tasks to each provider in an integrated manner and the changing of the order in which services were offered led to greatly improved efficiency.

The average waiting time for patients at the diabetes clinic of the Jabal Hussein Health Centre was cut from 2 hours 10 minutes to 1 hour 14 minutes as a result of patient flow analysis. The facility had been constructed during the 1950s and its many extensions prevented a more functional layout and the organization of internal traffic flows.

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Clearly, flow analysis at clinic level can lead to a more integrated approach to service delivery and a more patient-orientated scheduling of services. The transfer of the system to the Agency was completed during April 1990 when more intensified teaching and microcomputer training took place in the field health office in Amman. This was followed by a workshop for Agency participants working in other fields, during which field office staff in Jordan successfully presented results from studies they had undertaken with no external support. Patient flow analysis led to remarkable improvements in clinic management, rendering services more accessible and acceptable. The feasibility of a complete technology transfer was demonstrated; users became independent and were able to incorporate the method into regular monitoring and evaluation of management practice in health centres and outpatient departments.

References


3. Patient flow analysis information kit. Atlanta, Centers for Disease Control (Clinic Management Unit).