COVID-19 Pandemic Accelerates Need to Improve Online Patient Engagement Practices to Enhance Patient Experience

Melanie A Meyer, PhD

Abstract
The COVID-19 pandemic has led to rapid change in health care, accelerating the use of digital health services, including telehealth. Moreover, growth in value-based care has compelled consumers to become more engaged in care processes. It has also provided opportunities to enhance patient experiences by increasing patients’ access to online health information and services. This study assessed online patient engagement practices for 6 common patient touchpoints by reviewing the websites of the top 32 hospitals, including the top 10 children’s hospitals. The great majority of these hospitals provided some information related to these patient touchpoints. However, the scope and extent of task automation varied significantly and many options were not convenient. Based on this study, it is clear that patient experience can be enhanced by improving online patient engagement, particularly during the current global pandemic.

Keywords
patient experience, patient engagement, digital health, telehealth, COVID-19, online bill pay, medical record request, price transparency

Introduction
During this time of shelter-in-place and quarantine, an acceleration of digitally accessed health care has occurred because of the need to shift to more online health care services from traditional office visits and the like. Consequently, an exponential growth in telehealth services across health systems (1,2) and specialty areas (3) has occurred. At the same time, growth in value-based care (ie, a care model to achieve better health outcomes at a lower cost) (4) has compelled consumers to increase their own engagement in care processes (5). To succeed in value-based care programs, health care providers must meet consumer needs and expectations. Patient experience has thus become a top priority for health care leaders. Moreover, hospitals that achieve better patient experience scores are being financially rewarded by payors.

Patient experience consists of all interactions across the care continuum that influence patient perceptions (6). Studies have shown that patient experience includes many touchpoints (eg, a continuum of interactions, also referred to as the patient journey) that have various degrees of value provided (6). The patient touchpoints—both to access health information and to support care processes—provide rich opportunities to enhance patient experiences. For example, having online access to information provides easy and more convenient options that can help patients better engage in the health care process, and in so doing, improve health outcomes. Thus, there is a compelling case to be made for adapting health care practices to enable active patient engagement, while ensuring online patient interactions provide a positive patient experience.

Background
The shift to value-based care has highlighted the important role that patients have in managing their own health including understanding and acting on health information. Engaged patients seek the greatest benefit from the health care services available to them (7). The Engagement Behavior Framework presents a list of behaviors that individuals must perform to benefit from their healthcare; for example, organizing health care by making appointments, evaluating treatment options, accessing a summary of medical history or medical records, paying for health

1 University of Massachusetts, Lowell, MA, USA

Corresponding Author:
Melanie A Meyer, University of Massachusetts, Lowell, MA 01854, USA. Email: melanie_meyer@uml.edu
Patients can engage with health care organizations and providers directly onsite at care facilities, through online portals, via telephone, and through health care organization websites and applications. As patients engage in health care services, they desire convenience. In a recent survey, over half of the patients contacted stated that convenient, easy access to care was the most important factor to them—even more so than care quality (8). Additionally, previous research has shown that consumers are more likely to choose service providers that enable them to select where, when, and how they interact through their preferred channel combinations (9). Convenience is represented in 3 ways: location, access, and efficiency (10). Providing convenience and choice are therefore primary for assuring a patient’s positive experience.

Health care reform, higher deductible health plans, and new payment models have increased patient responsibility for payments. These increased costs to consumers have resulted in greater demand for transparency in health care costs (5). However, cost information is not always readily available and pricing in health care is not transparent. Survey results have shown that patients often have negative experiences during their hospital visits due to lack of price transparency (11). To address this issue, broad practices for achieving hospital transparency were outlined by the Executive Order on Improving Price and Quality Transparency in American Healthcare to put patients first (12). Related rules from the Center for Medicare & Medicaid Services (CMS) have sought to require practices by health care providers and payers that provide this transparency (13). The CMS rule, in particular, required hospitals to publicly post standard charges for all services on the Internet, in machine readable format as of January 1, 2019. Additionally, a new final rule, effective January 1, 2021, will require hospitals to provide on their websites, in a consumer-friendly manner, a list of the maximum negotiated charges for 300 shoppable services (14). Recent regulations related to the 21st Century Cures Act have also emphasized the importance of providing cost and outcome transparency to patients as well as making health data and medical records more accessible (15).

