

PATIENT-PROVIDER E-MAIL COMMUNICATION
A NEEDS ASSESSMENT OF SIX FAMILY PRACTICE CLINICS
IN CENTRAL TEXAS



Northside (Temple)



Santa Fe (Temple)



Belton



Killeen



Bryan/College Station



Waco

DORFAM

Division of Research
Department of Family Practice
Texas A&M University System HSC College of Medicine
Scott & White Memorial Hospital and Clinic

Temple, Texas

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**Division of Research
Department of Family Practice
Texas A&M University System HSC College of Medicine
Scott & White Memorial Hospital and Clinic
1402 West Avenue H
Temple, Texas 76504
(254) 771-7707
(254) 771-8493 (fax)**

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This monograph was prepared by Samuel N. Forjuoh, M.B., Ch.B., Dr.P.H., Glen R. Couchman, M.D., Terry G. Rascoe, M.D., and Saundra Mason, B.S.N., R.N. of the Division of Research, Department of Family & Community Medicine, 1402 West Avenue H, Temple, TX 76504, Tel: (254) 771-7707, Fax: (254) 771-8493.

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Copies of this document may be accessed and downloaded from our web site at <http://dorfam.sw.org> or by contacting:

Marcine Chambers
Division of Research
Department of Family Practice
1402 West Avenue H
Temple, TX 76504
Tel: (254) 771-7707
Fax: (254) 771-8493
E-mail: mchambers@swmail.sw.org

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Executive Summary

With the growing acceptance and use of E-mail, many health care providers and patients are exploring the feasibility of using this technology to expedite the communication on some medical issues. We assessed the proportion of our patient population with E-mail access and their willingness to utilize this technology to expedite communication with their health care providers in 6 of 18 family practice clinics within the Scott & White Healthcare System.

Information was obtained from 950 patients with scheduled appointments to see a primary care physician in a cross-sectional, in-person survey. Our main outcome measures were the proportion of patients with E-mail access, their willingness to use E-mail, and their expectations regarding the timeliness of responses to their E-mail queries on selected medical issues.

Overall, 54.3% of patients reported having E-mail access with a wide variation among the six clinics (33-75%). Areas of greatest need for using E-mail reported by all participants were for requesting prescription refills (78%), obtaining routine lab results (76%), and for non-urgent consultations (76%). No age or income differences were detected regarding these areas of need. However, among four racial/ethnic groups compared, Blacks reported the least need for using E-mail to get lab results, while Hispanics reported the most need for non-urgent consultations ($p < .01$).

Patients' expectations regarding the timeliness of responses to their E-mail queries on selected medical issues varied considerably. For lab results, their expectations were: <9 hours (21%); 9-24 hours (53%); >24 hours (26%). For requesting prescription refills, their expectations were: <9 hours (45%); 9-24 hours (43%); >24 hours (12%). No age, gender, or racial/ethnic differences were found.

Our conclusions are that in Central Texas, the majority of patients attending family practice clinics have access to E-mail and indicate their willingness to use it for requesting prescription refills, obtaining routine lab results, and for non-urgent consultations. Patients have high expectations that these tasks can be completed in a relatively short period of time, independent of their age, gender, or race/ethnicity.

Fact Sheet

Patient-Provider E-mail Communication in Family Practice Clinics Scott & White Healthcare System, Central Texas

- N Among patients attending family practice clinics in Central Texas in 2000, 54% reported having access to E-mail.
- N Reported E-mail access was highest among patients attending the Bryan/College Station Clinic (75%) and lowest for those attending the Santa Fe Clinic (33%).
- N The area of greatest need for using E-mail reported by all patients was to request prescription refills.
- N For patients ages 21 years and younger, the reported area of greatest need for using E-mail was to consult a nurse on non-urgent simple medical questions.
- N For elderly patients ages 65 years and older, the reported area of greatest need for using E-mail was to obtain routine lab results or test reports.
- N Hispanics reported the most need for using E-mail to consult a nurse on non-urgent simple medical questions, followed by Whites.
- N College graduates reported the most need for using E-mail to consult a nurse on non-urgent simple medical questions, to obtain routine lab results or test reports, and to make or cancel doctor's appointments.
- N Using E-mail to make or cancel doctor's appointments was the area of least need reported by all patients.
- N Blacks reported the least need for using E-mail to obtain lab results or test reports; Whites reported the most need.
- N The vast majority (74%) of patients expect a response to their E-mail communication for obtaining routine lab results within 24 hours; 21% within 8 hours and 53% between 9 and 24 hours.
- N One in ten patients expect a response to their E-mail communication for obtaining prescription refills between 1-2 days (25-48 hours).

Introduction

The use of electronic mail, or E-mail, in communication has been increasing within the last two decades. E-mail use has been reported in biomedical communication, general patient surveys, medical practice, and by several institutions. It is reported that approximately 50% of adults in the U.S. currently use E-mail at home or at work, and as many as 70% of these individuals would use E-mail to communicate with their doctor. In fact, 3-14% of these individuals are reportedly already communicating with their doctors *via* E-mail. Between 5-10% of physicians are also already communicating with their patients *via* E-mail.

The following are some of the potential benefits of E-mail communication:

- , Elimination of busy phone signals, answering machines, holds, and “phone tags”
- , Creation of documentation for conversation/instructions
- , Potential for better documentation of patient needs
- , Automated reminders
- , Ability to easily forward messages within the office setting
- , Elimination of long distance phone charges associated with phone communication
- , Ability to link to patient educational information on the web
- , Ability to give providers some time to think about questions
- , Capability to add to health care system’s electronic medical records system
- , Improved efficiency in areas such as patient appointment scheduling
- , Convenience in terms of cost and time saving as well as ease of access.

Along with these benefits, however, come significant potential disadvantages including the following:

- # Privacy and confidentiality issues
- # Patient expectation regarding turnaround time may be shorter than clinic can provide
- # Abuse of service if some patients begin to use this as a “chat room service”
- # Loss of “non-verbal clues” possible with personal or phone communication
- # “Too much access to doctors”

- # “One more thing for the doctor to have to do”
- # May require someone to regularly check for messages
- # May be a learning curve for those not already familiar with E-mail.

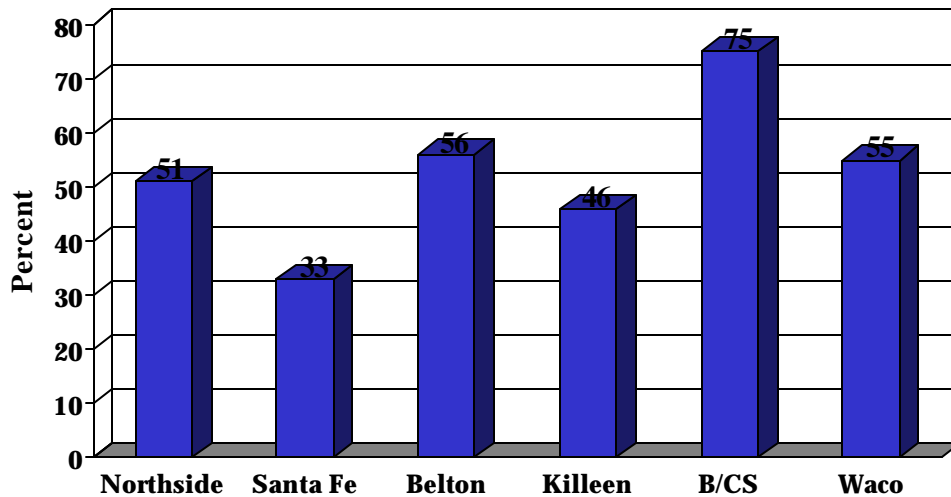
While it is generally agreed that some guidelines are required to manage and regulate E-mail communication between patients and health care providers, it is also important to assess the actual need for this technology in specific practices. The importance of using *local information* in the implementation of guidelines and recommendations cannot be overemphasized.

