

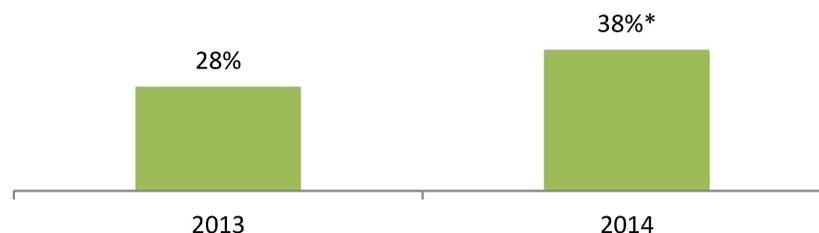
## Trends in Consumer Access and Use of Electronic Health Information

Vaishali Patel, PhD MPH, Wesley Barker, MS, Erin Siminerio, MPH

The ability of individuals to easily and securely access and use their health information electronically serves as one of the cornerstones of nationwide efforts to increase patient and family engagement, and advance person-centered health. With access to their electronic health information, individuals can serve as intermediaries of information exchange among providers and use innovative applications to better manage their health. Over the past few years, a number of policy changes have been put in place to increase individuals' access to their personal electronic health information. HIPAA was modified to clarify that if an individual's health information is available electronically, individuals have a right to obtain that information electronically (1). In Stage 2 Meaningful Use, CMS requires eligible providers and hospitals participating in the Medicare and Medicaid EHR Incentive Program to use certified EHR technology with the capability for patients to electronically view, download and transmit (VDT) their health information electronically (2,3). From 2011 to 2014, participation in the Blue Button Initiative, a public-private partnership to increase consumer access and use of their health data grew from 30 organizations to more than 650 (4,5). This brief provides national estimates of consumers' access and use of their electronic health information based upon nationally representative surveys conducted from 2012 to 2014.

### Individuals' electronic access to their medical records increased significantly in 2014.

Figure 1: Proportion of individuals who reported having been offered access to their online medical record by either a health care provider or health insurer, 2013-2014



NOTE: \*Significantly different from prior year ( $p < .05$ )

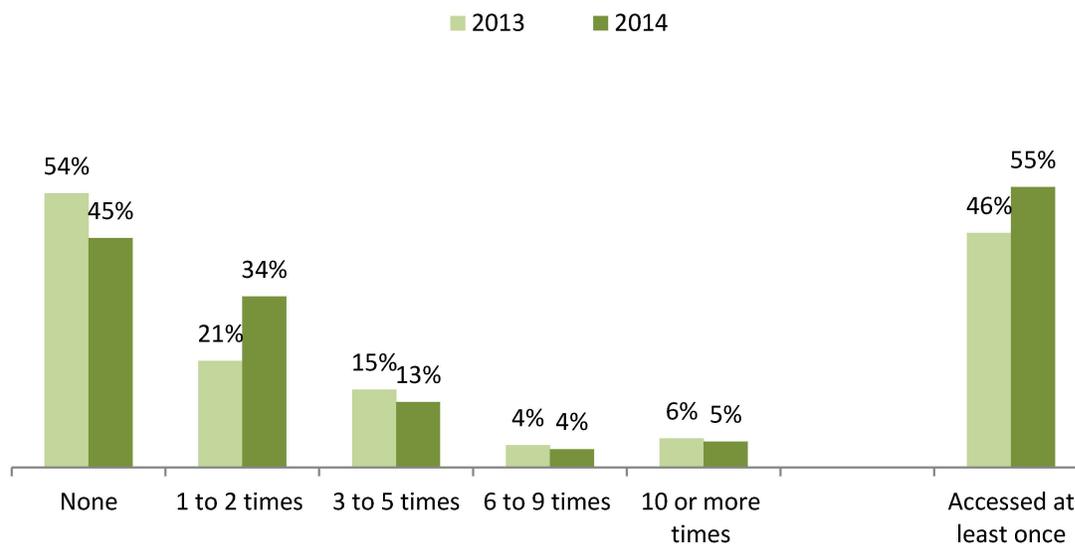
SOURCE: 2013-2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ In 2014, nearly 4 in 10 Americans were offered electronic access to their medical record.
- ★ The proportion of Americans offered online access to their medical records rose by more than a third between 2013 and 2014.



## In 2014, over half of individuals who were offered access viewed their record at least once within the last year.

Figure 2: Frequency of use among individuals offered online access to their medical record, 2013-2014.



