

# **Patient Perspectives on the Use of an English/Spanish Online Patient Portal in an Urban Underserved, Predominantly Spanish-Speaking Patient Population**

**By Alejandro Ochoa**

MD Candidate 2018, David Geffen School of Medicine at UCLA, MS2

UCLA PRIME Cohort 6

2014 GE-NMF PCLP Scholar

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## **Abstract**

The utilization of patient portals has been associated with positive clinical outcomes and increased patient satisfaction. Decreased patient portal enrollment rates have been associated with groups that are of lower income, lower educational attainment, and ethnic minorities.

### Objective

To identify patient perspectives on the utilization of a bilingual English/Spanish patient portal in a predominantly Spanish-speaking safety net population.

### Methods

A total of 400 primary care patients completed a 37-item survey administered during a face-to face interview. The cross-sectional survey was conducted during June and July 2014 at the largest of the 43 primary care clinics affiliated with AltaMed Health Services, a large, multi-site community health center with locations in Los Angeles and Orange County.

### Results

Preliminary analysis of survey data demonstrates that participants were primarily Latino, Spanish-speaking, and had a high school education or less. Although 93.5% of patients reported never having sent an email to their doctor, 89% of those patients felt comfortable or very comfortable if asked to do so.

### Conclusion

Although the majority of patients surveyed were predominantly low-income, Spanish-speaking, and of lower educational attainment, the majority nevertheless reported having access to the Internet (78.3%) and were generally in favor of patient portal adoption, with 76.8% believing it would improve patient care.

## **Introduction**

My goal and passion is to give my services as a physician to the most needy and under-resource populations to reduce some of the prevalent and well documented health disparities that exist in these populations. I plan on working with Spanish speaking patients in order to reduce the language barriers that exist for many patients that often is a factor in them not receiving the proper medical care that they deserve. My goals and interest include community interventions focused on preventative health outcomes, access to care for vulnerable populations, and medical education focused on population health and community medicine. I am also interested in academic/health system leadership, and using health services research to improve the quality and value of care delivered to underserved communities. I hope to be able to explore in the future how community health centers (CHC's) can promote individual and community action around health disparities to reduce these inequities, improve outcomes, and engage patients in their health.

Keeping my goals in mind and the population that I want to serve I felt that AltaMed would be a great location for my summer experience. AltaMed is the largest independent Federally Qualified Community Health Center in the U.S. delivering more than 930,000 annual patient visits through its 43 sites in Los Angeles and Orange Counties. AltaMed believes in patient-focused care delivered through a caring team of culturally competent health care professionals. Their integrated system emphasizes prevention and healthy living and is designed to reduce health care disparities and avoid unnecessary trips to emergency rooms or other more costly forms of care.

Combining my interest and goals with the values and mission of AltaMed for my summer project, I decided to work with the implementation of a patient portal, MyAltaMed. The purpose

of this patient portal for AltaMed is to hopefully improve patient-doctor relationships and fulfill their mission statement of providing patient-focused care and reducing health disparities. In working with the patient portal team, my goal and task for this summer was to evaluate, using face-to-face surveys, the likelihood that patients would use MyAltaMed as a resource to better improve their overall quality of health.

### **Background**

An online patient portal is an encrypted website that grants patients access to their personal health record (PHR), containing information and resources that allow patients to better manage their health, while also affording patients the ability to request medication refills, pay medical bills, schedule appointments, and exchange secure messages with their providers.<sup>1</sup> Previous work has demonstrated that utilization of patient portals is associated with improved health outcomes, particularly improving glycemic control and other diabetes quality measures by fostering a greater sense of patient engagement in the management of their care.<sup>2-5</sup>

However, in spite of the documented benefits associated with the use of the secure messaging functionality within patient portals, studies have indicated that the majority of portal users choose not to communicate with healthcare providers by using this feature.<sup>2,3</sup> Paradoxically, in a study conducted by Couchman *et al.*, investigators found that while the majority of patients expressed a strong interest in communicating with their providers via email, only 5.8% of patients actually indicated doing so<sup>6</sup>. It has even been shown that 40% of patients who reported not using email in general were nevertheless interested in communicating with their providers through electronic messaging.<sup>7</sup> Furthermore, this documented appeal toward email as a means to convey information with providers has been most evident in Spanish-speaking populations, which in the study were shown to be younger, although the trend remained

even after adjusting for age.<sup>7</sup> In spite of this increased interest, however, Latinos and other minority groups have been shown to be at increased risk for not utilizing patient portals.<sup>8,9</sup>

