Telephone Triage

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Introduction

Commercial telephone triage systems have become an increasingly important method for physicians managing patients and a key tool for patients accessing the health system. Commercial telephone triage products are designed to assist patients in sorting out their health care concerns and to determine the appropriate level of treatment. For health plans, physician groups, and integrated delivery systems that want to shift their managed-care efforts toward demand management, telephone triage systems function as a logical foundation for this change. "Medical call centers that include nurse triage, nurse advice, and physician and other health-service–referral capabilities are the cornerstone of demand-management programs" (1). *Demand management* is defined as a system designed to give consumers information and decision support to foster appropriate patient use of health care services. Some health care analysts think that demand management is the best approach to reducing costs while helping patients make rational medical choices that result in better health and greater satisfaction.

In conjunction with the growth of managed care, approximately 35 million U.S. citizens now have access to telephone triage services, 33 million more than in 1990. Telephone medicine accounts for up to 25% of patient encounters in internal medicine, even more in other primary care fields. Demand management is growing more than 25% per year and could cover up to 100 million people by the year 2001 (2). In addition, more than half of all health-maintenance organizations (HMOs) use nurse telephone lines, which patients are generally required to use before accessing care (3).

Telephone triage is a critical component of a successful demand-management system and is a necessary tool for managing risk. As HMOs and capitated physician practices take on more financial risk for the health care costs of their enrollees, the use of demand management has increased.

A 24-hour telephone triage program may make the most sense for practices that are striving to be successful under capitation. Telephone triage may become a required tool for heavily capitated entities, because under capitation the ability to control demand is necessary to manage costs as well as care (2). However, in a predominantly fee-for-service practice, the most compelling reason to implement a telephone triage system may be the potential to increase patient satisfaction and physician productivity.

Although the Internet and e-mail are fast becoming popular ways for patients to access medical information electronically, this paper reviews and evaluates the use of telephone triage systems, the benefits and pitfalls of implementing such systems, and satisfaction among users. Traditional triage conducted during office hours is not addressed in this paper.

In this paper, ACP-ASIM offers eight recommendations for developing and using telephone triage systems that, when implemented, should ensure better access to appropriate quality health care.

How Call Centers Began

During the early 1970s, large HMOs began using advice nurses to screen incoming calls to determine who needed an appointment and who could stay at home safely. The first programs were designed to cut HMO costs by using nurses instead of physicians to handle calls, minimize unnecessary office visits, and encourage self-care at home. In the 1980s, some hospitals adopted the "welcome mat" system, using telephone triage as a telemarketing and public relations tool. Designed to boost hospital revenue by increasing hospital use, the system also was used to enhance the hospital's image in the community and to market its services and physicians. Today, most health care providers agree that a sophisticated system employing experienced nurses who use well-defined protocols is the only viable approach to telephone triage (4).

Advantages of Telephone Triage

Health plans, physicians, and other health care providers involved in a telephone triage system report a variety of benefits, including economic savings, timely access to medical information and referrals, patient satisfaction, and physician relief.

Economic Savings

It has been demonstrated that telephone care reduces unnecessary office visits and patients' out-of-pocket expenses. Studies have indicated that as many as 25% of primary care office visits and 55% of emergency room visits are unnecessary, and a few of the biggest demand-management vendors cite employer savings of $2 to $3 for every $1 invested in a telephone triage system (5).

Payers and consulting organizations report an average annual savings of $50 to $240 per member using telephone triage systems. A major telephone triage vendor conducted a study of Medicaid claims data comparing 14,000 members who had access to commercial telephone triage services with 14,000 members who did not. The study showed savings of $184 per member per year for those with access to telephone triage (2).