This monograph summarizes the results of a needs assessment of using E-mail to expedite communication between health care providers and patients attending six family practice clinics in Central Texas. Our specific aims were to:

1. Determine the proportion of our patient population with E-mail access,
2. Assess their willingness to utilize this technology to expedite communication with their family physicians and other health care providers on selected medical services, and
3. Determine their expectations regarding the timeliness of responses to their E-mail queries on these selected medical services.

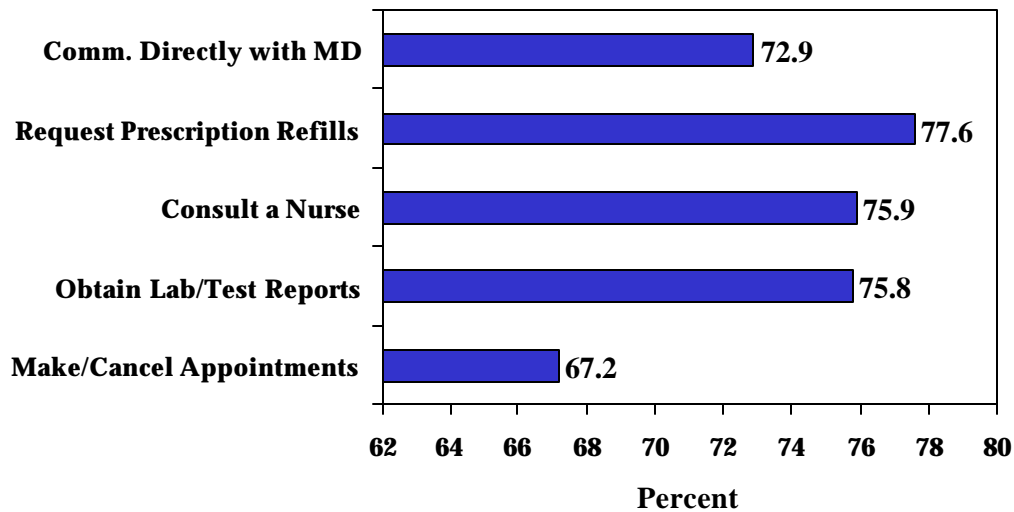
Findings are mainly presented in the form of figures with bulleted interpretations. A one-page thumbnail presentation of detailed findings for each of the six clinics is also provided. In the detailed tables, no statistics are computed when the number of patients for sub-groups is less than 3, which was chosen as our cut-off point.

Figure 1
Reported E-mail Access by Clinic
Scott & White Healthcare System, 2000



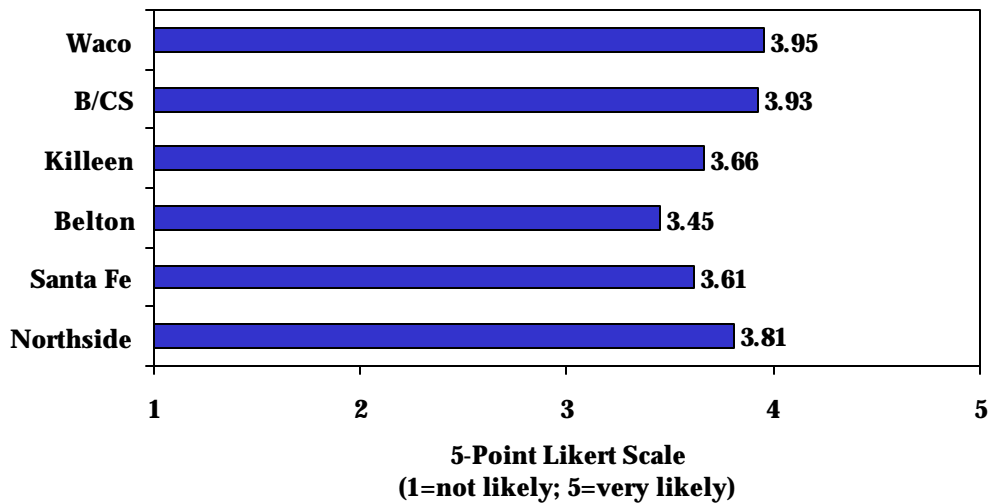
- ' Overall reported E-mail access by all patients was 54.3%, but varied considerably among the six clinics from a low 33% to 75%.
- ' Reported E-mail access was highest for patients attending the Bryan/College Station Clinic (75%) and lowest for those attending the Santa Fe Clinic (33%).
- ' Patients attending 3 of the 6 clinics (Bryan/College Station, Belton, and Waco) reported E-mail access at rates which were higher than the overall average.

Figure 2
Reported Areas of Need for Using E-mail
Scott & White Healthcare System, 2000



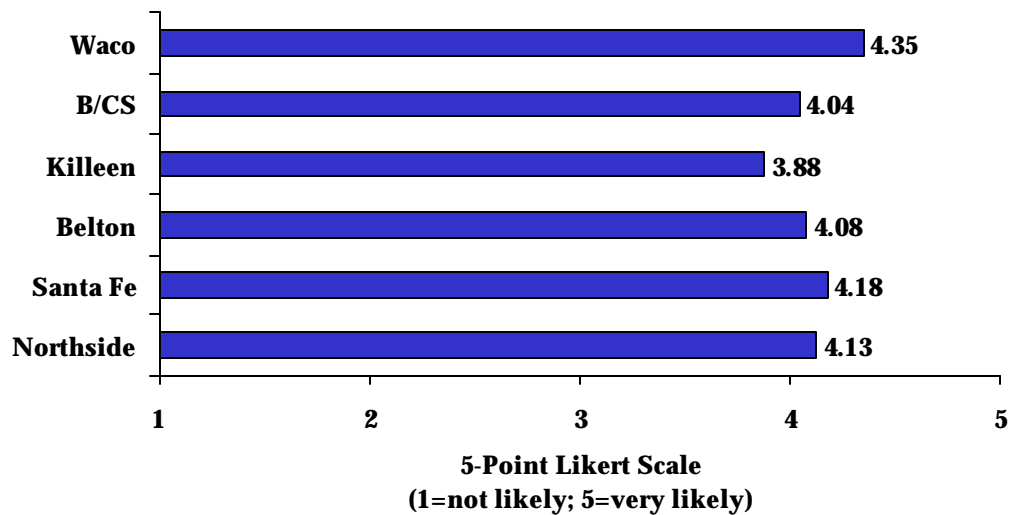
- ' Among all surveyed patients in the six clinics, the reported area of greatest need for using E-mail was to request prescription refills.
- ' Other reported areas of great need for using E-mail were for non-urgent consultation with a nurse, for obtaining routine lab results or test reports, and for communicating directly with patients' doctors.
- ' Using E-mail to make or cancel doctor's appointments was the area of least need reported by all surveyed patients.

