

ORIGINAL ARTICLE

EFFECTIVE TRIAGING IN PUTRAJAYA HEALTH CLINIC

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ABSTRACT

Malaysia's healthcare delivery system in Vision 2020 will be recognized as one of the world's best. Putrajaya Health Clinic is our first paperless health clinic in Malaysia that incorporates the Health Information System (HIS). This system cuts across programmes and sections in the operational work process in the clinic with the ultimate aim of achieving a paperless status. This clinic provides a comprehensive health care service at the point of contact and focuses on wellness, client-friendly, seamless and borderless care with efficient use of resources and towards high a quality of service. This health clinic which sees the majority of the attendance being well persons, through the immunization programme, antenatal, postnatal, family planning, school health and well clinics for child and adult, will continue to extend and further expand its services to include geriatric, mental, occupational and rehabilitative care. The e-government within Putrajaya will facilitate the use of an appointment system, which can be done through e-mail, fax, telephone or walk-in. Information and communication technology will also facilitate the promotion of health education for individuals and communities. To facilitate effective streaming or screening of clients/attendees, a simple triage system is introduced. Prompt, short and accurate is the rule for triaging, thus providing timely and effective care. New information and communication technologies will allow healthcare providers to adopt a more virtual, more integrated and more distributed approach in the delivery of health services. It was documented that the average contact time at the triage counter in Putrajaya Health Clinic was 1.16 minutes, i.e. the shortest among other services provided here.

INTRODUCTION

Background information

The word triage is derived from the French verb "trier", which means "to pick or to sort"¹. Triage dates back to the French military, which used the word to designate a "clearing hospital" for the battlefield wounded². The Accident and Emergency services adopted the triage system in the early 1960's, when the demand for such services began to outpace the available resources.

Malaysia's healthcare delivery system in Vision 2020 will be recognized as one of the world's best. Putrajaya Health Clinic is our first paperless health clinic in Malaysia that incorporates the Health Information System (HIS). This system cuts across programmes and sections in the operational work process in the clinic aiming towards achieving a paperless status. This clinic provides a comprehensive health care service at the point of contact, which focuses on persons and services, with technology playing a key enabler role. It promotes individual wellness throughout life. The services are therefore information and education for individuals

to support the wellness paradigm, consultations to maintain health or to provide early treatment of illness.

Individuals and families are empowered and enabled to manage their own health through self-help promotive activities such as self blood pressure takings and blood sugar monitoring. In addition, for each curative service encountered, there will be access to preventive and promotive activities, such as cardiovascular and diabetic screening, in order to help reduce disease morbidity.

The provision of medical care should be seamless wherever possible, and continuity should be the rule. With the concept of Lifetime Health Plan, all the necessary information of clients and attendees will be collected and captured into the electronic medical records². It is anticipated that a seamless and borderless care can be achieved between primary, secondary and tertiary facilities when the Lifetime Health Plan is in place. The e-government within Putrajaya will facilitate the use of an appointment system. It can be done through e-mail, fax, telephone, or walk-in. It is anticipated that with the appropriate appointment system the smooth flowing of attendees can be accomplished.

Telephone triage is only a small part of the telehealth movement that is sweeping across the globe. People have been using the telephone to seek medical advice ever since it was invented. But health care providers did not begin implementing formal telephone triage programmes until the early 1970s. Telephone health services have shown to be an

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efficient and effective way of supplying health information to clients, often without requiring a visit to the healthcare provider and are becoming increasingly popular in many jurisdictions in North America and elsewhere. Although few studies have proven that a telephone triage programme reduces unnecessary office and emergency department visits, experts believe that it facilitates healthcare access and helps clients obtain the right level of care from the provider at the right time.

Triage process in Putrajaya Health Clinic

Triage refers to the process of sorting of clients according to their clinical or health care needs. It also helps to reduce emergency office visits for minor complaints while ensuring there is access to the appropriate level of care when necessary. It is usually a community-based information service that offers answers to general healthcare questions.

In Putrajaya Health Clinic, the triage nurses will only access new cases or conditions while all appointments for follow-up need not go through triage. Such attendees will register (using bar code) and will be directed immediately to the appropriate health care provider. The triage nurse will make the necessary assessment or order laboratory investigations, based on the protocols, a series of simple tests if required. They need to be able to go through a computer programme with key-in essential data without the need to complete the extensive documentation, prior to sending the patient to the appropriate provider. Clients will then be directed to the respective care provider that includes community nurses, staff nurses, medical assistants, doctors and family medicine specialists.

