



## Internet Journal of Medical Update

Journal home page: <http://www.akspublication.com/ijmu>

### Brief Communication

#### An E-mail Service in a Military Adolescent Medicine Clinic: will teens use it and what for?

Amy Thompson<sup>∗∗</sup> DO MAJ, John Campagna<sup>∗</sup> MD MAJ, Belinda F Hernandez<sup>∗∗</sup> PhD and Timothy Roberts<sup>∗∗∗</sup> MD CDR

<sup>∗</sup>Adolescent Medicine Physician, Brooke Army Medical Center, San Antonio, TX, USA

<sup>∗∗</sup>Assistant Professor, Houston School of Public Health, University of Texas Health Science Center, TX, USA

<sup>∗∗∗</sup>Adolescent Medicine Physician, Balboa Naval Medical Center in San Diego, CA, USA

*(Received 28 March 2013 and accepted 20 August 2013)*

**ABSTRACT:** The goal of this study was to determine utilization patterns of an Adolescent Medicine Clinic e-mail service. An e-mail service was offered to 6134 patients presenting for care to a military Adolescent Medicine Clinic in San Antonio, Texas over a 6-month period. Families had to complete an authorization form acknowledging that the e-mail service was not encrypted and was not to be used for emergent issues prior to use. 482 families signed up for the service. A total of 42 e-mails were received from 28 of these families. 75% of all e-mails were initiated by parents. The majority of e-mails were administrative issues including: medication refills, lab follow up, and referrals requests. In conclusion, the e-mail service was a low cost method to increase communication options for our patients that was not associated with a large increase in clinic workload because of low utilization rates, especially among younger adolescents.

**KEY WORDS:** *Adolescents; E-mail; Internet; Electronic communication; Physician-patient communication*

#### INTRODUCTION

Adolescents have distinct health care needs, and effective communication is essential in order to optimize patient care for adolescents. Concerns about confidentiality, parental involvement, reluctance to communicate sensitive issues, preference for peer information rather than adult authority figures, and lack of transportation create barriers to healthcare for adolescents.<sup>1</sup> Adolescents use electronic technology for communication at high rates, and their use of technology is growing faster than any other age group.<sup>2</sup> Giving adolescents the opportunity to communicate their healthcare needs electronically may decrease

barriers to communication and improve healthcare for adolescents.<sup>1</sup> The goal of this study was to determine utilization patterns of an e-mail service, used to communicate healthcare needs, among adolescents enrolled at an Adolescent Medicine Clinic.

#### METHODOLOGY

A clinic e-mail account was pilot tested in a military Adolescent Medicine Clinic in San Antonio, Texas from August 2011 to January 2012. The e-mail service was advertised on posters and flyers within the waiting room, on business cards in the examination rooms, and on the clinic telephone voice mail system. Families who were interested in using the e-mail service were required to complete an authorization form at the clinic or e-mail the signed form to the clinic. By signing the form, families acknowledged that the e-mail system was not encrypted or secure, that they were not to use

<sup>∗</sup>Correspondence at: Fort Sam Houston Adolescent Clinic, 3100 Schofield Road Building #1179 Fort Sam Houston, TX 78234, USA; Cell: +253-592-4389; Phone: +210-916-3160; Email: [Amy.m.thompson26.mil@mail.mil](mailto:Amy.m.thompson26.mil@mail.mil)

the service for emergent issues, and they could expect all e-mails to be answered within three business days by a physician. Three adolescent medicine physicians who worked in the clinic shared the responsibility of monitoring the e-mail service one week at a time, and responding to e-mails. There were no other limitations, as part of our study was to determine how the services would be used by our patients. Copies of the authorization document and all subsequent e-mails were scanned into the patient's electronic medical record. At the end of the six-month pilot test an e-mail was sent to each person who had used the service asking for feedback about the e-mail service. We asked one open ended question on whether or not the e-mail service was beneficial to the patient care experience. Descriptive analyses of the frequency of e-mails, the gender, race, and age of the patient the e-mail was about, and who initiated the e-mail were performed. Qualitative analyses of the e-mail content were also performed by the primary author. The e-mails were read to identify themes and categorized based on information sought by the patient or parent. Themes included requests for medication refills, administrative needs, follow up concerns, or new medical questions. This study was approved by the BAMC IRB and HIPAA office as a process improvement project.

**RESULT**

The Adolescent Medicine Clinic has approximately 6500 enrollees, ages 12 to 24 years old. 48% of patients are children of active duty service members, 49% are children of retired service members, and 3% are active duty service members. There were 6134 clinic visits during the 6-month pilot testing period. 482 families who were exposed to the advertised service showed interest in using e-mail to communicate with their provider by signing an authorization form. We received 42 e-mails from 28 families, for an average of seven e-mails per month. Of the 28 families who used the e-mail service, the average age of the patient was 16.4 years old. More e-mails were sent regarding female patients. More of the patient sponsors were retired military members versus active duty members, and all represented the Army, Air Force, or Navy. (Table 1)

Requests for medication refills accounted for 33% of e-mails, about 24% were administrative in nature (requests for labs results, referrals, or medical records), and 24% were to follow up on a previous appointment (sending in home blood pressure results or further parental questions about anorexia) (Table 2). The remaining 19% were discussions of new medical concerns (e.g., "I have been having vaginal bleeding for the last 2 weeks, is that normal?" or "Where in town can my daughter get her body piercings done safely?").