Figure 3
Reported Likelihood of Using E-mail
To Make or Cancel Doctor's Appointments by Clinic
Scott & White Healthcare System, 2000



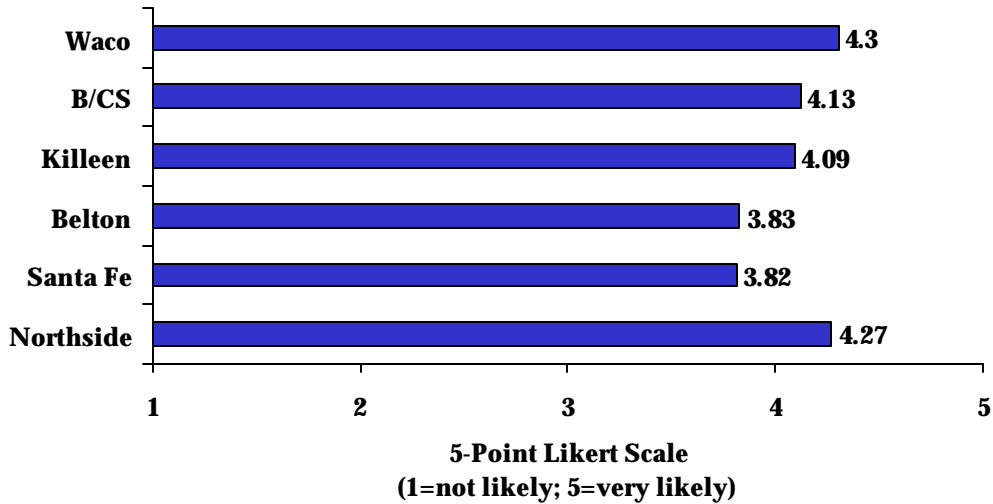
- ' Using E-mail to make or cancel doctor's appointments was favored mostly by patients attending the Waco, Bryan/College Station, and Northside Clinics.
- ' Patients attending the Belton Clinic reported the least likelihood of using E-mail to make or cancel doctor's appointments.

Figure 4
Reported Likelihood of Using E-mail
To Obtain Routine Lab Results or Test Reports by Clinic
Scott & White Healthcare System, 2000



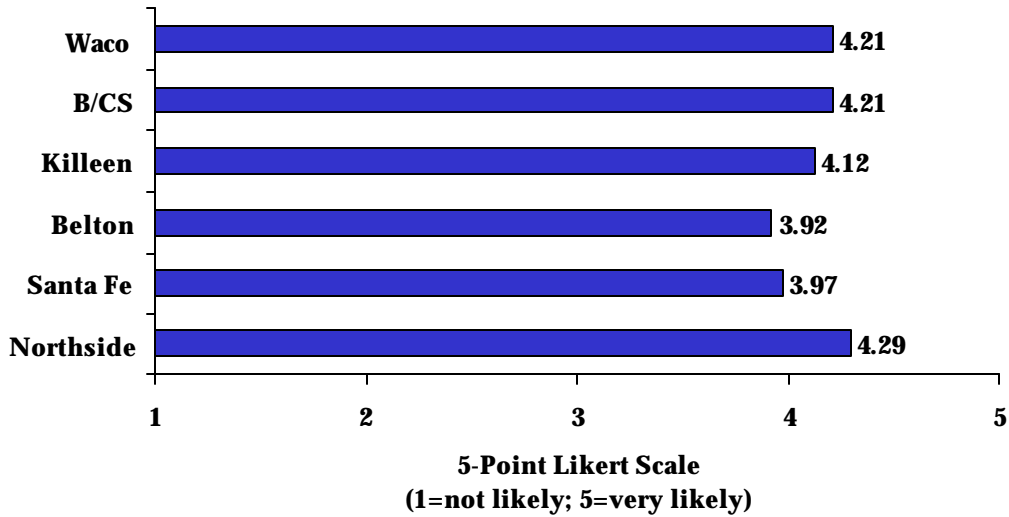
- ' Using E-mail to obtain routine lab results or test reports was favored mostly by patients attending the Waco Clinic.
- ' Patients attending the Killeen Clinic reported the least likelihood of using E-mail to obtain routine lab results or test reports.

Figure 5
Reported Likelihood of Using E-mail
To Ask Advice of a Nurse on Non-urgent Questions by Clinic
Scott & White Healthcare System, 2000



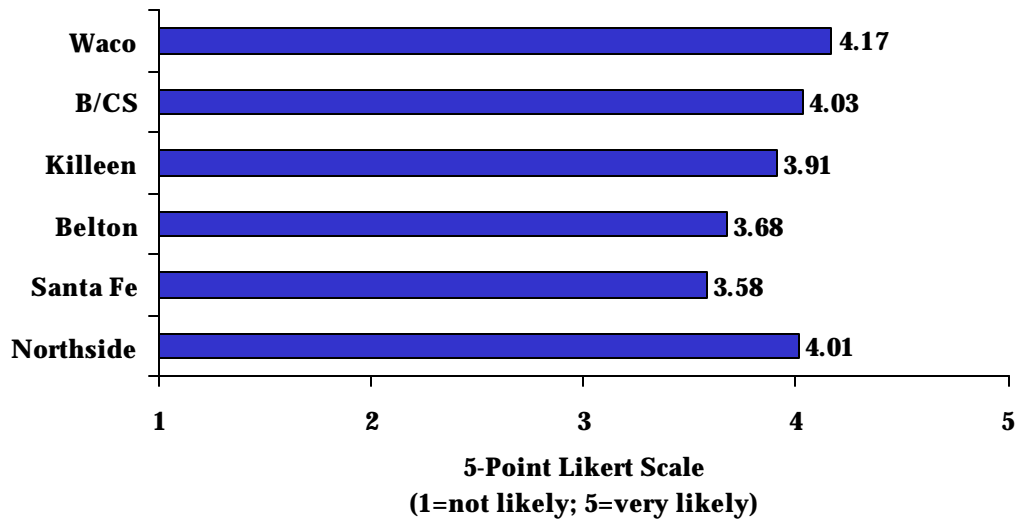
- ' Using E-mail to ask advice of a nurse on non-urgent simple medical questions was favored mostly by patients attending the Waco and Northside Clinics.
- ' Patients attending the Belton and Santa Fe Clinics reported the least likelihood of using E-mail to ask advice of a nurse on non-urgent simple medical questions.

