The doctor is in—for e-patients

Although effective communication with patients is essential for good medical practice, physicians have traditionally snubbed electronic messages in favor of phone calls and face-to-face visits. However, the results of a recent study performed by researchers from the University of Michigan Health System (UMHS) in Ann Arbor indicate some potential for change. The scientists presented findings from the first large, randomized, controlled study of e-mail communication between physicians and patients in May at the annual meeting of the Society for General Internal Medicine in Atlanta.

The study pitted conventional communication—including uncontrolled e-mail—against a system in which patients were asked to send e-mails to a single address at which they could be sorted and triaged by clinic staff and nurses, then sent to the patient's physician if appropriate. The system is called the Electronic Messaging and Information Line, or EMAIL. The researchers randomized 98 UMHS primary-care physicians and residents in two clinics to either the EMAIL system or the conventional system.

The patients of the 50 doctors assigned to the EMAIL system received information on how the system worked and were encouraged to use it. The patients whose doctors were assigned to no intervention could still connect with their doctor through the usual ways—mostly by phone and office visits, but occasionally by e-mail.

In all, the patients in the EMAIL system group sent messages to their doctors at up to five times the rate of patients in the control group, reaching 49 messages per 100 scheduled visits midway through the study. Almost all the messages were of appropriate subject matter, concerning updates on conditions and requests for referrals or prescription renewals, among other health matters. However, the increase in e-mails did not correspond to a drop in calls and no-shows. Instead, the researchers found that the increase in communication represented a new group of patients who had not previously been in close contact with their doctors.

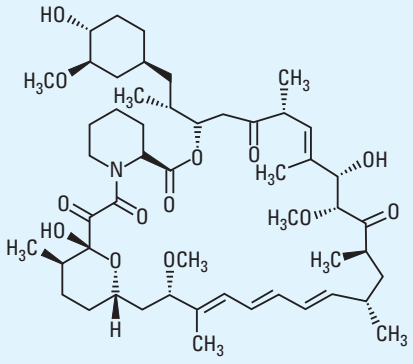
Although doctors in the EMAIL group generally saw e-mail as a good way to communicate with their patients, many expressed concern about how to allow time and how to bill for the extra workload that increased communications would present. Until these issues are resolved, most physicians will probably stick with the more primitive yet reliable ways of communicating with their patients.

—CHRISTEN L. BROWNLEE

Old drug, new benefits

Thirty years ago, bacteria found on remote Easter Island provided an antifungal drug called sirolimus. Not very effective, sirolimus remained obscure until 1999, when it became widely used to prevent rejection of transplanted kidneys under the Wyeth-Ayerst trade name of Rapamune. Now Stanford University Medical Center researchers have found that the drug has significant activity for the heart as well.

Immune-suppressing drugs can prevent immediate rejection of a transplanted heart. However, immune system cells passing through blood vessels in the transplanted heart can still deliver a persistent, low-level attack on smooth-muscle cells lining the vessel walls. This causes gradual accumulation of scar tissue that may eventually block the vessels, depriving the heart of oxygen. This process, called chronic rejection, is the most common cause of heart transplant failure. "To prevent chronic rejection, you want to stop proliferation of smooth-muscle cells," said research team leader Randall Morris, professor and director of transplantation immunology in the department of cardiothoracic surgery at Stanford University Medical Center. His research indicates that sirolimus does just this.



Sirolimus.

Building on his earlier research that goes back to the 1980s, Morris reported at the April 30 American Transplant Congress that sirolimus could prevent chronic rejection altogether if treatment was begun immediately after transplantation. His team transplanted aortas in 12 primates. Six primates received sirolimus throughout the trial, while six received a placebo. The internal diameter of the transplanted blood vessels was determined by ultrasound for 105 days. Animals receiving sirolimus had nearly normal artery diameters, whereas animals receiving the placebo exhibited significantly clogged arteries. In addition, microscopy studies of cross sections of aortic grafts of treated and untreated monkeys provided evidence that proliferation of smooth muscle cells was being halted.

The newfound activity of sirolimus is not limited to transplant patients. Stents implanted by cardiologists after angioplasty to hold arteries open can cause scar tissue to accumulate in their vicinity, blocking blood flow. Recent trials, including ones carried out by Johnson & Johnson, have shown that stents coated with sirolimus often inhibit scar tissue formation.

The case of an already approved drug with new applications, like sirolimus, is usually of great benefit to drug companies because, to some degree, its toxicity properties are already known. Thus, it can enter clinical trials with less likelihood of unexpected side effects that could delay or prevent regulatory approval.

—JOHN K. BORCHARDT

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