

EDITORIALS

The Practice of Medicine on the Telephone

Over the phone it's a very lonely life indeed. "Do you think I need to come?" says the patient. You're busy, the patient has had this particular complaint dozens of times before, the patient needs the money more than you do. And yet this could be the time—the time for the crotchety chest pains to be an infarction, the time for the "spastic colon" to be an acute obstruction, with gangrenous bowel setting in, the time for "bleeding from my hemorrhoids" to be cancer on top of hemorrhoids. There is no time to call in a committee. The decision must be made, and it is a consensus of one. —Dr. Michael Halberstam¹

THIS COMMENT on "telephone medicine" reflects uncertainty, the lack of control of the situation by the physician, and the problem of assessing the importance of symptoms and history in making a decision. Probably all physicians who practice ambulatory care experience the "consensus of one" anxiety and pass a sleepless hour or two wondering whether they did the right thing.

There are essentially two issues in dealing with medical problems in ambulatory care on the telephone: identifying the problem (rather than making a diagnosis) and deciding whether to manage the situation by telephone or see the patient. Clancy et al., in this issue, using the problem of adult sore throat, suggest that the diagnosis of group A beta-hemolytic streptococcal infection can be made over the telephone with a high probability of accuracy.² Unfortunately, they have not tested this hypothesis specifically, although the suggestion is a good one and raises the whole issue of clinical decision making without seeing the patient. Before commenting on this issue it is worth reviewing the not-insignificant role of "telephone medicine" in ambulatory care.

The telephone is an essential part of life in most westernized countries and is just as vital to the normal functioning of modern medical practice. The first call ever made (in Bell's laboratory) was to ask for help in treating an acid battery burn, and subsequently physicians were quick to realize the value of this device in improving the efficiency of their work. Close to 93% of the U.S. population have a telephone, and 15% of all ambulatory medical contacts are made by telephone.³ The primary care specialties all have relatively high proportions of their contacts with patients over the telephone; 25% for internists, 28% for pediatricians, and 19% for family physicians.⁴ Pediatricians, for instance, manage an average of 41.5 calls per week. In one of the few studies of telephone utilization by patients, Pope et al. found that groups of higher socioeconomic status are more likely to use the telephone for reporting

symptoms and seeking help than are others.⁵ Two thirds of such calls are made by women and one third are made for children less than 15 years old. The telephone is used least often by the elderly.

Daytime calls to physicians' offices are generally divided equally into two types: administrative—involving appointments, laboratory results, prescription requests, and calls from other health professionals; and calls from patients with emotional or medical problems.^{5, 6} Studies have shown that 25% of new disease episodes are reported by telephone, and the most frequent problems that present include upper respiratory tract infections, fever, ear pain, skin rash, abdominal pain, nausea and vomiting, back pain, skin infections, headache, joint pain, eye infections, and chest pain.⁷ After hours the commonest problems presenting in family practice are upper respiratory tract infections, viral syndrome, anxiety, lacerations, minor trauma, otitis media, urinary tract infections, and asthma.⁸ It has been fairly well established that physicians manage about 70% of these calls on the telephone alone, without seeing the patient.

Prescribing over the telephone is a singular aspect of medical practice in America. In many other countries, call-in prescriptions are not permitted, and patients must collect them from the physician's office. Telephone prescriptions represent 9% of all adult prescriptions and up to 29% of those given to children.⁹ For adults, antibiotics and psychotropic drugs are the major agents prescribed, and problems arising from such medications have been the basis for several malpractice suits in recent years. There is evidence that family physicians do a significantly less effective job in medication-related calls than clinical pharmacists.¹⁰ The telephone contact can be perceived as a valid medical encounter (some pediatricians will charge for this service), and documentation is as important as any progress note. In the past, physicians have tended to discount this concept, and many still do not record such contacts in their charts.

The telephone encounter between the patient (or the patient advocate) and the physician differs from an office or clinic visit. First, callers often use it as a way of economically and efficiently "checking out" their symptoms and are looking for clarification and reassurance rather than treatment. Physicians, on the other hand, being trained to diagnose and treat, often try to convert the complaint into a specific diagnosis. This dissonance between caller and physician perceptions, added to the often "antisocial"

nature of the phone call (after hours or during a busy clinic) can often create negative attitudes in the physician.¹¹ Second, the telephone encounter is very short. In pediatric practice the average is 2.3 minutes and in family practice, about 4 minutes.^{12, 13} This obviously means that history taking and management are very limited; in one pilot study family physicians spent between 30% to 40% of their time on history-taking and the remainder on management, on calls lasting 3 to 5 minutes.¹³ Third, the communication process is through a single channel, and the parties involved do not have the advantage of non-verbal cues to clarify misunderstandings. This, together with the relative lack of control of the interview (compared with an office visit) by the physician, can add considerably to the uncertainty of the encounter.¹²