Figure 6
Reported Likelihood of Using E-mail
To Request Prescription Refills by Clinic
Scott & White Healthcare System, 2000



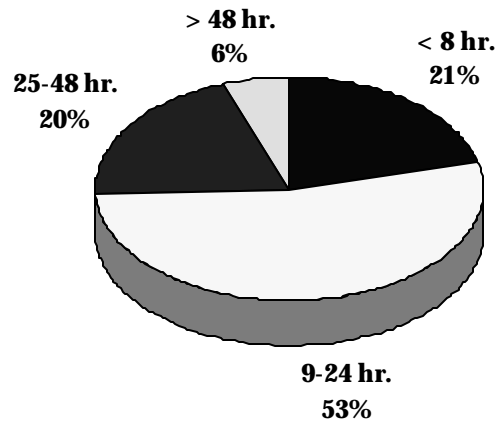
- ' Using E-mail to request prescription refills was favored mostly by patients attending the Northside Clinic.
- ' Patients attending the Belton and Santa Fe Clinics reported the least likelihood of using E-mail to request prescription refills.

Figure 7
Reported Likelihood of Using E-mail
To Communicate Directly with Their Doctor by Clinic
Scott & White Healthcare System, 2000



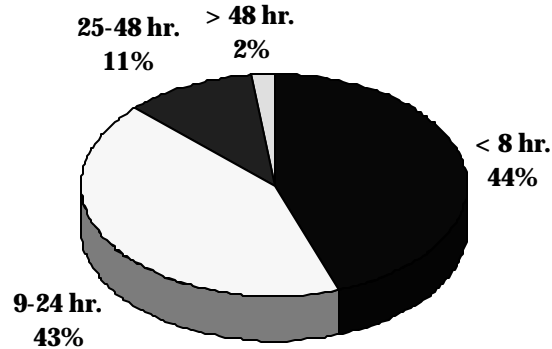
- ' Using E-mail to communicate directly with their doctor was favored mostly by patients attending the Waco Clinic.
- ' Patients attending the Belton and Santa Fe Clinics reported the least likelihood of using E-mail to communicate directly with their doctor.

Figure 8
Patient Expectation Regarding
Timeliness for *Obtaining Routine Lab Results*
Scott & White Healthcare System, 2000



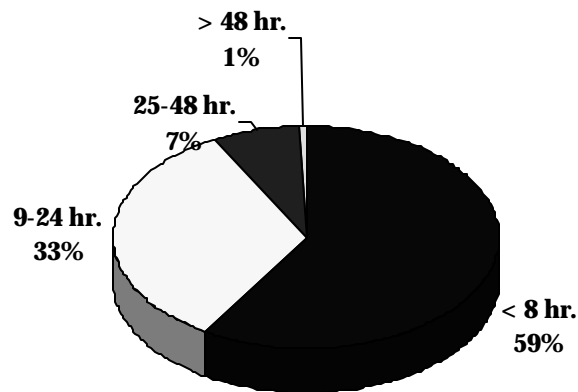
- ' Among all surveyed patients in the six clinics, the vast majority (74%) expect a response to their E-mail communication for *obtaining routine lab results* within 24 hours; 21% within 8 hours and 53% between 9 and 24 hours.
- ' One fifth of all surveyed patients expect a response to their E-mail communication for *obtaining routine lab results* between 1-2 days (25-48 hours).

Figure 9
Patient Expectation Regarding
Timeliness for *Obtaining Prescription Refills*
Scott & White Healthcare System, 2000



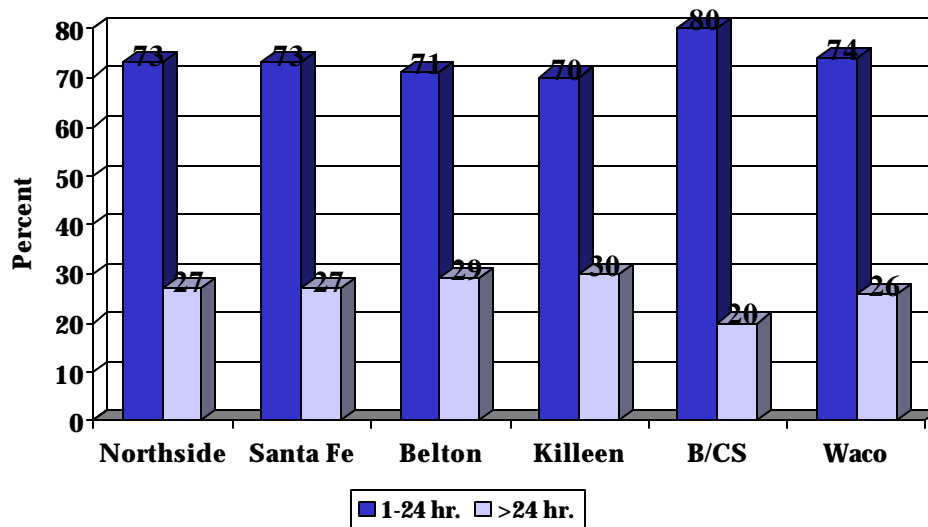
- ' Among all surveyed patients in the six clinics, the vast majority (87%) expect a response to their E-mail communication for *obtaining prescription refills* within 24 hours; 44% within 8 hours and 43% between 9 and 24 hours.
- ' One in ten of all surveyed patients expect a response to their E-mail communication for *obtaining prescription refills* between 1-2 days (25-48 hours).

Figure 10
Patient Expectation Regarding
Timeliness for *Obtaining Responses to Medical Questions*
Scott & White Healthcare System, 2000



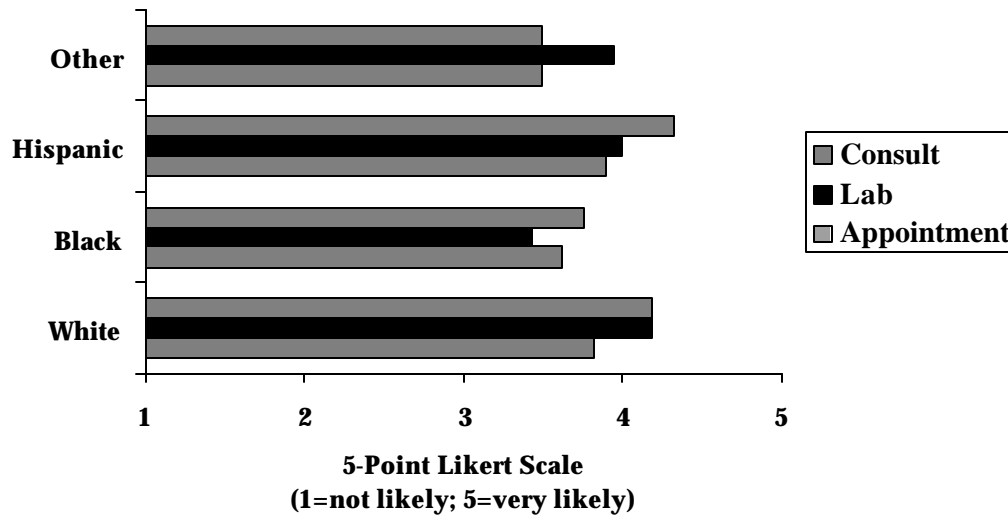
- ' Among all surveyed patients in the six clinics, the vast majority (92%) expect a response to their E-mail communication for *obtaining responses to medical questions* within 24 hours; 59% within 8 hours and 33% between 9 and 24 hours.
- ' Only 7% of all surveyed patients expect a response to their E-mail communication for *obtaining responses to medical questions* between 1-2 days (25-48 hours).