Socioeconomic status has also been reported as a factor that may influence the usage of health-related electronic messaging, with three out of every four ethnically diverse, low-income patients being in favor of emailing their provider with health-related information, but only less than 20% reporting ever doing so.<sup>7</sup> Patients with lower educational attainment have also been demonstrated to exhibit decreased rates of signing on to the patient portal, and patients with limited health literacy activated their patient portal accounts at lower rates and were also less likely to use any of the functions, indicating that these patients may not possess the adequate skills necessary to successfully navigate through the patient portal.<sup>9</sup> Medicaid patients were also about one third as likely to enroll in the patient portal, and, once enrolled, they were also found to be half as likely to activate it.<sup>10</sup>

One barrier that has been proposed to explain the reduced rates of patient portal enrollment is the documented digital divide that exists in under-resourced communities, limiting their access to computers and the Internet and particularly decreasing rates of adoption at community health centers serving these populations.<sup>7,9,11</sup> However, in a study that surveyed patients in an urban general internal medicine clinic, investigators reported that patients only rarely indicated that lack of access to a computer or the Internet prevented them from enrolling in the patient portal, suggesting that factors outside of the digital divide may be at play.<sup>12</sup> For those patients who reported having appropriate computer and Internet access, dealing with cumbersome requirements to sign on and difficulties related to the usability of the patient portal itself became a barrier to its adoption.<sup>6,13</sup> Another important patient-identified obstacle that discourages patient utilization relates to issues concerning security and confidentiality.

Specifically, patients expressed apprehension at the thought of their messages being accessed by someone other than their provider.<sup>12,14</sup> An additional drawback, highlighted by patients, is not receiving a response to their message within a satisfactory time frame deemed appropriate by the patient, or potentially not receiving a response at all.<sup>14</sup> Finally, patients have also reported concerns that transitioning to secure messaging via the patient portal could potentially weaken their relationship with their healthcare team by replacing other more familiar modes of communication.<sup>15</sup>

Although patients have identified a number of potential barriers that may discourage patient portal adoption, studies have also been conducted in which patients enumerated a variety of benefits to their use, one of which being that some patients report preferring to discuss sensitive issues through secure messaging due to timidity.<sup>16,17</sup> Patients also looked favorably upon the idea that online messaging would allow them to decrease the number of unnecessary visits, thereby saving both the patient's and the provider's time.<sup>7,14,18</sup> The ability to message their provider without being limited to clinic business hours was also identified as an added benefit, affording patients the ability to communicate with their providers with greater frequency while also promoting an attitude of increased patient engagement in the management of their care<sup>14</sup>. Overall, electronic messaging has been shown to increase patient satisfaction by improving patient-provider communication.<sup>10,14,19</sup>

This study aims to address the relative scarcity of information currently available about attitudes of patients serviced by a large safety net provider on the benefits and drawbacks to the usage of an online patient portal offered in both English and Spanish.<sup>10,14</sup> By assessing patient perspectives on the utility and potential barriers associated with the use of a patient portal

presented in their native language, we hope to more accurately characterize its use in these vulnerable populations.

### **Methods**

In conjunction with the implementation of an online patient portal in June 2014, a total of 400 primary care patients completed a 37-item survey administered during a face-to-face interview. These cross-sectional surveys were conducted during June and July 2014 at a total of 12 of the 43 primary care clinics affiliated with AltaMed Health Services, a large, multi-site community health center with locations in Los Angeles and Orange County. Patients were eligible if they were 18 years of age or older, received care at an AltaMed clinic site, and were fluent in English or Spanish. Patients were surveyed using convenience sampling where two trained survey administrators approached potential participants in clinic waiting rooms. Of all eligible patients approached (n = 488), 400 agreed to participate (82% response rate). We also obtained a convenience sample of full-time AltaMed providers at 12 primary care clinic sites throughout Los Angeles and Orange County, and of all eligible providers approached (n = 74), 59 agreed to participate (80% response rate). Survey instruments were designed based on published literature and expert opinion, with most items being closed-ended with pre-coded responses. Survey domains included computer/Internet access and literacy, barriers and facilitators to patient portal adoption, and portal preferences.