Timely Access to Medical Information and Referrals

Another benefit of some telephone triage systems is that worried patients can get immediate access to a health care professional. By finding the underlying cause of a complaint, telephone triage procedures replicate the "thinking of a general practitioner" (6). Additionally, "effective telephone triage systems are both reactive and proactive in their efforts to provide patients with information and access" (7). Nurses on late-night triage duty tend to be more consistently prepared to answer calls at that hour, often getting more of a patient's complaint and history. Telephone triage nurses may refer callers to appropriate doctors, make appointments, send patients to an urgent-care center, or suggest a home remedy if a doctor's attention is not necessary. Research has shown that most concerns expressed by patients during nonbusiness hours can be managed over the telephone, whereas many others can be satisfied by scheduling a follow-up appointment with the patient's physician. "The majority of studies report that between 50% and 75% of all calls are managed without an office or emergency department visit" (8). It should be noted, however, that some triage systems are fully or significantly automated and do not give patients immediate access to a health care provider.

Many HMOs encourage their enrollees to call a central number for advice, action, and expedited referrals to the appropriate health care provider. Some call-center nurses have a direct route via computer to physician or hospital locations to schedule visits and dispatch results, whereas others use the telephone or fax machines to notify necessary parties about referrals. One advantage of triage referrals made after office hours by a call-center nurse is that appointments can be placed directly on a physician's schedule for the following day. According to a California HMO's patient-advisory nurse (PAN) service, "Even if a patient doesn't seek medical attention after talking to a triage nurse, his or her physician receives a report the next day that summarizes the call and the advice given" (9).

Commercial telephone triage products aim to eliminate the referral maze that typically occurs between patients and their HMOs by combining computer power with medical knowledge (6). HMO executives think that these telephone triage systems engender higher retention of patient enrollment. In addition to helping patients handle their medical problems, some call-center computers enable nurses to answer questions about benefits, eligibility for care, and provider networks available to a particular enrollee.

Patient Satisfaction

Varying degrees of satisfaction among patients arise because of telephone triage. Convenience and the minimization of out-of-pocket costs are two of the most appealing aspects of a telephone triage system to patients. "Telephone triage and advice programs also may increase patient satisfaction through the provision of credible, consistent, useful, and rapid responses to parental questions and concerns" (10). Housebound or disabled patients or those who have young children appreciate the convenience of not having to leave home for medical advice (11).

Health-maintenance organizations hope that telephone triage systems improve patient satisfaction. Experts note that if the satisfaction figures translate into enrollee retention, a call center could be central to the HMOs ability to retain market share during an open-enrollment period.

Two independent studies conducted by a Fullerton, California, research institute have demonstrated the effect of one HMO's call center on member satisfaction and retention. Surveys showed high and rising satisfaction with the nurses who answer the phones: 96% of the respondents in the second survey were satisfied with the courtesy of nurses; 91% were satisfied with their responsiveness, personal interest, and thoroughness; and 87% were satisfied with the nurses' knowledge. The percentage of patients satisfied with call outcome rose from 81% to 94% over a span of 3 months (6). Similarly, a patient satisfaction survey about a military health clinic's after-hours telephone triage system revealed overall patient satisfaction: 82% of patients stated they were satisfied with the care they received, and most written comments reflected that the system functioned well at meeting callers' needs (8).

Physician Relief

The positive effect of a telephone triage system on physicians is simple yet important. Greater productivity and the restoration of some semblance of a life outside of work are two major reasons why many physicians stand behind their triage programs. Along with an increase in leisure time, physicians also "cite happier patients, better late-night care, and more efficient patient management" (12).

Disadvantages of Telephone Triage

The principal disadvantage of telephone triage is liability; lawsuits have been filed about the way patient calls requesting care instruction are handled. Other disadvantages reported by callers include having to deal with unfriendly nurses, encountering busy signals, and being forced to remain on hold for long periods. One disadvantage reported by physicians is the potential lack of information (or the timeliness of information) about the patients who access the telephone triage system.