Figure 11
Patient Expectations Regarding Timeliness of Responses to Their
E-mail Communication for Lab Results by Time and Clinic
Scott & White Healthcare System, 2000



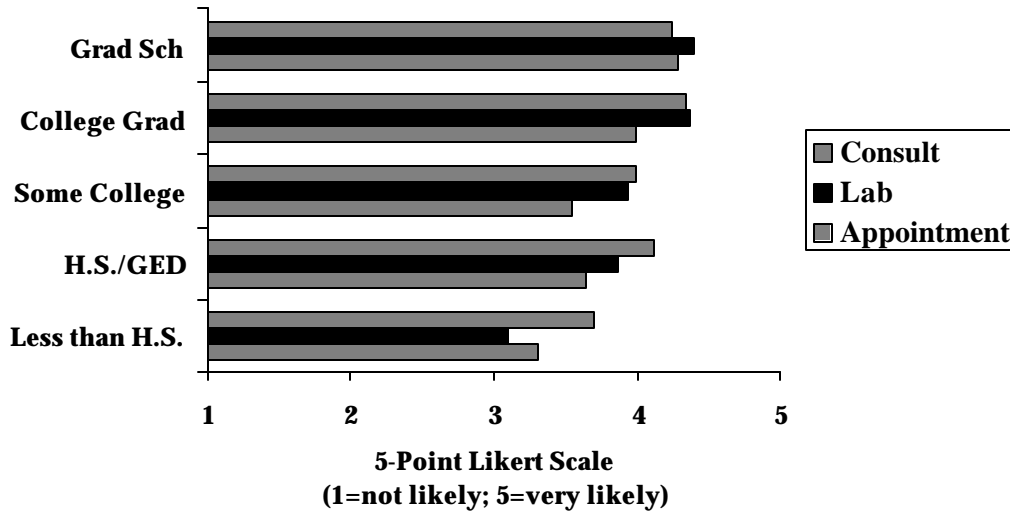
- ' Patient expectation regarding the timeliness of responses to their E-mail communication for lab results was highest at the Bryan/College Station; 8 in 10 patients expect a response within 24 hours.
- ' Similar patient expectation regarding the timeliness of responses to E-mail communication was reported in the rest of the five clinics.

Figure 12
Reported Likelihood of Using E-mail
For Selected Hospital Services by *Race/Ethnicity*
Scott & White Healthcare System, 2000



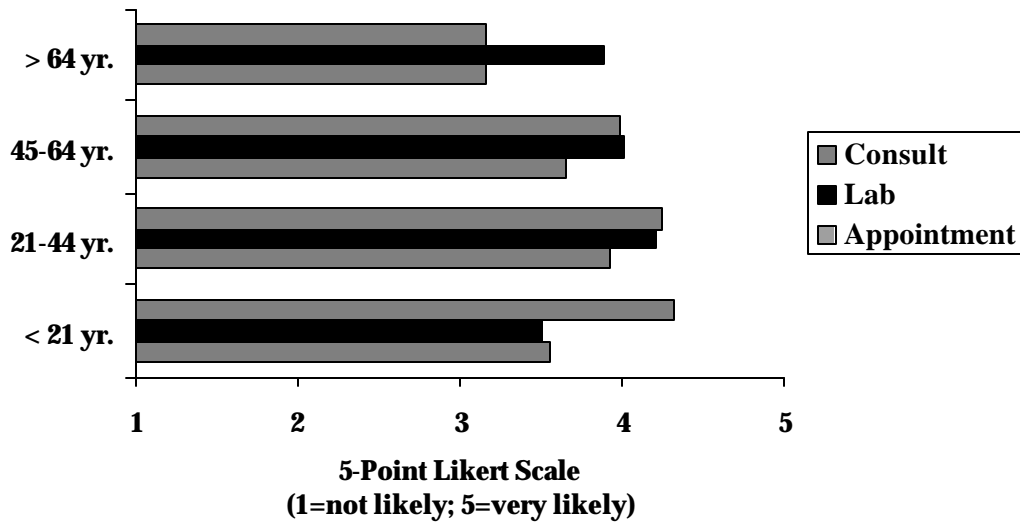
- ' Among all surveyed patients in the six clinics, Hispanics reported the most need for using E-mail to consult a nurse on non-urgent simple medical questions, followed by Whites.
- ' Among all surveyed patients in the six clinics, Blacks reported the least likelihood of using E-mail to obtain lab results or test reports; White persons reported the most need.
- ' Among all surveyed patients in the six clinics, Hispanics and Whites reported more likelihood of using E-mail for making or canceling doctor's appointments than Blacks.

Figure 13
Reported Likelihood of Using E-mail
For Selected Hospital Services by *Educational Attainment*
Scott & White Healthcare System, 2000



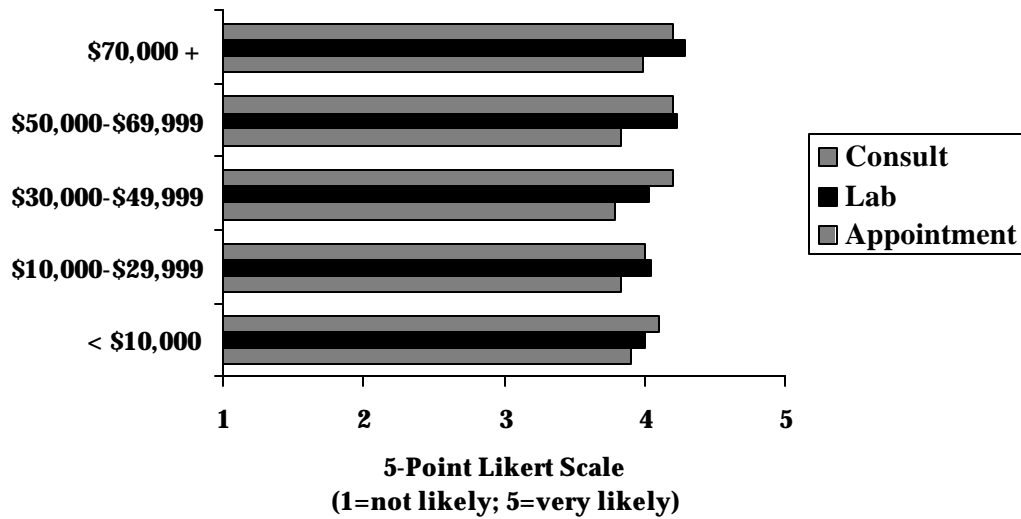
- ' Among all surveyed patients in the six clinics, college graduates reported the greatest likelihood of using E-mail to consult a nurse on non-urgent simple medical questions, to obtain routine lab results or test reports, and to make or cancel doctor's appointments.
- ' Among all surveyed patients in the six clinics, those with less than a high school diploma reported the least need for using E-mail to consult a nurse on non-urgent simple medical questions, to obtain routine lab results or test reports, and to make or cancel doctor's appointments.