NOTE: Not significantly different between 2013 and 2014.

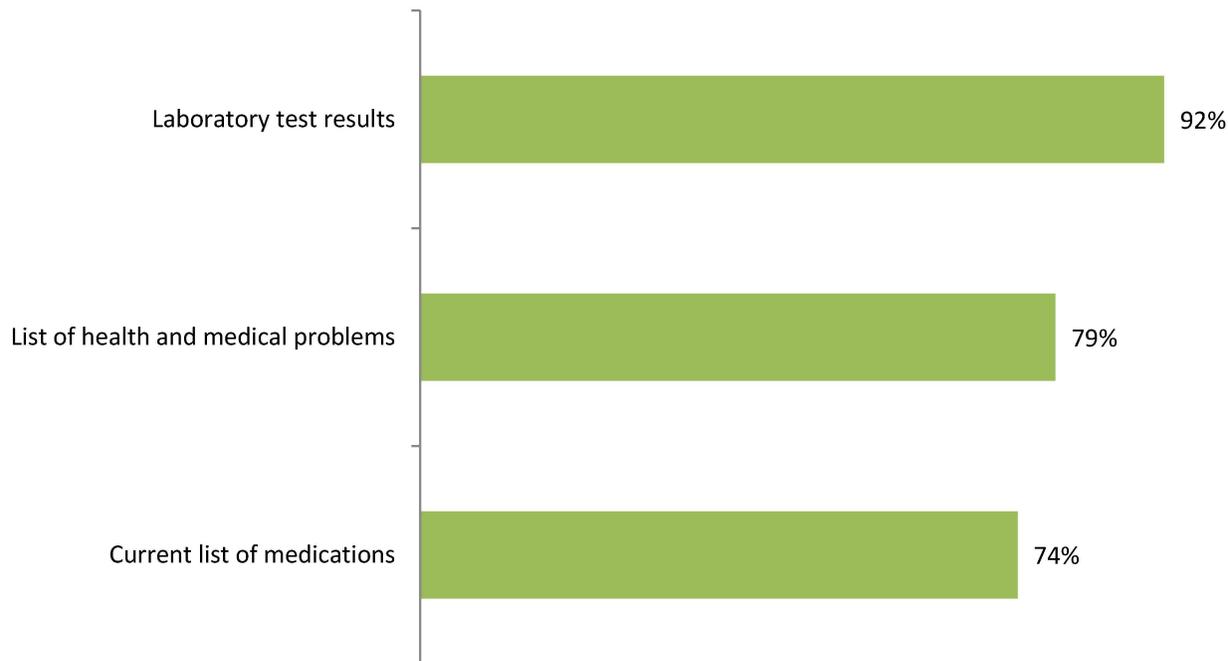
SOURCE: 2013-2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ About one-third of individuals accessed their medical record one to two times in 2014 whereas about one-fifth of individuals accessed their online record once or twice in 2013.
- ★ In both 2013 and 2014, about one in ten individuals accessed their online medical record more than 6 times over a one-year period.



## Almost all individuals report having access to laboratory results within their online medical record.

Figure 3: Among individuals who used their online medical record, proportion reporting access to three types of information within their online medical record, 2014.