Liability

Although physicians do not handle calls to telephone triage systems directly, courts would likely hold a doctor responsible for the skill and training of the triage nurses who deal with his or her patients. If a serious injury or death were to be traced to mistakes made by a triage service, anyone connected with the case (e.g., nurses, physicians, the hospital, the health plan) could be sued. However, not everyone necessarily would be held liable (13).

Critics of telephone triage systems say that health plans set up call centers to practice medicine by telephone and to create barriers to care (6). Some think that giving a nurse (someone who has less training than a physician, who has never seen the patient, and who has no knowledge of the patient's health history) the responsibility to make treatment decisions, including referrals to specialists, could jeopardize care (14). Indeed, some of the most common pitfalls of telephone triage include failing to properly document the call, failing to speak directly with the patient, and failing to evaluate correctly the nature or urgency of the situation that prompted the call (15).

Other critics think that because the advice given is based on the information provided by an untrained observer (i.e., the caller), the absence of visual cues presents a challenge to the nurse's communication skills, with total reliance on verbal communication. The caller may not know enough to share the most pertinent and critical symptoms, or may not recognize what is normal or abnormal (16). Not being able to see or touch the patient increases the risk of incorrectly assessing the problem and giving the wrong advice, which can leave both the nurse and his or her employer vulnerable to a malpractice claim (11).

Physicians can minimize liability by treating a telephone triage service as an extension of their practice, scrutinizing the service as carefully as if it were in their own office. Physicians should be accessible to nurses. They should review nurses' scripts and protocols to determine whether they comply with acceptable standards and the physician's own medical philosophy. Physicians periodically should call the service pose as a patient to monitor efficiency and accuracy (13). By carefully following a facility's policies and procedures, which should be based on current standards of practice and on state laws relating to telephone triage, physicians can protect themselves from legal risk (4). Most experts agree that giving nursing advice over the telephone requires independent judgment and skill and therefore cannot be delegated to unlicensed personnel such as office receptionists (17).

To avoid some of the common pitfalls, experts recommend against telephone triage systems that stereotype callers or problems or that second-guess the callers. These systems should collect adequate data and allow the caller adequate time to talk (4). With simple awareness of the potential problems of telephone triage, both medical and legal consequences can be avoided. Practitioners must learn how to handle the legal risks that come with telephone triage systems.

Liability Example

Perhaps the most well-publicized liability example involving a telephone triage system was the failure of an HMO triage nurse to identify a problem correctly, resulting in the near death and permanent disability of an infant. James Adams was six months old when his mother found him hot, panting, and moaning at 3:30 in the morning. His temperature was 104ºF. James' mother called her HMO triage service and was told to take him to the Scottish Rite Medical center 42 miles away. The family passed several hospitals on their 42-mile journey to the HMO-designated hospital. While searching for Scottish Rite, James' heart stopped. Despite his cardiac arrest due to the delay in treatment caused by his HMO, James survived; however, his hands and feet had to be amputated. In the court proceedings that followed this tragedy, the triage nurse indicated she would have sent the child to the nearest hospital if her triage service correctly ascertained the severity of the child's condition (18).

Implementation

Organizations can either install an in-house system or purchase a telephone triage service from a vendor, health plan, or another provider. The decision to develop an in-house system or to outsource the service is determined largely by volume and the user's strategy for moving to successive levels of risk management (2).

Regardless of the type of system implemented, a practice should keep patient-satisfaction data on its own telephone triage services so that it can remain competitive and identify areas of improvement. High patient satisfaction can lead to increased revenues, which can help a practice win preferred provider contracts and increased compensation in the form of bonuses and incentive payments from managed-care organizations.