Figure 14
Reported Likelihood of Using E-mail
For Selected Hospital Services by Age Group
Scott & White Healthcare System, 2000



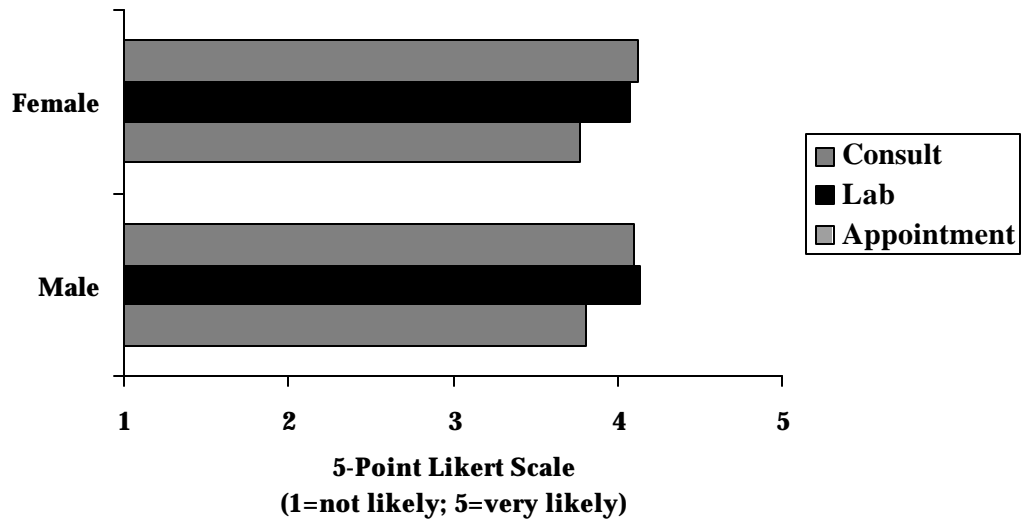
- ' Among all surveyed patients in the six clinics, patients ages 21 years and younger reported the most need for using E-mail to consult a nurse on non-urgent simple medical questions.
- ' Among all surveyed patients in the six clinics, the elderly (ages 65 years and older) reported the most need for using E-mail to obtain routine lab results or test reports.
- ' Among all surveyed patients in the six clinics, patients ages 21 years through 44 reported the least variation regarding the likelihood of using E-mail to consult a nurse on non-urgent simple medical questions, to obtain routine lab results or test reports, or to make or cancel doctor's appointments.

Figure 15
Reported Likelihood of Using E-mail
For Selected Hospital Services by Annual Family Income
Scott & White Healthcare System, 2000



- Little variation was reported regarding using E-mail for consulting a nurse on non-urgent simple medical questions, to obtain routine lab results or test reports, or to make or cancel doctor's appointments among patients of different annual family incomes.

Figure 16
Reported Likelihood of Using E-mail
For Selected Hospital Services by Gender
Scott & White Healthcare System, 2000



- ' Both male and female patients reported the least need for using E-mail to make or cancel doctor's appointments.

Northside Clinic

Total Number of participants = **198**

Participants with E-mail access = **101 (51%)**



Category	N	Likelihood of using E-mail for the following Services using 5-Point Likert Scale (1=not likely; 5=very likely)					Response Time for E-mail Communication					
		Make/ Cancel Appt.	Obtain Lab Results	Ask Nurse's Advice	Request Rx Refills	Comm. with MD	Lab Results		Rx Refills		Med. Questions	
							Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs
Total	101	3.81	4.13	4.27	4.29	4.01	18%	73%	48%	91%	58%	93%
<i>Gender (n=101)</i>												
Male	18	3.22	3.50	4.33	3.83	3.17	24%	94%	56%	94%	72%	89%
Female	83	3.94	4.27	4.26	4.39	4.20	17%	68%	46%	90%	54%	94%
<i>Age Group (n=99)</i>												
< 21 yr.	1	...	...	...	...	...	...	...	...	...	...	...
21-44 yr.	62	3.93	4.18	4.26	4.36	4.08	20%	73%	48%	94%	56%	92%
45-64 yr.	33	3.73	4.15	4.33	4.24	3.94	12%	70%	42%	85%	53%	94%
65 + yr.	3	2.33	3.33	3.00	2.67	2.67	68%	100%	100%	-	100%	-
<i>Race/Ethnicity (n=101)</i>												
White	89	3.81	4.15	4.32	4.27	4.00	18%	70%	46%	90%	56%	92%
Black	4	3.00	4.00	4.00	4.00	3.75	-	100%	67%	100%	100%	-
Hispanic	6	4.00	3.67	3.67	4.50	4.50	33%	100%	67%	100%	67%	100%
Other	2	...	...	...	...	...	...	...	...	...	...	...
<i>Level of Education (n=100)</i>												
< High Sch.	-	-	-	-	-	-	-	-	-	-	-	-
High Sch./GED	13	3.92	4.31	4.15	4.15	4.08	23%	92%	69%	100%	50%	100%
Some College	31	3.29	3.55	4.03	3.87	3.65	16%	77%	36%	88%	58%	90%
College Grad.	41	4.03	4.37	4.37	4.55	4.30	18%	66%	54%	93%	59%	96%
Grad. School	15	4.40	4.73	4.80	4.80	4.13	20%	67%	40%	87%	60%	87%
<i>Annual Income (n=94)</i>												
< \$10,000	-	-	-	-	-	-	-	-	-	-	-	-
\$10,000-\$29,999	14	3.43	3.43	3.79	4.00	3.43	21%	57%	43%	86%	64%	93%
\$30,000-\$49,999	27	3.65	4.00	4.38	4.23	4.08	22%	74%	44%	93%	58%	100%
\$50,000-\$69,999	25	4.32	4.68	4.60	4.60	4.48	12%	80%	44%	92%	44%	96%
\$70,000 +	28	3.96	4.25	4.32	4.39	4.04	11%	74%	57%	96%	64%	89%

NOTES: A ... denotes not computed because of small numbers (n<3); A - denotes missing data/not available.

Santa Fe Clinic

Total Number of participants = **101**
 Participants with E-mail access = **33 (33%)**



Category	N	Likelihood of using E-mail for the following Services using 5-Point Likert Scale (1=not likely; 5=very likely)					Response Time for E-mail Communication					
							Lab Results		Rx Refills		Med. Questions	
		Make/Cancel Appt.	Obtain Lab Results	Ask Nurse's Advice	Request Rx Refills	Comm. with MD	Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs
Total	33	3.61	4.18	3.82	3.97	3.58	24%	73%	41%	84%	50%	81%
<i>Gender (n=32)</i>												
Male	18	3.72	4.11	4.06	3.94	3.83	28%	78%	50%	94%	39%	78%
Female	14	3.36	4.21	3.43	3.93	3.14	21%	64%	31%	69%	69%	85%
<i>Age Group (n=33)</i>												
< 21 yr.	-	-	-	-	-	-	-	-	-	-	-	-
21-44 yr.	15	3.67	4.33	3.80	4.07	3.73	27%	67%	36%	71%	57%	86%
45-64 yr.	16	3.63	4.19	3.94	4.00	3.75	13%	75%	44%	94%	44%	75%
65 + yr.	2	...	...	...	...	...	...	...	...	...	...	...
<i>Race/Ethnicity (n=33)</i>												
White	31	3.55	4.16	3.81	3.94	3.52	23%	71%	40%	83%	50%	83%
Black	-	-	-	-	-	-	-	-	-	-	-	-
Hispanic	1	...	...	...	...	...	...	...	...	...	...	...
Other	1	...	...	...	...	...	...	...	...	...	...	...
<i>Level of Education (n=33)</i>												
< High Sch.	3	2.67	2.33	2.33	2.33	2.33	33%	100%	67%	100%	33%	67%
High Sch./GED	4	2.00	3.75	4.00	3.50	1.75	50%	100%	50%	100%	75%	75%
Some College	13	3.77	4.31	3.69	4.08	3.69	08%	62%	50%	83%	50%	92%
College Grad.	11	4.00	4.55	4.27	4.27	4.18	27%	73%	18%	73%	46%	73%
Grad. School	2	...	...	...	...	...	...	...	...	...	...	...
<i>Annual Income (n=33)</i>												
< \$10,000	1	...	...	...	...	...	...	...	...	...	...	...
\$10,000-\$29,999	4	3.50	4.25	4.00	4.25	3.00	25%	100%	50%	100%	75%	75%
\$30,000-\$49,999	8	2.50	3.50	3.25	3.00	3.13	25%	63%	43%	86%	57%	100%