With the obvious exception of those who arrive in a critical condition and require immediate attention, the rest of the clients will undergo an initial assessment. Prompt, short and accurate is the rule for triaging, to facilitate timely and effective care. The effective process of triage in Putrajaya Health Clinic is of paramount concern to us. Therefore, feedback and feed forward are essential components of this process being integrated in a primary health-care set up. It is hope that findings from this study will support and provide evidence as a baseline data of triage contact time for our very first paperless clinic integrated with this triaging process. Nevertheless, this knowledge is very useful for those working in other primary health care clinics in order to improve their service towards better quality care.

Role of triage nurse

Nurses at all educational levels can do triaging provided they undergo a proper training that includes communication skills to convey concern and reassurance. Clinical experience is the major requirement. Computer literacy is also another major

portion of the orientation. Triage nurses must be able to assess a client's health concern without the advantage of visual inspection or face-to-face interaction. Nurses must rely on their communications skills, knowledge of disease processes and normal growth and development for all age groups in order to ascertain an accurate understanding of the client's symptoms. She should be using the nursing process as a framework to determine and provide the delivery of healthcare through telephone encounters with the clients and their families.

Triage nurses do not diagnose clients over the phone. Their function is to determine the severity of a clients complaint using a series of triage protocols and algorithms. Triage nurses may offer some common sense medical advice to help clients care for themselves at home when appropriate. The algorithms are developed to assist the nurses to completely and accurately assess the client's condition and help in decision making without jumping into conclusions given certain symptoms sets. These triage protocols were developed over a one-year period by the Family Medicine Specialists and nurses to ensure accurate and timely information. Through this system, clients are able to receive healthcare information and advice easily; that let them navigate through an often complicated process of seeking healthcare, leading to a more appropriate utilization of healthcare services and improved client and provider satisfaction. It also provides advice to help decide whether to administer self-care, see a physician or other community health service provider or go to an emergency room; and provide health information. Appropriate advice can be given to clients in order to prepare themselves for relevant procedures or tests, for example, to fast before coming for a blood test. This also enables the planning of an appropriate procedure, test, treatment and medical resources for the incoming client visit.

Triage nurses also handle appointment booking; follow-up calls to high-risk clients to ensure that the clients seek the appropriate treatment. All calls must be treated as confidential and data collected must be kept secure. Documentation of call and client information would be an important process towards developing a complete health record in an integrated health system.

According to Rebecca Anwar⁴, implementing an effective triage system will improve communication, confidence and service delivered by health care providers. It will also help reduce emergency office visits, make the client's visit go smoothly, saves time and increases a client's satisfaction.

METHODOLOGY

This is a descriptive study to determine the mean contact time in a primary health clinic with triage

service i.e. Putrajaya Health Clinic from 5th December 2000 until 10th January 2001. All clients who entered the clinic during the study period were eligible and were chosen through a systematic simple random sampling. Every fifth client who enters the clinic was given a structured questionnaire. Sampling size for clients is determined using EPI-INFO (Version 6.0) to calculate using 95% confidence interval, 80% power of test with the expected frequency of exposure being estimated 50% and Odd Ratio of 2.00. The total number of clients required is 296. All health staff watches were synchronized beforehand. Health staff stationed at the clinic entrance wrote down the client's actual arrival time. A client carried this structured questionnaire with him as he moved from station to station or room to room in the clinic. The actual time start and end at each encounter with the health care provider was captured on the structured questionnaire. Data were analyzed using The Statistical Package for Social Sciences (SPSS) (Version 10.0) to produce descriptive statistics. As for the selected quantitative variables, their mean and standard deviation were calculated. Definition used were as follows: Client: Any person who visits the clinic for primary health care services. Contact time: Time clients spend *with* providers. Waiting time: Time clients spend *waiting for* providers. New cases: Clients who have never been registered at the clinic before. Repeat cases: Clients who had previously registered with the clinic and come for

either follow up of their similar problem or presenting a totally different problem.

FINDINGS

General findings

300 structured questionnaires were distributed in Putrajaya Health Clinic and 291 clients responded. Therefore the response rate was 97.0%. The majority of the clients were female. The ethnic composition observed were mainly Malays (85.6%), followed by 6.9% Chinese, 5.2% Indian and 2.4% others (Indonesian, Bangladeshi and Pakistan's). Most clients came for outpatient service (78.4%) while the others came for maternal and child health (MCH) and dental service, i.e. 11.7% and 10.0% respectively. The majority of the cases seen were repeat cases, 65.3% and the majority walked in without appointments (80.4%) (Table 1).