To determine what type of system is best for a physician's scope of practice, the following questions should be considered:

- How comfortable are you delegating a patient's health-related telephone inquiries to a registered or advanced-practice nurse in your office or in a regional service bureau?
- Is this service bureau located in another state?
- Whom will you trust with your patients' names, addresses, and phone numbers?
- How extensive a program do you really need?
- What is the volume of your practice?
- How many calls come into your office now?
- Which calls take up most of your time?
- If yours is mostly a fee-for-service practice, does formal in-office triage (which may reduce the number of office encounters) make sense economically?
- If you install an after-hours program, how much do you estimate your calls will increase when your patients discover that they can get their questions answered at night without bothering you?
- How will you pay for the service?

Once these issues are considered, experts suggest approaching an experienced consultant for an initial assessment and visiting local call centers to speak with the people who run them before proceeding further (12).

In-House Triage Systems

An in-house telephone triage system usually involves the purchasing of software from a vendor and staffing an in-house call center. Some in-house triage protocols are developed and refined by the office's own physicians, nurses, and other practitioners; however, most protocols are contained in software programs sold by vendors. Purchasing triage software for a practice is expensive; some can cost as much as $70,000, placing it out of the reach of smaller practices. The additional costs of software licensing fees, space for the center, salaries of nurses to staff the center, and extra computers, desks, and other office furniture also must be taken into account. A medical center in Denver, Colorado, reported costs of $75,000 in start-up costs for their telephone triage system and a $176,000-per-year operating budget (2).

In-house implementation takes a significant amount of time to plan and set up, with additional time for marketing the service to others. Some software can be modified to accommodate different physician preferences, but such modifications can be time consuming.

Outsourced Triage Systems

The advantages of outsourcing a telephone triage service include the ease of getting started and more cost-effective, 24-hour coverage for low-volume users. The chief disadvantage is that the service cannot be as highly customized for potential users as can a privately owned call center. In general, contracted, free-standing call centers charge users on a capitated or per-call basis. Options for negotiating a cost-per-call fee include the following (2):

- A rate between $0.50 and $1.20 per member per month
- A negotiated amount to cover a given period of time and number of enrollees
- A charge per call in the range of $15 to $35, adjusted up or down according to volume

As demand management and the reporting of quality outcomes data grow, telephone triage systems with powerful data recording and retrieval capabilities can produce detailed reports for utilization management, performance management, cost-effectiveness calculation, and continuous quality-improvement analyses (Table 1) (19).

Table 1. Sample Triage Data Reports for an HMO Call Center

Top 25 Dispositions of Calls	Percent of Total Calls	Top 25 Algorithms Activated	Percent of Total Calls
Self-care	29.5	Cough	13.5
See PCP in 24 hours	16.5	Sore throat	9.7
Next available appt. w/ PCP	16.1	Colds and flu	9.7
Emergency room	13.9	Ear pain and stuffiness	9.0
Call PCP	5.7	Abdominal pain	6.4
Urgent care	5.7	Nausea and vomiting	6.0
Urgent visit to PCP	5.0	Fever	4.2
Call 911	1.6	Skin problems	3.9
Refused triage	1.4	Eyes burning and/or itching	3.8
Urgent visit to orthopedist	1.1	Headaches	3.7
See ophthalmologist in 24 hours	0.8	Chest pain	3.5
Urgent visit to ophthalmologist	0.5	Low-back pain	3.0
See PCP in 1 week	0.3	Diarrhea	2.8
Call pediatrician in 24 hours	0.3	Difficult urination (women)	2.3
Next available appt. w/ gynecologist	0.2	Shortness of breath	2.2
See dentist in 24 hours	0.2	Dizziness and fainting	2.0
Next available appt. w/ ophthalmologist	0.1	Runny nose	1.9
Home pregnancy testing	0.1	Cuts	1.8
Next available appt. w/ dermatologist	0.1	Wheezing	1.7
See pediatrician in 24 hours	0.09	Foot pain	1.5
Urgent visit to endocrinologist	0.09	Arm injuries	1.5
Call ophthalmologist	0.06	Head injuries	1.5
Call PCP to discuss	0.03	Hives	1.5
Next available appt. w/ rheumatologist	0.02	Leg pain	1.4
Discuss w/ PCP at next appt	0.02	Vaginal discharge	1.4

PCP = primary care physician.