\$50,000-\$69,999	10	3.30	4.00	3.70	3.70	3.20	30%	80%
\$70,000 +	10	4.70	4.80	4.20	4.80	4.40	20%	60%

NOTES: A ... denotes not computed because of small numbers (n<3); A - denotes missing data/not available.



Belton Clinic

Total Number of participants = **116**

Participants with E-mail access = **65 (56%)**

Category	N	Likelihood of using E-mail for the following Services using 5-Point Likert Scale (1=not likely; 5=very likely)					Response Time for E-mail Communication					
		Make/ Cancel Appt.	Obtain Lab Results	Ask Nurse's Advice	Request Rx Refills	Comm. with MD	Lab Results		Rx Refills		Med. Questions	
							Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs
Total	65	3.45	4.08	3.83	3.92	3.68	21%	71%	39%	84%	52%	92%
<i>Gender (n=64)</i>												
Male	23	3.70	4.26	3.70	4.04	3.74	22%	74%	48%	78%	44%	91%
Female	41	3.38	3.98	3.90	3.85	3.63	21%	69%	34%	87%	56%	92%
<i>Age Group (n=61)</i>												
< 21 yr.	1	...	...	...	...	...	...	...	...	...	...	...
21-44 yr.	35	3.40	4.09	3.89	3.91	3.71	18%	64%	42%	82%	52%	94%
45-64 yr.	19	3.63	4.05	3.79	4.11	3.89	26%	74%	37%	84%	53%	89%
65 + yr.	6	3.40	4.20	3.20	3.40	3.00	20%	100%	40%	80%	33%	100%
<i>Race/Ethnicity (n=64)</i>												
White	58	3.54	4.16	3.91	4.02	3.74	23%	71%	39%	82%	51%	91%
Black	-	-	-	-	-	-	-	-	-	-	-	-
Hispanic	3	5.00	5.00	5.00	5.00	5.00	-	33%	33%	100%	67%	100%
Other	3	1.00	1.67	1.00	1.00	1.00	-	100	50%	100%	50%	100%
<i>Level of Education (n=64)</i>												
< High Sch.	2	...	...	...	...	...	...	...	...	...	...	...
High Sch./GED	8	4.00	4.43	4.14	4.14	3.63	43%	86%	71%	100%	63%	100%
Some College	25	3.44	4.08	3.84	3.76	3.76	20%	68%	36%	84%	48%	92%
College Grad.	19	3.68	4.21	3.95	4.21	3.68	22%	78%	28%	78%	67%	100%
Grad. School	10	3.00	3.80	3.30	3.80	3.60	11%	67%	56%	78%	33%	89%
<i>Annual Income (n=59)</i>												
< \$10,000	1	...	...	...	...	...	...	...	...	...	...	...

\$10,000-\$29,999	7	3.14	3.86	3.57	3.57	2.86	14%	86%
\$30,000-\$49,999	18	3.39	4.33	3.72	4.00	3.78	29%	65%
\$50,000-\$69,999	17	3.82	4.00	4.06	3.94	3.76	18%	76%
\$70,000 +	16	3.69	4.19	3.88	4.13	4.00	27%	60%



NOTES: A ... denotes not computed because of small numbers (n<3); A - denotes missing data/not available.

Killeen Clinic

Total Number of participants = **194**

Participants with E-mail access = **90 (46%)**

Category	N	Likelihood of using E-mail for the following Services using 5-Point Likert Scale (1=not likely; 5=very likely)					Response Time for E-mail Communication					
		Make/ Cancel Appt.	Obtain Lab Results	Ask Nurse's Advice	Request Rx Refills	Comm. with MD	Lab Results		Rx Refills		Med. Questions	
							Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs
Total	90	3.66	3.88	4.09	4.12	3.91	24%	70%	39%	85%	70%	98%
<i>Gender (n=89)</i>												
Male	22	3.95	3.86	3.77	4.05	3.73	32%	79%	53%	77%	65%	100%
Female	67	3.57	3.88	4.19	4.15	3.97	22%	67%	40%	88%	71%	97%
<i>Age Group (n=85)</i>												
< 21 yr.	6	3.67	3.17	4.83	4.17	3.83	50%	83%	40%	80%	60%	100%
21-44 yr.	51	3.78	4.06	4.29	4.35	4.12	20%	62%	44%	90%	70%	98%
45-64 yr.	23	3.83	4.00	4.09	4.13	3.91	25%	80%	24%	76%	77%	96%
65 + yr.	5	3.80	4.60	3.60	3.80	3.40	40%	80%	60%	80%	60%	100%
<i>Race/Ethnicity (n=86)</i>												
White	59	3.66	4.03	4.02	4.08	3.85	25%	70%	33%	84%	69%	97%
Black	14	4.00	3.50	4.21	4.36	4.21	23%	62%	77%	92%	69%	100%
Hispanic	7	4.00	3.86	5.00	4.57	4.00	33%	83%	17%	83%	83%	100%
Other	6	3.83	4.67	5.00	4.67	4.50	17%	67%	33%	83%	67%	100%
<i>Level of Education (n=86)</i>												
< High Sch.	3	3.33	3.67	5.00	3.67	5.00	67%	100%	33%	100%	68%	100%
High Sch./GED	16	3.31	3.38	3.56	3.81	3.56	27%	60%	43%	79%	64%	100%
Some College	34	3.85	4.15	4.38	4.32	3.85	16%	66%	34%	84%	73%	97%
College Grad.	24	3.75	4.00	4.21	4.29	4.13	35%	87%	50%	96%	75%	96%
Grad. School	9	4.33	4.44	4.33	4.44	4.33	11%	44%	22%	67%	56%	100%

Annual Income (n=83)												
< \$10,000	3	4.67	5.00	5.00	5.00	5.00	33%	33%				
\$10,000-\$29,999	13	3.77	4.15	4.23	4.23	3.69	46%	85%				
\$30,000-\$49,999	23	3.43	3.61	3.96	4.09	3.91	23%	68%				
\$50,000-\$69,999	27	3.67	4.04	4.30	4.22	3.85	4%	68%				
\$70,000 +	16	4.37	4.31	4.38	4.50	4.38	38%	69%	38%	75%	88%	100%




NOTES: A ... denotes not computed because of small numbers (n<3); A - denotes missing data/not available.