### **RESULTS**

Analysis of survey data demonstrates that participants were primarily Latino, Spanish-speaking, and had a high school education or less. Although 93.5% of patients reported never having sent an email to their doctor, 89% of those patients felt comfortable or very comfortable if asked to do so. And even though the majority of patients surveyed were predominantly low-

income, Spanish-speaking, and of lower educational attainment, the majority nevertheless reported having access to the Internet (78.3%) and were generally in favor of patient portal adoption, with 76.8% believing it would improve patient care.

### **Technology Access & Literacy (Table 1) (Figures 1-4)**

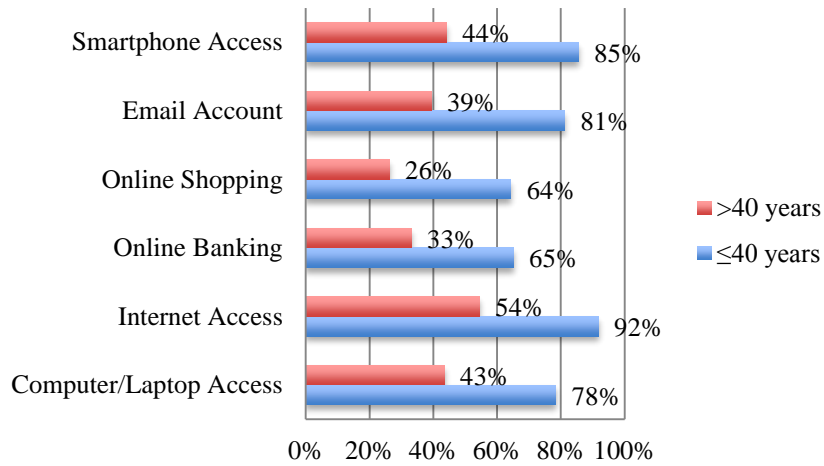
The majority of patients had computer access (65.8%), Internet access (78.3%), a current email account (66.0%), and a smartphone (70.5%). However, a “digital divide” exists, with patients >40 years of age, Spanish-speaking, with a high school education or less, and an annual family income of <\$10,000 having significantly less technology access. Survey data indicated that patients 40 years of age and younger were: more likely to have computer/laptop access (78% vs. 43%,  $p < 0.001$ ), more likely to have Internet access (92% vs. 54%,  $p < 0.001$ ), more likely to have a regular email account (81% vs. 39%,  $p < 0.001$ ), and more likely to have smartphone access (85% vs. 44%). In addition, patients who reported as their primary language being English were: more likely to have computer/laptop access (80% vs. 53%,  $p < 0.001$ ), more likely to have Internet access (92% vs. 66%,  $p < 0.001$ ), more likely to have a regular email account (86% vs. 48%,  $p < 0.001$ ), and more likely to have smartphone access (83% vs. 60%). Survey data also showed that patients with a high school education or less were: less likely to have computer/laptop access (52% vs. 90%,  $p < 0.001$ ), less likely to have Internet access (68% vs. 96%,  $p < 0.001$ ), less likely to have a regular email account (51% vs. 93%,  $p < 0.001$ ), and less likely to have smartphone access (61% vs. 87%,  $p < 0.001$ ). Finally, patients who had an annual family income of less than \$10,000 were: less likely to have computer/laptop access (53% vs. 75%,  $p < 0.001$ ), less likely to have Internet access (69% vs. 85%,  $p < 0.001$ ), less likely to have a regular email account (51% vs. 76%,  $p < 0.001$ ), and less likely to have smartphone access (58% vs. 79%).