Protocols and Algorithms

Telephone triage service has evolved from using unstructured protocols to using structured protocols. Unstructured protocols provide written guidelines but rely heavily on previous training and judgment. Structured protocols use clinical algorithms that are essentially physician-developed, yes-no decision trees (Table 2). Many think algorithms provide superior documentation of patient encounters and may reduce malpractice liability risk. Physicians argue that clinical algorithms are also superior in their ability to identify complaints that also can be triaged safely to lower levels of intervention (2).

Table 2. Sample Triage Protocol Arrangement

- Definition of condition
- Cross-reference
- Symptoms to activate EMS (911)
- Symptoms to see immediately
- Symptoms to see within 4 hours
- Symptoms to see within 24 hours
- Symptoms to see within 72 hours
- Symptoms for home care
- First aid for condition
- Home-care advice for condition

EMS = emergency medical service.
Data from Grandinetti D. Patient phone calls driving you crazy? Here's relief. *Medical Economics.* 1996;73:72–88.

Triage supporters claim that standardized protocols or algorithms that are followed accurately by nurses allow little chance of error. These algorithms help nurses explore a caller's symptoms and then recommend a proper course of action. Most systems allow nurses to recommend a home remedy, make an appointment, or refer to a specialist or an urgent-care facility. Some systems even allow nurses to call a patient back every couple of hours to see how that patient is doing.

Protocols and algorithms must be reviewed regularly to ensure consistency with current standards of care. Documentation of calls is important, because proper documentation can save physicians from unwanted liability.

Recommendations

1. A telephone triage service should not be a mandatory route that patients must follow when seeking a physician's service. Instead, telephone triage must be offered as an optional service, which a patient may choose to access.
2. A telephone triage service must offer the patient the option of having the nurse place a call to the patient's physician, regardless of the patient's condition.
3. If a patient decides to seek treatment beyond the advice given by the triage nurse, the nurse must never tell that patient that he or she cannot see a physician.
4. Written triage protocols must be made available to health care providers who are interested in participating upon request.
5. Oversight of the triage system must be provided by a physician.
6. On every business day, the patient's primary care physician must receive a report of the previous night's triage activities.
7. Protocols and algorithms must be reviewed at least once every two years to ensure consistency with current standards of care.
8. Protocols and algorithms must be developed with the input of practicing physicians.

Conclusions

Since the 1960s, the telephone has been recognized as a convenient tool for managing patient care. Because of the growth of managed care, telephone triage is more prevalent than ever. Demand management, of which telephone triage plays a part, can be a valuable source of all kinds of health information. For a medical practice, a triage call center can provide information, education, perspective, and guidance to patients in search of answers about their medical problems.

Some think that a telephone triage system can transform a practice. When nurses use published medical protocols to provide effective triage and advice under the supervision of a physician, they can provide a high level of satisfaction to patients, caregivers, and physicians. Those who tout the system think that patients are the greatest benefactors. By increasing the ability of patients to self-care, telephone triage systems support patients and enable a more efficient use of resources.

Others argue that implementing such a system is not worth the effort simply because of the potential for liability. Still others view the initial start-up costs as the greatest barrier; indeed, the up-front costs and operating budget for an appropriate telephone triage product are prohibitive for many practices.

Deciding what kind of telephone triage system is right for a physician's practice depends on several factors, including patient volume, capitated or fee-for-service payers, and service demand. Implementation of a telephone triage system that will minimize liability risks and optimize patient satisfaction requires careful research and planning by a practice's medical and nursing staffs.

Proponents and detractors alike do agree that telephone triage should never be used as a substitute for a face-to-face encounter with the patient. The above recommendations for the development and use of telephone triage systems are intended to ensure that patients have access to appropriate and high-quality health care.

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