Now, the current pandemic has accelerated the need for virtual access to services and shifted more processes online as individuals seek safe and convenient access to care (2,16). A recent survey of 2000 US adults found that nearly 75% of respondents would consider using telehealth for remote COVID-19 screening if available and affordable (17). Given the rapid spread of the virus, health systems have utilized telemedicine to screen patients in order to direct them to the best care venue, thereby minimizing emergency department traffic. In some cases, automated online applications (eg, bots) are used to refer higher risk patients to nurse triage lines or on-demand providers for more detailed assessment, providing convenience for the patient but also maximizing limited clinical staff resource (18). Past surveys have noted that those who use telehealth services report high satisfaction with the experience based on 4 factors: customer service, consultation, enrollment, and billing and payment (19). Thus, access to telehealth services and online screening tools have become a new way to enhance patient experience.

### Research Questions

Although research has been conducted on the benefits of patient engagement and positive patient experience, very little research has focused specifically on the extent to which health care organizations are embracing online strategies to support these efforts. Improving online patient engagement has the potential to enhance patient experience, particularly, during the current global pandemic. Therefore, the purpose of this research was to assess the extent to which health care organizations are embracing online strategies to facilitate patient engagement and how common patient touchpoints may support a positive patient experience.

This study was guided by the following research questions:

- To what extent are health care organizations facilitating patient engagement through their websites and online applications?
- How do common online patient touchpoints (eg, service pricing, cost estimates, bill pay, appointment scheduling, medical records requests, telehealth access) support patient experience?

### Methods

To assess online patient engagement practices, a descriptive research design was used. A convenience sample of organization websites for the top 20 hospitals and top 10 children’s hospitals for 2019 to 2020 (20) were reviewed during April 1-12, 2020. A total of 32 organizations were included as each list included 2 cases of a tie. The following patient touchpoints were reviewed on each website:

- How to identify service pricing
- How to get a cost estimate
- How to pay a bill
- How to request and access medical records
- How to schedule an appointment
- How to access telehealth services.

Given the rapidly changing environment, the same websites were reviewed a second time on May 30, 2020, to see if any changes had been made with regard to how to access telehealth services.

### Results

A summary of the results by patient touchpoint is provided in Table 1. As there was no noticeable difference between the
top hospitals and the top children’s hospital sites, results are reported in the aggregate.

All hospitals reviewed had posted a charge list that included a range of fields such as service, price, and average charge. In some cases, the field names seemed to be in abbreviated format, for example, FIM DP, FIM CD, SVC CODE, Px Code. Some sites added additional or unique fields such as Billed DRG, average mean charge per stay, average charge per case, or length of stay in days. Two sites included separate files for medication charges; one of these included national drug codes. Files were mostly in Excel,.csv, or PDF format and often not easy to locate. Some sites noted that comparative pricing information was available via a state website (eg, Wisconsin, California).

More than half the hospitals provided some information regarding how to obtain a cost estimate on their websites; however, in most cases, the patient was required to call or email rather than being provided with direct access to an estimate. Five of 32 organizations included interactive forms on their websites which allowed a patient to input required information and receive a cost estimate directly in real time (see example in Figure 1). Four additional hospitals had an online request form where a patient could submit information, but the request form then noted that the patient would be contacted by a staff member with a cost estimate in a specified timeframe, often 24 to 48 hours.