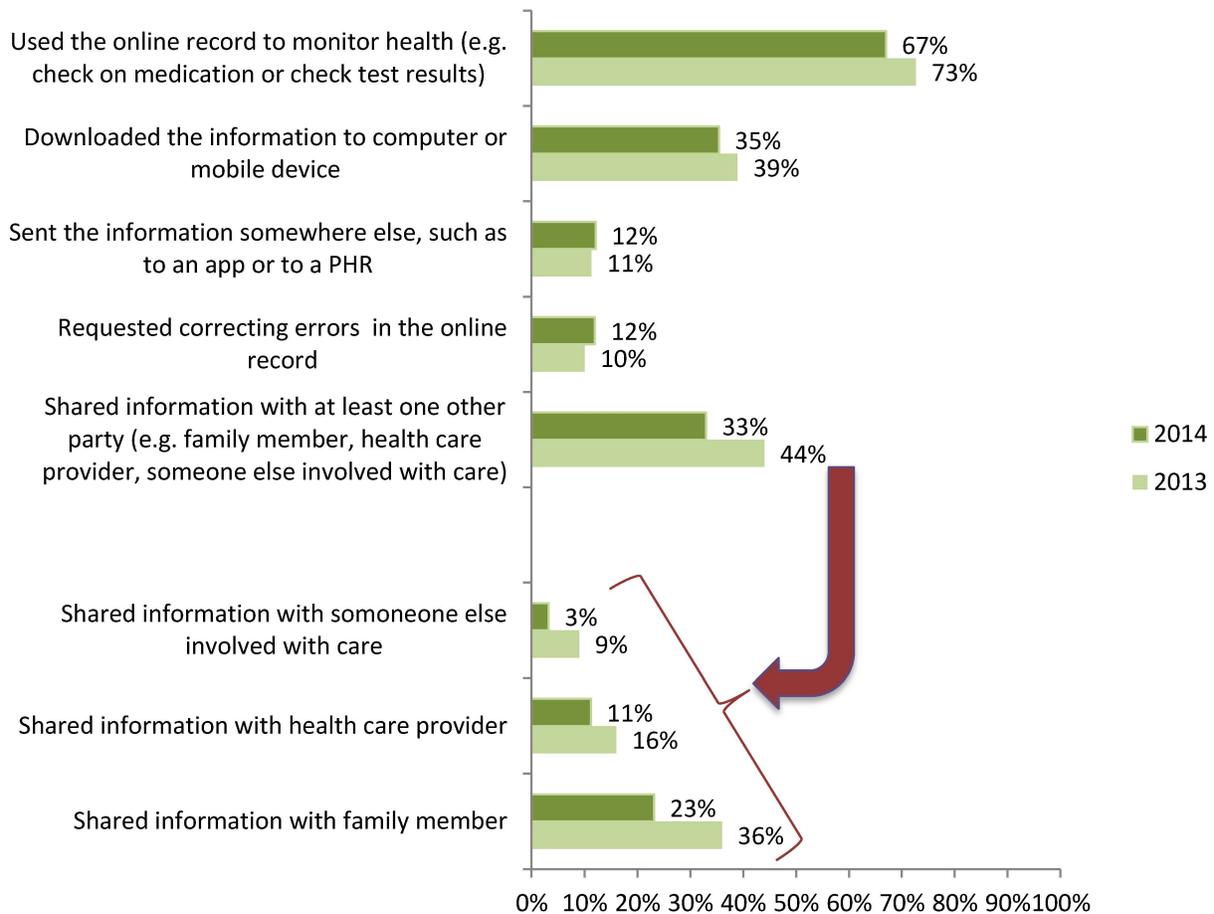


SOURCE: 2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ Among individuals using online medical records, more than 90% report having laboratory test results in their record.
- ★ Among individuals who have used an online medical record, almost 8 in 10 report having a list of health and medical problems in their online medical record.
- ★ Approximately three-quarters of individuals report having access to a current list of medications within their online medical record.

## Individuals most commonly use online medical records for monitoring health.

Figure 4: Trends in how online medical record was used among individuals who accessed their online medical record at least once, 2013-2014.



NOTE: No significant differences between estimates in 2013 and 2014.

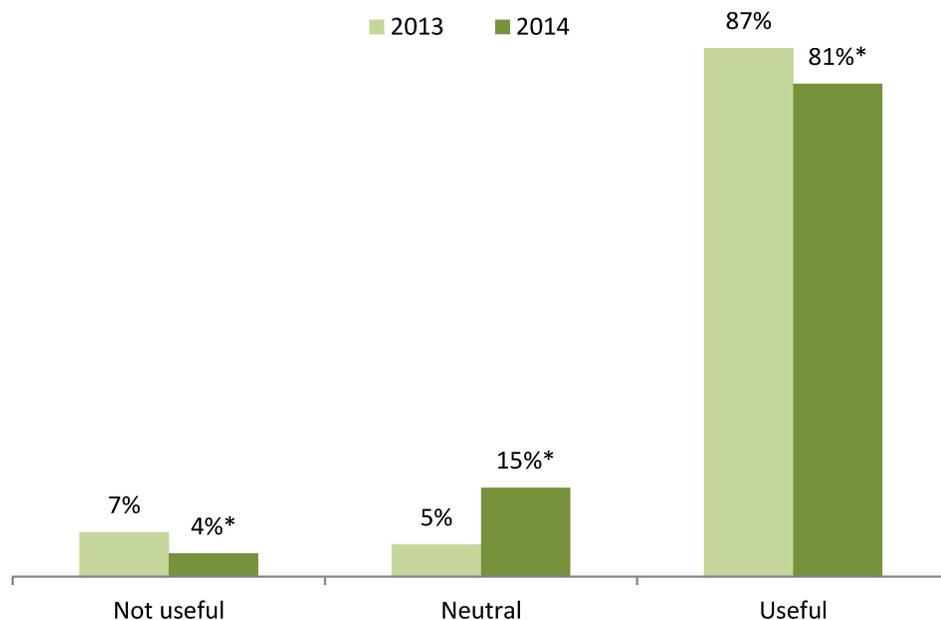
SOURCE: 2013-2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ In both 2013 and 2014, about seven in ten individuals who accessed their online medical record, used it to monitor their health.
- ★ Approximately one-third of individuals downloaded information from their online medical record in 2014; rates of downloading were similar in 2013.
- ★ Rates of sharing information with at least one other individual or party decreased between 2013 and 2014; however, these decreases were not significant.
- ★ In both 2013 and 2014, about one in ten individuals used their online medical records to correct medical records.
- ★ In both 2013 and 2014 about one in ten individuals used their online medical records to transmit their data to somewhere else, such as a PHR or app.