**Table 1: Patient technology access & literacy (n = 400) (Los Angeles, CA, 2014)**

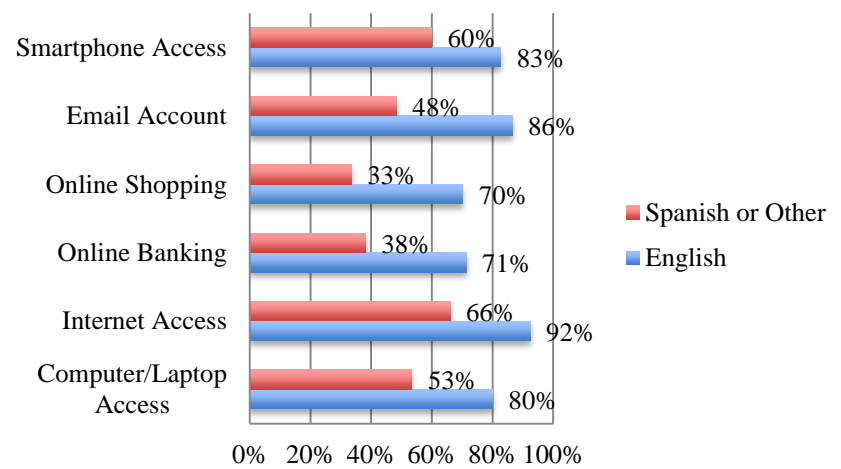
Patient Characteristic	Total		Computer/Laptop Access				Internet Access				Online Banking			
	%	(n)	%	(n)	p value	AOR (95% CI)	%	(n)	p value	AOR (95% CI)	%	(n)	p value	AOR (95% CI)
All														
Age (yr)														
≤40 years	64%	255	78%	200	<0.001	4.73 (3.04, 7.38)	92%	234	<0.001	9.31 (5.35, 16.19)	65%	166	<0.001	3.77 (2.45, 5.80)
>40 years	36%	145	43%	63		REF	54%	79		REF	33%	48		REF
Primary Language														
English	46%	185	80%	148	<0.001	3.48 (2.22, 5.45)	92%	171	<0.001	6.28 (3.40, 11.60)	71%	132	<0.001	4.04 (2.65, 6.16)
Spanish or Other	54%	215	53%	115		REF	66%	142		REF	38%	82		REF
Educational Attainment														
≤ High School	64%	255	52%	133	<0.001	0.13 (0.07, 0.23)	68%	174	<0.001	0.09 (0.04, 0.22)	36%	92	<0.001	0.11 (0.06, 0.18)
> High School	36%	145	90%	130		REF	96%	139		REF	84%	122		REF
Annual Family income														
<\$10,000	40%	160	53%	84	<0.001	0.38 (0.25, 0.58)	69%	110	<0.001	0.40 (0.25, 0.65)	34%	54	<0.001	0.26 (0.17, 0.39)
≥\$10,000	60%	240	75%	179		REF	85%	203		REF	67%	160		REF
Patient Characteristic	Total		Online Shopping				Email Account				Smartphone Access			
	%	(n)	%	(n)	p value	AOR (95% CI)	%	(n)	p value	AOR (95% CI)	%	(n)	p value	AOR (95% CI)
All														
Age (yr)														
≤40 years	64%	255	64%	164	<0.001	5.08 (3.24, 7.96)	81%	207	<0.001	6.67 (4.21, 10.52)	85%	218	<0.001	7.46 (4.62, 12.03)
>40 years	36%	145	26%	38		REF	39%	57		REF	44%	64		REF
Primary Language														
English	46%	185	70%	130	<0.001	4.69 (3.07, 7.17)	86%	160	<0.001	6.83 (4.15, 11.25)	83%	153	<0.001	3.19 (2.00, 5.09)
Spanish or Other	54%	215	33%	72		REF	48%	104		REF	60%	129		REF
Educational Attainment														
≤ High School	64%	255	36%	91	<0.001	0.17 (0.11, 0.27)	51%	129	<0.001	0.08 (0.04, 0.15)	61%	156	<0.001	0.24 (0.14, 0.41)
> High School	36%	145	77%	111		REF	93%	135		REF	87%	126		REF
Annual Family income														
<\$10,000	40%	160	38%	61	<0.001	0.43 (0.29, 0.65)	51%	82	<0.001	0.34 (0.22, 0.51)	58%	93	<0.001	0.38 (0.24, 0.58)
≥\$10,000	60%	240	59%	141		REF	76%	182		REF	79%	189		REF