Contact time

From this study it was documented that the shortest average contact time was at the triage counter, i.e. 1.16 minutes (ranges between 1 to 6 minutes) while the longest average contact time was during consultation with the dentist, i.e. 20.78 minutes (ranges between 1 to 51 minutes). The average contact time at the registration counter was also short, i.e. 1.73 minutes, while at other station or service, the average contact time varied but did not exceed 20.00 minutes (Table 2).

Table 1: Demographic status of respondents in Putrajaya Health Clinic from 5th December 2000 – 10th January 2001. (N=Number)

| Variables | Putrajaya Health Clinic N=291 | |
|-------------------------------|-------------------------------|------|
| | No. | % |
| Gender | | |
| Male | 133 | 45.7 |
| Female | 158 | 54.3 |
| Ethnic Group | | |
| Malay | 249 | 85.5 |
| Chinese | 20 | 6.9 |
| Indian | 15 | 5.2 |
| Others | 7 | 2.4 |
| Type of Service | | |
| Out-patient Department (OPD) | 228 | 78.3 |
| Maternal & Child Health (MCH) | 34 | 11.7 |
| Dental | 29 | 10.0 |
| Type of Case | | |
| New | 101 | 34.7 |
| Repeat | 190 | 65.3 |
| Appointment | | |
| Yes | 57 | 19.6 |
| No | 234 | 80.4 |

Table 2: Contact time (in minutes) at each station/service provided in Putrajaya Health Clinic from 5th December 2000 – 10th January 2001.

| Contact Time (minutes) | Putrajaya health Clinic | | | |
|-------------------------------------|-------------------------|-----|-----|--------------|
| | No | Min | Max | Mean |
| Registration contact time | 286 | 1 | 11 | 1.73 |
| Triage contact time | 221 | 1 | 6 | 1.16 |
| Consultation contact time (SN/MA) | 140 | 1 | 58 | 13.16 |
| Consultation contact time (MO) | 110 | 1 | 35 | 7.38 |
| Consultation contact time (FMS) | 7 | 1 | 50 | 18.29 |
| Consultation contact time (DENTIST) | 32 | 1 | 51 | 20.78 |
| Laboratory contact time | 34 | 1 | 26 | 7.21 |
| Radiology contact time | 4 | 5 | 20 | 10.50 |
| Treatment/Procedure contact time | 17 | 1 | 35 | 11.41 |
| Pharmacy contact time | 211 | 1 | 15 | 2.48 |

DISCUSSION

The contact time with health care providers was examined in this study. The majority of the clients was female. The ethnic composition observed was mainly Malays (85.6%), followed by 6.9% Chinese, 5.2% Indian and 2.4% others (Indonesian, Bangladeshi and Pakistan's). Most clients came for outpatient service (78.4%) while the others came for maternal and child health (MCH) service and dental service, i.e. 11.7% and 10.0% respectively. The majority of the cases seen were repeat cases, 65.3% and the majority walked in without an appointment (80.4%) It is interesting to find that the average contact time at the triage counter, i.e. 1.16 minutes was the shortest. This result proved and provided evidence that prompt, short and accurate services is the rule for triaging, to facilitate timely and effective care. But this is only a baseline data as this is the only health clinic that implements triage service. Triage is done only in hospital emergency departments.

Triage benefits includes the following:

1. An initial assessment is speed-up, improves patient flow and provides the appropriate care service at the point of contact with the client.
2. Promotes self-empowerment through health promotion - culture of responsible self-care.
3. Release of same day appointments for those who genuinely need them.
4. Personal professional development of nurses and better use of nursing staff capabilities.
5. Improved public access to the most appropriate health service, health information to facilitate decision-making and improved public satisfaction with health service.

CONCLUSION

The triage role is challenging and demanding. Triage services are an effective response to the rapid

change in healthcare. Today, clients are more educated and more accustomed to controlling healthcare decisions for themselves and their families. Health plans and many health providers have recognized this trend and now offer members and clients more and more ways to self direct their own care. This trend also extends to how clients choose to seek out and assess health information and be directed to an appropriate level of care within practice.

A paradigm shift in our approach to client care now emphasizes meeting the total needs rather than a disease or a specific need. New information and communication technologies will allow healthcare providers to adopt a more virtual, more integrated and more distributed approach to the delivery of health services. They will be working in an information technology rich environment across a range of healthcare settings in integrated teams. Greater expert support, skill development and education will be available for front-line staff with the potential to broaden and raise their skill-level.

In the end, it will improve productivity and client flow at a time when practices feel the pressure of too much to do and too little time. Findings from this study will probably support and provide evidence as a baseline data of average triage contact time (i.e. 1.16 minutes) for our very first paperless clinic integrated with triaging process. This enables the managers to make better changes towards high quality health care delivery. Perhaps triage could be introduced and implemented in other primary health care clinics as well.

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