Clinical e-mail in an academic dermatology setting

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Background: Use of e-mail among patients and physicians is limited by reservations over issues such as medicolegal aspects, reimbursement, and time-management.

Objective: Our purpose was to identify the content of patient-related e-mails in an academic dermatology practice and determine whether clinical questions could be answered by e-mail.

Methods: The first 100 e-mails received each year that related to patients from January 1, 2000 to June 1, 2005 (plus any messages received in e-mail threads started in the original 100) were studied (N = 614). E-mails were sent by patients, potential patients, or physicians in reference to a patient. E-mails were divided into 8 categories on the basis of content. E-mails were subdivided as relating to new (patients who had never been seen in-person) or established patients. All clinical questions were categorized as to whether they were answered by e-mail. The average number of e-mails received per e-mail thread was tallied.

Results: E-mails were distributed as follows: clinical question from a physician (20%), clinical question from a patient (17%), appointment request (18%), request for referral to another physician (7%), prescription refill (3%), research inquiry (2%), thank-you correspondence (31%), other (17%). Percentages do not equal 100 because some e-mails contained more than one subject. Clinical questions were more likely to be answered when posed by physicians (100%) than patients (70%; $P = .001$), and when from established (79%) versus new patients (60%; $P = .02$). There were fewer e-mails per thread for queries from physicians (1.6 messages received) versus patients (2.2; $P < .001$) and for established (1.6) versus new patients (2.2; $P < .001$).

Limitations: This study was limited to the experience of one dermatologist in an academic setting.

Conclusion: E-mail broadens communication between patients and their dermatologist. E-mail may facilitate consultation with other physicians and management of patients with chronic disease. "Thank-you" responses engage a substantial amount of e-mail resources. (J Am Acad Dermatol 2006;54:1019-24.)

While electronic communication has been integral in the activities of many industries, its role in medicine lags behind. A recent Harris Interactive Report found that two thirds of all adults are actively using e-mail to communicate.[1] Of those, 90% would like to be able to e-mail their doctors, more than half would choose their health plan and physician based on this capability, and 37% say they would be willing to pay for such services.[2] In light of increased health care costs, the Institute of Medicine has called for broadened access "over the Internet, by telephone, and by other means in addition to in-person visits; specifically, "e-mail communication could meet many patients' needs much more responsively and at a lower cost."[3]

E-mail use has been limited by a number of barriers.[4] Providers are concerned about being overwhelmed by messages; response time can be delayed; and there is no established reimbursement plan. The potential lack of confidentiality in e-mail and uncertainty over appropriateness or urgency of some subject matters have caused medicolegal

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Supported by the clinical funds of and alumni donations to the University of Michigan, Department of Dermatology.
Conflicts of interest: None.
Presented in poster format at the Annual Scientific Meeting of the American Academy of Dermatology, San Francisco, March 3-7, 2006.
Accepted for publication February 2, 2006.
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0190-9622/$32.00

doi:10.1016/j.jaad.2006.02.046

Table I. E-mail classification

Category	Description
New vs established patient	All e-mails were classified as dealing with either an established or new patient based on whether the patient had been seen by the investigator before the e-mail encounter.
Refill request	All e-mails were sent from established patients who had been seen in the past by the investigator. The request must have been for a medication previously prescribed for the patient. (E-mails sent by another physician asking if a prescription renewal was warranted were classified under Physician Consult.)
Appointment request	All e-mails were sent by a patient, physician, or staff member. E-mail must have included a request for an appointment in the outpatient clinic. All e-mails confirming an appointment were also included here.
Referral request	All e-mails were sent by a patient or physician. Requests must have included advice on a recommendation for another physician—whether dermatology or other specialty.
Research inquiry	All e-mails were sent by a patient or physician. Messages must have included some description of an article published by the investigator, an ongoing research project, or planned future study.
Thank you	All e-mails were sent by a patient or physician. E-mail focus must have been directly related to thanking the investigator for some form of service. Messages that could be classified in some other category, but ended with "thanks for your time," "thank you in advance," etc were not included in this category.
Physician consult	All e-mails were sent by a physician. Requests must have included a description of a clinical problem that the sender expected could be answered in a return e-mail. If a physician described a clinical problem, but asked for an appointment and not medical advice, this was classified as an Appointment Request. Physician Consult e-mails were further subdivided into two subgroups (Answered Physician Consult and Unanswered Physician Consult) based on the response of the investigator.
Clinical question	All e-mails were sent by patients or potential patients, or their family members. Requests must have included a description of a clinical problem that the sender expected could be answered in a return e-mail. If a patient described a clinical problem, but asked for an appointment and not medical advice, this was classified as an Appointment Request. E-mails were further divided into two subgroups (Answered Patient Question and Unanswered Patient Question) based on the response of the investigator.
Other	E-mails from patients, physicians, and staff. Most e-mails classified here entailed either updates from patients on their dermatologic condition or notices from other physicians about seeing one of the investigator's patients. To be so classified, the e-mail must not have asked for any action or advice by the investigator.

reservations as well. Access to online communication varies by population and socioeconomic status and may be a source of unequal access to care. In addition, certain subgroups, such as the elderly, have had, on average, limited experience with online communication tools and may not be comfortable with this form of communication.

In light of these reservations, a large-scale prospective study of a triage-based system for e-mail use in primary care was conducted.[5,6] Many of the concerns mentioned above were found to be unwarranted as most patients adhered to guidelines aimed at focusing content, limiting the number of requests per message, and avoiding urgent requests or highly sensitive material. Although the system did broaden the range of communication available to patients, it did not offset clinical resource utilization such as telephone calls, repeat visits, or no-show appointments.

Studies of e-mail in specialty services have been more limited. With respect to dermatology, the use of telemedicine has gained attention. After improvements in imaging systems, it has become relatively simple for patients or their physicians to send digital pictures with attached medical history over the Internet.[7] Such approaches to clinical e-mail could more accurately triage dermatology patients or reduce wait time for dermatology clinic appointments for "advice only" services.[8-10]