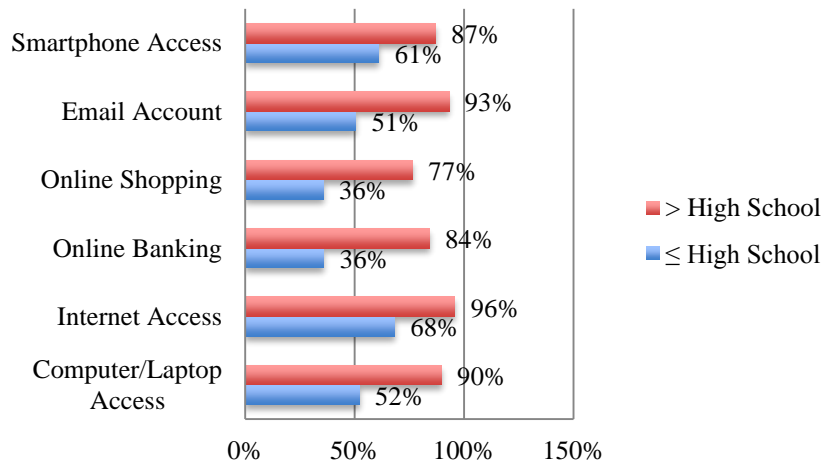
**Figure 1: Patient Technology Access & Literacy (Age)**



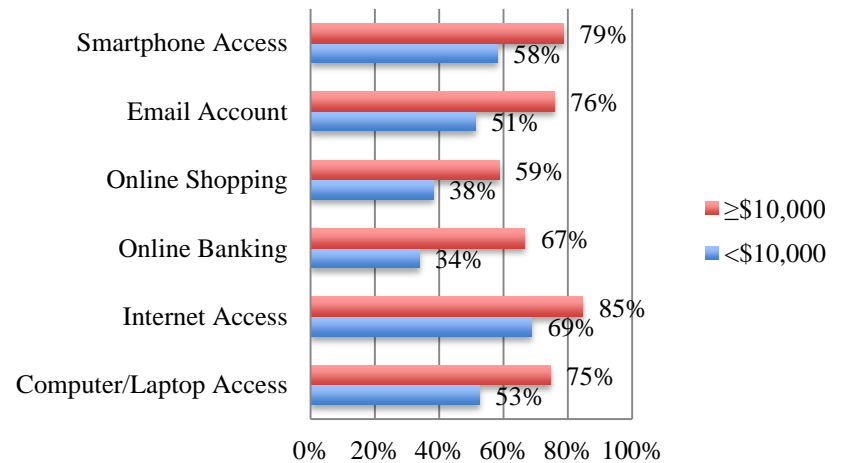
**Figure 2: Patient Technology Access & Literacy (Primary Language)**