Bryan/College Station Clinic

Total Number of participants = **193**

Participants with E-mail access = **145 (75%)**

Category	N	Likelihood of using E-mail for the following Services using 5-Point Likert Scale (1=not likely; 5=very likely)					Response Time for E-mail Communication					
		Make/Cancel Appt.	Obtain Lab Results	Ask Nurse's Advice	Request Rx Refills	Comm. with MD	Lab Results		Rx Refills		Med. Questions	
							Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs
Total	145	3.93	4.04	4.13	4.21	4.03	23%	80%	52%	90%	59%	93%
<i>Gender (n=144)</i>												
Male	52	4.06	4.17	4.20	4.25	4.25	20%	73%	49%	88%	47%	88%
Female	92	3.85	3.96	4.09	4.18	3.90	25%	84%	54%	91%	66%	96%
<i>Age Group (n=141)</i>												
< 21 yr.	11	3.55	3.60	3.82	3.82	3.27	46%	91%	64%	91%	55%	91%
21-44 yr.	103	4.08	4.17	4.31	4.35	4.22	20%	84%	51%	91%	57%	94%
45-64 yr.	26	3.58	3.77	3.69	3.96	3.69	19%	62%	54%	88%	69%	88%
65 + yr.	1	...	...	...	...	...	...	...	...	...	...	...
<i>Race/Ethnicity (n=143)</i>												
White	115	4.03	4.20	4.31	4.33	4.10	21%	79%	52%	90%	62%	92%
Black	10	3.10	2.80	2.80	3.10	3.00	44%	89%	60%	90%	40%	100%
Hispanic	14	3.71	3.79	4.14	4.43	4.36	23%	92%	50%	100%	43%	100%
Other	4	3.75	3.75	2.50	2.75	3.50	-	33%	33%	67%	67%	67%
<i>Level of Education (n=144)</i>												
< High Sch.	1	...	...	...	...	...	...	...	...	...	...	...
High Sch./GED	27	3.59	3.48	4.15	4.04	3.81	39%	89%	63%	96%	59%	96%
Some College	43	3.42	3.69	3.65	3.81	3.53	25%	88%	55%	95%	67%	95%

College Grad.	40	4.28	4.60	4.53	4.60	4.60	20%	70%								
Grad. School	33	4.39	4.27	4.27	4.39	4.15	13%	78%								
<i>Annual Income (n=138)</i>																
< \$10,000	4	2.50	2.50	2.75	3.00	2.25	50%	75%								
\$10,000-\$29,999	37	3.81	3.95	3.84	4.08	4.11	17%	83%								
\$30,000-\$49,999	36	4.47	4.17	4.60	4.44	4.39	9%	76%					40%	89%	49%	92%
\$50,000-\$69,999	25	3.64	4.08	4.00	4.08	3.96	16%	80%					64%	88%	76%	100%
\$70,000 +	36	3.92	4.14	4.14	4.33	3.83	42%	78%	56%	95%	61%	92%				

NOTES: A ... denotes not computed because of small numbers (n<3); A - denotes missing data/not available.

Waco Clinic

Total Number of participants = 148

Participants with E-mail access = 82 (55%)

Category	N	Likelihood of using E-mail for the following Services using 5-Point Likert Scale (1=not likely; 5=very likely)					Response Time for E-mail Communication					
		Make/ Cancel Appt.	Obtain Lab Results	Ask Nurse's Advice	Request Rx Refills	Comm. with MD	Lab Results		Rx Refills		Med. Questions	
							Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs	Within 8 hrs	Within 24 hrs
Total	82	3.95	4.35	4.30	4.21	4.17	17%	74%	38%	83%	58	89%
<i>Gender (n=82)</i>												
Male	30	3.77	4.57	4.40	4.27	4.17	23%	77%	43%	80%	72%	93%
Female	52	4.06	4.23	4.25	4.17	4.17	14%	73%	35%	84%	50%	86%
<i>Age Group (n=78)</i>												
< 21 yr.	6	3.67	3.83	4.83	4.33	4.50	33%	67%	67%	100%	67%	83%
21-44 yr.	46	4.17	4.54	4.43	4.33	4.22	13%	78%	41%	89%	57%	89%
45-64 yr.	23	3.48	4.00	3.91	3.91	3.96	22%	70%	27%	73%	62%	95%
65 + yr.	3	3.33	4.33	3.33	3.33	3.33	33%	100%	67%	67%	100%	100%
<i>Race/Ethnicity (n=81)</i>												
White	67	4.00	4.37	4.31	4.28	4.19	19%	73%	38%	83%	58%	89%
Black	6	4.00	4.00	4.17	3.83	3.33	-	83%	50%	83%	67%	67%
Hispanic	8	3.63	4.38	4.38	3.88	4.50	13%	75%	38%	88%	63%	100%
Other	-	-	-	-	-	-	-	-	-	-	-	-
<i>Level of Education (n=82)</i>												
< High Sch.	1	...	...	...	...	...	...	...	...	...	...	...

High Sch./GED	19	4.00	4.37	4.47	4.42	4.47	-	58%	32%	84%	44%	89%
Some College	26	3.69	4.19	4.19	4.04	4.12	23%	77%	42%	81%	62%	92%
College Grad.	29	3.90	4.38	4.34	4.03	3.97	21%	83%	43%	86%	71%	89%
Grad. School	7	5.00	4.86	4.14	5.00	4.43	14%	71%	14%	71%	17%	67%
<i>Annual Income (n=79)</i>												
< \$10,000	1	...	...	...	...	...	...	...	...	...	...	...
\$10,000-\$29,999	20	4.55	4.65	4.45	4.50	4.55	15%	70%	30%	80%	42%	79%
\$30,000-\$49,999	18	3.94	4.28	4.39	4.28	4.17	17%	56%	39%	72%	50%	83%
\$50,000-\$69,999	22	3.95	4.41	4.18	4.05	4.14	9%	77%	36%	82%	68%	91%
\$70,000 +	18	3.61	4.44	4.22	4.33	4.00	28%	89%	41%	94%	75%	100%

NOTES: A ... denotes not computed because of small numbers (n<3); A - denotes missing data/not available.

Guidelines and Recommendations

Proposed Guidelines For Clinic Use Of E-mail With Patients

- , Establish turn-around times
- , Inform patients of privacy concerns
- , Establish type of transaction permitted
- , Notify patients to put category of transaction on subject line for filter/triage
- , Encourage patients to include full name and 2nd identifier with each communication
- , Acknowledge receipt of all messages (auto-reply) so patient knows it went through
- , Print all messages and put in medical record
- , Send message when request completed
- , Request patients to use auto-reply to acknowledge all communication with medical office

Medico-Legal & Administrative Guidelines

- , Obtain informed consent from patients
- , Never forward patient identification information to a 3rd party without their approval due to confidentiality issues
- , Use encryption
- , Don't share E-mail accounts with multiple family members
- , Establish written policy

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