All sites offered online bill pay though it was accessible through the organizational home page only 50% of the time. Sites varied as to whether they offered integrated statements

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**Table 1.** Summary Statistics by Patient Touchpoint.

| Patient Touchpoints                                      | Frequency | Percentage |
|----------------------------------------------------------|-----------|------------|
| How to identify service pricing                          |           |            |
| Charge list posted                                       |           |            |
| Yes                                                      | 32        | 100        |
| No                                                       | 0         | 0          |
| How to get a cost estimate                               |           |            |
| Interactive form                                         | 5         | 16         |
| Request form                                             | 4         | 13         |
| Price list                                               | 1         | 3          |
| Phone and/email only                                     | 9         | 28         |
| NA                                                       | 13        | 41         |
| How to pay a bill                                        |           |            |
| Pay bill access on home page                             |           |            |
| Yes                                                      | 16        | 50         |
| No                                                       | 16        | 50         |
| Statement format                                         |           |            |
| Integrated bill                                          | 6         | 19         |
| Not stated                                               | 19        | 59         |
| Multiple bills                                           | 6         | 19         |
| Hospital only                                            | 1         | 3          |
| Quick pay/guest access                                   |           |            |
| Yes                                                      | 28        | 88         |
| No                                                       | 4         | 13         |
| How to request/access medical records                    |           |            |
| Online request (eg, portal or form)                      |           |            |
| Yes                                                      | 10        | 31         |
| No                                                       | 22        | 69         |
| Email request                                            |           |            |
| Yes                                                      | 8         | 25         |
| No                                                       | 24        | 75         |
| Other options                                            |           |            |
| Fax & mail                                               | 27        | 84         |
| Fax                                                      | 1         | 3          |
| Mail                                                     | 3         | 9          |
| No fax or mail information available                      | 1         | 3          |
| Medical records turnaround time                           |           |            |
| 10 days or less                                          | 5         | 16         |
| 15 days or less                                          | 3         | 9          |
| 21 days or less                                          | 4         | 13         |
| 30 days or less                                          | 4         | 13         |
| Not stated                                               | 16        | 50         |
| How to schedule an appointment                           |           |            |
| Interactive form                                         |           |            |
| Yes                                                      | 2         | 6          |
| No                                                       | 30        | 94         |
| Online request form                                      |           |            |
| Yes                                                      | 22        | 69         |
| No                                                       | 10        | 31         |
| Portal access                                            |           |            |
| Yes                                                      | 28        | 88         |
| No                                                       | 4         | 13         |
| How to access telehealth services                        |           |            |
| Offers virtual/telehealth visits                         |           |            |
| Yes                                                      | 21        | 66         |
| No                                                       | 11        | 34         |
| Offers virtual urgent care                               |           |            |
| Yes                                                      | 7         | 22         |
| No                                                       | 25        | 78         |

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**Table 1.** (continued)

| Patient Touchpoints                                      | Frequency | Percentage |
|----------------------------------------------------------|-----------|------------|
| Offers virtual follow-up care only                       |           |            |
| Yes                                                      | 4         | 13         |
| No                                                       | 28        | 88         |
| Offers remote second opinion                             |           |            |
| Yes                                                      | 6         | 19         |
| No                                                       | 26        | 81         |
| Telehealth info location from home page                  |           |            |
| COVID-19 info                                            | 12        | 38         |
| Not clear from home page how to accessc                 | 7         | 22         |
| Departments & services                                   | 6         | 19         |
| Direct link                                              | 4         | 13         |
| Patients & visitors                                      | 1         | 3          |
| Locations                                                | 1         | 3          |
| Portal                                                   | 1         | 3          |
| Telehealth service availability                          |           |            |
| 24/7                                                     | 3         | 9          |
| M-F 7 AM-7 PM                                           | 1         | 3          |
| Not specified                                            | 28        | 88         |

^N = 32.  
^Four limited by specialty.  
^Found through search.
(eg, hospital and physician or all health system care sites); in most cases, whether they provided integrated statements was not apparent. Quick pay or guest pay access was available at 28 (88%) sites.