Parents initiated over three fourths of the e-mails received (Table 2). The majority of the e-mails received from parents were related to medication refills, follow up questions from an appointment, and administrative concerns. All adolescents who initiated e-mail contacts were over 18 years old, including one active duty service member. The majority of the e-mails received from adolescents were related to new medical concerns or questions. (Table 2)

**Table 1: Demographic characteristics of patients whose families used the e-mail service (N=28)**

Characteristic	No. (%)
Age in years (Mean)	16.4
Gender	
Male	10 (35.7)
Female	18 (64.3)
Race	
White	19 (67.8)
African-American	3 (10.7)
Other	6 (21.4)
Sponsor Duty Status	
Active	10 (35.7)
Retired	18 (62.3)
Branch of Service	
Army	16 (57.1)
Air Force	9 (32.1)
Navy	3 (10.7)

**Table 2: Emails received by user and type**

Type	Total N (%)	Adolescents N (%)	Parents N (%)
Total e-mails received	42 (100.0)	10 (23.8)	32 (76.2)
Administrative	10 (23.8)	1 (10.0)	9 (28.1)
Follow-up	10 (23.8)	0 (0.0)	10 (31.3)
Medication refill	14 (33.3)	3 (30.0)	11 (34.4)
New Concerns	8 (19.0)	6 (60.0)	2 (6.3)

When asked for general feedback regarding the e-mail service, about half of e-mail users sent a response, all of whom were parents, and all were overwhelmingly positive. The major advantages of the e-mail service noted by these parents were increased timeliness, convenience, thoroughness, and professionalism. None of the adolescents who used the service provided any feedback.

## DISCUSSION

Like previous studies, we found a high level of enthusiasm for the idea of electronic communication with our clinic in discussions with our patients.<sup>3-5</sup> However, <10% of patients and families who were exposed to the service actually signed up for the service, and <6% of families that signed up actually used the service. Furthermore, while electronic media has the potential to improve communication and lower barriers to care for adolescents, in our study we found very low levels of usage by younger adolescents. Despite this low usage, among the e-mails that were received by youth, 60% were regarding new medical concerns, which suggest the e-mail service is a promising strategy for communicating new healthcare needs with adolescents and could supplement traditional consultations with healthcare providers.

The low usage of the e-mail service by adolescents could be due to several factors. First, advertisement of the e-mail service primarily occurred passively through signs posted in the clinic and business cards distributed by only three physicians. Utilizing more active recruitment strategies (e.g., promotion of the service by patients' primary care provider) may have increased usage of the service by adolescents. Second, previous studies have suggested adolescents are increasingly becoming less interested in exchanging e-mails when communicating with others.<sup>6</sup> In 2011, only 6% of teens, aged 12 to 17 years, exchanged e-mail daily and 39% of teens never exchanged an e-mail.<sup>10</sup> Texting and social networking sites may be an avenue to approach in the future in order to maximize communication for this group of adolescents. Further research is needed to identify other electronic methods to reach this population. Third, our e-mail system was not secure. A future study could observe the use of a secure system to see if this attracts more patients to engage in e-mail with their provider. Finally, our study only examined patient or parent initiated communication. Further research is needed to explore the acceptability of clinic-initiated communications such as immunization reminders and provision of normal lab results.

## CONCLUSION

Although our e-mail service was not widely used by teenagers, it did provide an additional means of communication for our patients and parents who were interested. E-mail communication between patient and physician led to excellent patient satisfaction by those who were able to get their needs met through this service. It was not overburdening, it was not inappropriately used by our patients or parents, and privacy concerns were easily addressed.

## ACKNOWLEDGEMENT

We acknowledge Mrs. Nannette DeSimone, Ms. Christine Miller, and Mrs. Michelle Goff for helping with this project.

## REFERENCES

1. Harvey K, Churchill D, Crawford P, Brown B, et al. Health communication and adolescents: what do their e-mails tell us? *Fam Pract.* 2008;25(4):304-11.
2. Neilson. New mobile obsession: U.S. teens triple data usage. 2011. Available at <http://www.nielsen.com/us/en/newswire/2011/new-mobile-obsession-u-s-teens-triple-data-usage.html>
3. Neill RA, Mainous AG 3rd, Clark JR, Hagen MD. The utility of electronic mail as a medium for patient-physician communication. *Arch Fam Med.* 1994;3(3):268-71.
4. Kleiner KD, Akers R, Burke BL, Werner EJ. Parent and physician attitudes regarding use of electronic mail in pediatric practices. *Pediatrics.* 2002;109(5):740-4.
5. Leong SL, Gingrich D, Lewis PR, Mauger DT, et al. Enhancing doctor-patient communication using e-mail: a pilot study. *J Am Board Fam Pract.* 2005;18(3):180-8.
6. Lenhart A. Teens, smartphones and texting. Pew Research Center, Washington DC. 2012. Available at: <http://www.pewinternet.org/Reports/2012/Teens-and-smartphones.aspx>