The clinical decision making process on the telephone is affected by time limitations, a reliance on the caller's description of symptoms and physical findings, and the need to take into account other modifying circumstances such as the time of the call, distance of the patient from the office or hospital, the social situation of the caller and physician, familiarity with the caller or patient, and the degree of anxiety being expressed.¹⁴ The major decisions made by the physician over the telephone usually include a decision regarding the severity of the problem and decisions whether or not to see the patient, whether to treat or reassure (or both), whether to give advice, whether to arrange specific follow-up, and whether to probe the social or behavioral aspects of the call. Since physicians on the telephone do not appear to structure their history-taking in the traditional format and make early hypotheses regarding the diagnosis, it is commonplace for new data to arise late in the interview. Strictly rational and analytic models of problem solving in medicine do not account well for clinical reasoning on the telephone.¹⁵ Hammond's concept of a cognitive continuum offers a model of problem solving for the office-based physician.¹⁶ This continuum extends from intuitive to analytic reasoning. The intuitive mode is multidimensional and parallel, while the analytic mode is sequential (branching logic). Intuition can be defined as a reasonable suggested formulation of the problem which bypasses the analytic steps by which that formulation can be validated. Intuition leaps over the steps of sequential reasoning. Hammond suggests that the problem solving method reverts to quasi-rationality (common sense) on the continuum between intuition and analysis when a large number of cues must be considered simultaneously, when there is only a short time in which to make a judgment or decision, and where there is a lack of a well-organized problem solving method. The primary care physician, who is often faced with these

constraints, uses the cognitive continuum by moving back and forth from intuitive to analytic reasoning, depending on the content and context of the encounter. Experienced pediatricians, internists, and family physicians have all developed, over the years, intuitive and economical patterns of questioning patients that rapidly move their assessment to high-probability diagnoses.¹⁷ Thus, asking an initial question about chills and loin pain in a case of urinary tract infection saves a sequence of other questions, since it moves the physician quickly to the assessment of "is this patient really ill or not?" and then to the decision to see or not to see the patient in the next few hours. This parsimony in diagnostic logic (using a minimum of data and reasoning steps) when making an assessment, diagnosis, or decision may be a preferable approach for the primary care physician than a more extensive and rigorous method—if it produces the same outcome.¹⁸ However, in the primary care field, the validity of how these experienced clinicians make a diagnosis has hardly been studied—few have identified, in terms of outcome, the reliable symptoms and signs of an illness and the best questions to ask.¹⁹

The study by Clancy and colleagues is an example of how parsimony in diagnostic logic can be applied to primary care, and this investigative approach could be used for problems other than sore throat. This might go some way towards validating the pragmatic practice of office-based physicians—an important area of study for primary care medicine.—Peter Curtis, MBBS, Professor, Department of Family Medicine, University of North Carolina, Chapel Hill, NC 27514

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Case Mix in Ambulatory Educational Settings

THREE FACTORS have propelled the growing emphasis on ambulatory care in American teaching hospitals: 1) the idealistic notion that physicians ought to acquire the competencies necessary to provide continuity care^{1, 2}; 2) a realistic recognition that the "action," in terms of diagnostics and even much of therapeutics, has been displaced from the inpatient setting^{3, 4}; and 3) a pragmatic judgment that ambulatory practice is an increasingly important source of revenue for the faculty.^{5, 6}

While many have talked of the importance of providing trainees with an opportunity to take care of outpatients, little has been said about precisely whom these patients should be. What proportion should be hospital follow-ups, worried well, or new patients with significant medical illnesses? How many should be indigent, poor but insured, middle class or above? Should trainee practices be indistinguishable from those of the faculty, or are there undeserved populations for whom residents are the only possible source of care? The medical literature only occasionally addresses these matters explicitly.⁷

It is therefore refreshing that Flegel and his colleagues report in this issue on the characteristics of patients seeing attending physicians and residents at Montreal's Royal Victoria Hospital.⁸ The authors examined a random sample of new patients over six years and found only minor differences in rates of prior hospitalizations or emergency room visits, and in ethnicity, between patients seen by housestaff and those seen by attending physicians. Strikingly, there were no significant differences in income between patients seen by the two groups of providers. The authors conclude, correctly, that "an outpatient experience can be provided for residents that closely resembles qualitatively the practice of their mentors."

This study supports the potential for a universal health insurance program to promote equity. The introduction of the Quebec program increased the likelihood that low-income people would seek medical care when they had a significant complaint, but it

did not eliminate completely disparities in access to care.⁹ One thing it did do was to eliminate disincentives to take care of the poor. Everyone has identical health insurance coverage. There is no possibility of billing the patient for any more or less than the system reimburses. Thus, it is not particularly surprising to learn that attending physicians, whose incomes depend to some extent at least on clinical revenues, and residents, who are salaried, take care of similar patients, because there is no economic reason for them to do otherwise.

In the United States, the incentives are quite different, and it would be of considerable interest to acquire similar information about the patient populations served. Faculty in American schools are even more dependent on "soft money."^{5, 6} The time they spend seeing patients can be lucrative, if the patients have private insurance. The faculty will earn far less if they take on large numbers of Medicaid patients; if they care for the 12% of the population with no health insurance, they earn nothing.

Compounding this is the traditional and unfortunate division of American hospitals into the "charity" institutions for the poor and those for the more fortunate. In academic departments, few of the faculty see patients at the "charity" hospitals, except in a supervisory capacity. There are exceptions, of course, but in the large public hospitals, the continuity care that is available, if any, is largely provided by trainees. This trend is exacerbated in some centers by the presence of a university hospital next door to the hospital for the indigent. The faculty's differential devotions to these two patient populations are quite evident to their trainees.

In the voluntary hospitals, the faculty are not free of the Medicaid population, but may not go out of their way to cultivate them. On the other hand, in at least one hospital with which I am familiar, the housestaff actively seek Medicaid patients because they are not obliged to present them to the attending physician at every visit. The added pressures of faculty health maintenance organization practices, which cater to middle-income insurees, and of the