About a third of hospitals (31%) allowed patients to request their medical records online either through a portal or online form. Eight (25%) hospitals allowed patients to email a request for medical records; 27 (84%) hospitals accepted fax and mail requests. One site did not have any fax or mail information available. All hospitals noted that medical records could be accessed and downloaded through their online portal.

Response times to medical record requests, which are governed by Health Insurance Portability and Accountability Act and state regulations, varied widely. Five (16%) sites stated they would respond in 10 days or less, 4 (13%) sites specified 30 days or less, and 16 (50%) sites did not provide a turnaround time. Pricing information for record requests varied, and in many cases referenced state regulations. Some sites referenced tiered pricing based on number of pages or format (eg, paper, electronic, or microfilm) which was somewhat complicated to follow. For example, patients may not know how many pages to expect given a particular request and printing electronic health records has been known to be paper-intensive.

Online scheduling was most often available via the hospital’s portal site for current patients. Separate from a portal, 2 sites offered an interactive form to allow a patient to schedule an appointment in real time and 22 (69%) sites provided an online request form a patient could complete, after which a staff member would respond to schedule the actual appointment usually within a specified time frame (see example in Figure 2). Most hospitals offered multiple ways for patients to schedule including providing a phone number to call.

All sites offered some form of telehealth services, though the format and type of service varied. Twenty-one (66%) hospitals offered virtual visits, 7 (22%) hospitals offered urgent care, 4 (12%) hospitals offered telehealth visits for

Figure 1. Interactive cost estimate example.
follow-up care only, and 6 (19%) offered remote second opinions. Most often telehealth access was available on the hospital home page via a COVID-19 Info section, link, or popup (38%); in other cases, telehealth was listed under departments and/or services. For 7 (22%) sites, it was not clear how to access telehealth services, and this information had to be located via a search function. A small number of sites specified their hours (eg, 24/7 or M-F 7 AM to 7 PM); most did not. A few telehealth products were mentioned, including Zoom, WebEx, and Vidyo; many sites referenced using an app that patients would need to download. Costs, when stated, ranged from $20 to $126; often patients were told to contact their insurance company or provider to determine cost. Most hospitals provided resources to educate patients on telehealth services, for example, providing a frequently asked questions list or video tutorials. Notably, a few sites had innovative and/or useful COVID-19 resources available for patients, such as self-checkers or assessment tools. Other sites included graphs showing testing result trends.

Noticeable differences were made with regard to providing access to telehealth services when the same hospital websites were reviewed a second time, approximately 6 weeks later. Twenty-two organizations had made telehealth services more visible on their home pages (eg, large box, prominent link; see example in Figure 3); about one-third of these were cases where it was not previously clear how to access telehealth services. In some cases, telehealth service information was integrated in an area providing information on the organization’s current safety practices.

**Discussion**

This study assessed online patient engagement practices by reviewing the top 32 hospitals websites, including the top 10 children’s hospitals, for 6 common patient touchpoints. The great majority of these hospitals provided some information related to these 6 patient touchpoints. However, the scope of the information and the extent to which the task was automated and real time varied significantly. In many instances, patients were required to call the hospital to receive more information or to gain access to services. Consequently, the patient experience was mixed and often not convenient. This finding aligns with previous research that showed that although hospitals claim that improving customer experience is a high priority, in fact, few hospitals currently have best-in-class customer experience capabilities (21).

With respect to the cost of services, more information is available today than in the past; however, generally not in a format useable by patients. Medical coding classification systems used in the chargemaster (ie, pricing data) are often too complex—or use jargon and/or codes unknown to the patient—for patients to understand and use (22). In order to make an informed decision, patients need a cost estimate for the particular care services they are seeking in terms they can understand and with a clear explanation of what their insurance will cover (23). This cost estimate should provide the bundled price that encompasses all costs associated with the particular treatment or procedure the patient is seeking rather than providing unit pricing, which is much less helpful and understandable to patients (22). Rarely is this type of estimate available in real time. Although all hospitals
complied with current regulations, only 5 hospitals of 32 provided interactive estimates that most closely address a patient’s real-time information needs. Moreover, even if the patient is provided this bundled cost estimate, if the service is elective, patients may also need to research comparative costs.