**Figure 3: Patient Technology Access & Literacy (Education Level)**



**Figure 4: Patient Technology Access & Literacy (Income Level)**



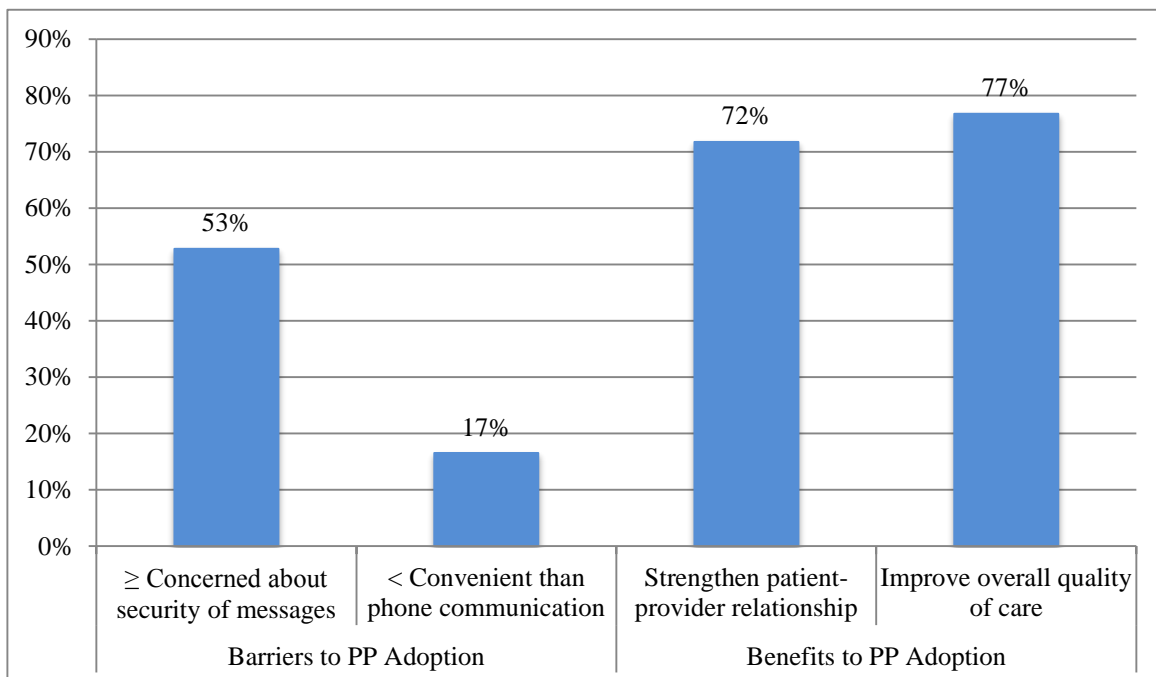
## Barriers & Benefits to PP Adoption (Figure 5)

A few barriers that were common among patients included: about half (53%) of patients reported being concerned about the security of their PP messages, but only 13% of patients believe communicating via PP is less convenient than over the phone. However, the majority of patients (72%) believe communicating with their providers via the PP will strengthen their relationship, and 77% believe it will improve the overall quality of care.

## Preferences for PP Features (Table 2)

Patients were most in favor of the following PP features: appointment scheduling (99%), secure messaging with providers (95%), and requesting copy of health record (93%). Patients were less interested in viewing educational materials (83%), viewing appointment history (81%), and paying medical bills online (73%). However, most patients (80%) believe a PP for smartphone use would be useful or very useful.

**Figure 5: Patient opinions on barriers and benefits to PP adoption (n = 400)**



**Table 2: Patient preferences for PP features (n = 400)**

	%	(n)
<b>Patient Portal Feature</b>		
Schedule appointments	99%	394
Communicate with your doctor	95%	378
Request copy of health record	93%	373
View lab results	92%	367
View immunization record	92%	366
Fill out forms prior to visit	91%	365
Request medication refills	89%	354
View educational materials	83%	332
View appointment history	81%	322
Pay medical bills online	73%	291
<b>Mobile Patient Portal</b>		
Mobile PP ≥ useful	80%	318
≥ Interested in using mobile PP	75%	301

### **Discussion**

Although a digital divide still persists in this patient population, most patients are nevertheless in favor of PP adoption, with the majority of those surveyed highlighting the benefits rather than the barriers associated with PP use. Patients recognize the practicality of PP use, and seem to be particularly in favor of PP features that provide them with more convenient alternatives to avoiding inefficiencies.

### **Recommendations**

Because more patients have access to smartphones (71.17%) than computers/laptops (64.86%), my recommendation would be that AltaMed pursue a mobile version of MyAltaMed,

as the majority of patients (82.43%) believe it would be useful, with 77.48% reporting being interested or very interested in using it. In addition, I believe that AltaMed should continue with full rollout of MyAltaMed features, as patients reported wanting to utilize various portal functionalities (92.3% communication with provider, 93.7% request copy of health record, 98.2% schedule appointments). Finally, I recommend that AltaMed increase MyAltaMed visibility through different marketing strategies aimed to familiarize patients with the various benefits associated with patient portal use.

## **CONCLUSION**

Due to the existence of a “digital divide” in this safety net population, it is important not to deepen any previously-existing social health disparities present within these communities. Patients were also in favor of the development of a mobile PP, which seems particularly well-suited for use in safety net populations due to increased access to mobile technology. As this cross-sectional investigation was conducted in conjunction with the initial deployment of the PP, further follow-up will be necessary to fully appreciate any differences in adoption rates of this bilingual English/Spanish PP.

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