Online payments are now commonplace; however, the online location of where to pay is not always evident, and further, not all organizations offer integrated statements.

Currently, over half of health care consumers expect online interactions vis-à-vis their health care, including bill pay; one-third of patients’ bills are now being made through mobile or online payment platforms (24). Notably, patients’ willingness to pay their medical bills is directly correlated with their having a positive experience (24).

Clearly, there is room for improvement for patients’ online payment experience. Inconsistently designed statements, particularly from different entities for the same care

Figure 3. Telehealth service access example.
episode, can be frustrating to patients (24). In addition, patient statements are often complex and paying bills confusing, significant limitations. Thus, simplifying the bill and bill pay process, including offering flexible payment options to meet patients’ needs, can improve patient experience.

Medical records are now available online via portals but often limited in scope. In a recent study, over half of patients reported being offered online access to their medical record by an insurer or health provider (25). This online access to records is immeasurably more convenient for patients than the alternative, which is making a medical record request (25). For the 32 hospitals reviewed in this study, access to an online request form was limited; the process was complicated, and the turnaround time and cost varied. Mail and fax remain the most common options for requesting medical records. Also notable is the lack of transparency around medical record request processes (26) as well as the wide variation regarding costs and confusing regulations (27). In short, it would behoove many organizations to implement greater online access to medical records and requests.

Although many patients can now schedule their appointments online, particularly existing patients, often new patients have limited online, real-time options. In fact, in this study, only 2 of the 32 hospitals offered interactive forms. In most cases, a new patient will need to complete an online form and wait for a response—or pick up the phone and call. Health care organizations committed to exceptional patient experience generally allow both existing and new patients to manage their care online. These organizations wish to ensure that processes are easy, while offering comprehensive communication strategies across multiple access points for patients (10). Clearly, improving the scheduling process by making it more convenient and accessible to patients is indicated.

Given the recent, rapid growth in telehealth services (28), health care organizations are slowly working this relatively new service into their organizations’ workflows and websites. For less savvy users, technology can be complicated, and thus, these services need to be simplified and made more accessible. At many hospitals, telehealth service availability and costs continue to be unclear.

This study had 2 limitations: First, data were collected at one point in time and as websites tend to change over time, transferability of findings is limited. Second, as a convenience sample was used, the results are not generalizable.

**Conclusion**

In light of this research, the following recommendations are offered to health care organizations:

- Take an enterprise view of the patient relationship, including all potential patient touchpoints. Patients form their perceptions of a health care organization based on all interactions, which include an increasing number of online interactions through the organization’s website and applications.
- Make completing the touchpoint tasks simple and convenient. This is best achieved by having self-service, online, real-time applications that allow the patient to complete the task at one time—versus requiring follow-up at a later date. These applications should have simple, direct language that helps guide patients to correctly completing the task. Each of the 6 common patient touchpoint tasks should be easily accessible from the organization’s home page.
- Ensure that patient touchpoint processes are timely, reliable, flexible, and personalized. Many industries now offer superior online personalized support options, thus setting expectations for consumers to have the same experience in health care.

Patients expect a simple and convenient online health care experience, even more so today given the pandemic. Therefore, to achieve longer term success, health care organizations must focus on the factors that are most important to their patients, thereby ensuring a positive patient experience.

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**ORCID iD**

Melanie A Meyer, PhD [https://orcid.org/0000-0002-1850-8473](https://orcid.org/0000-0002-1850-8473)

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Author Biography

Melanie A Meyer is an adjunct faculty member at the University of Massachusetts, Lowell, teaching in the area of health informatics. She also helps healthcare organizations better utilize technology and data to improve patient experience and deliver higher quality, more efficient care.