## In 2014, 8 in 10 individuals who accessed their medical record online considered the information useful.

Figure 5: Usefulness of information within online medical record reported by individuals who used their online medical record at least once within the past year, 2013-2014.



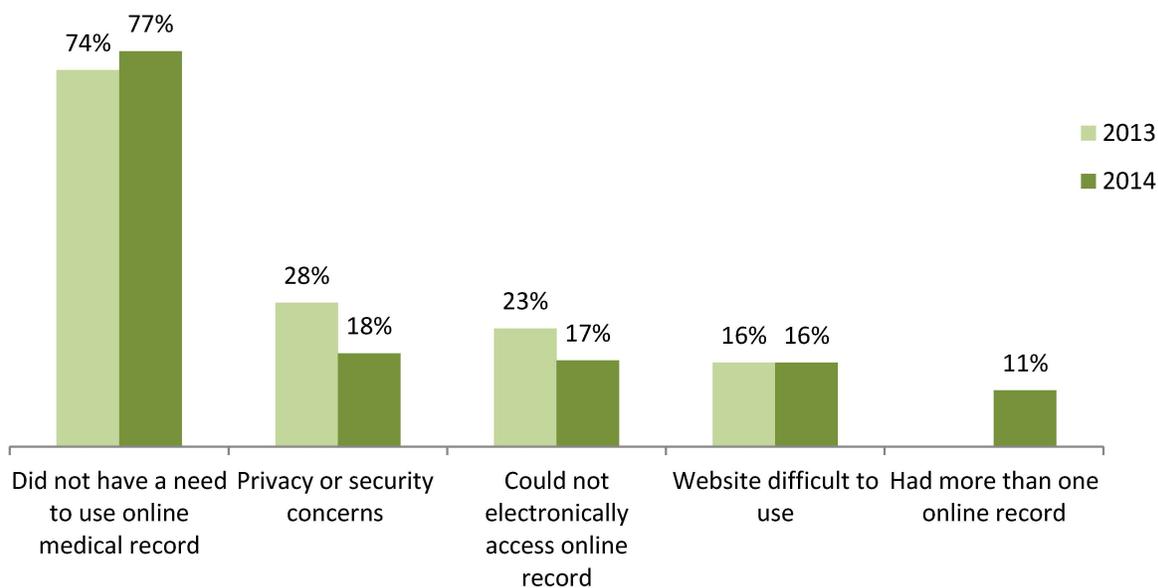
NOTE: \*Significantly different from prior year ( $p < .05$ ). Not useful includes not at all useful or not very useful; Useful includes somewhat or very useful. Number of respondents ranged from 384 (2013) to 474 (2014).  
SOURCE: 2013-2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ In 2014, fewer than 5% of individuals who had used an online medical record within the last year considered it ‘not useful.’
- ★ Between 2013 and 2014, there was a significant increase in the proportion of individuals who were neutral about the usefulness of their online medical record.
- ★ The proportion of individuals who considered their online medical records as ‘not useful’ and as ‘useful’ significantly declined between 2013 and 2014.



## Lack of need remains the top reason for not accessing an online medical record.

Figure 6: Reasons for not accessing online medical record cited by those who did not access their online medical record, 2013-2014.



NOTE: 2013 survey didn't include item regarding whether "had more than one online record" was a reason for not accessing online medical record. Respondents could select more than one reason for not accessing their online medical record (check all that apply). No significant differences between estimates in 2013 and 2014.

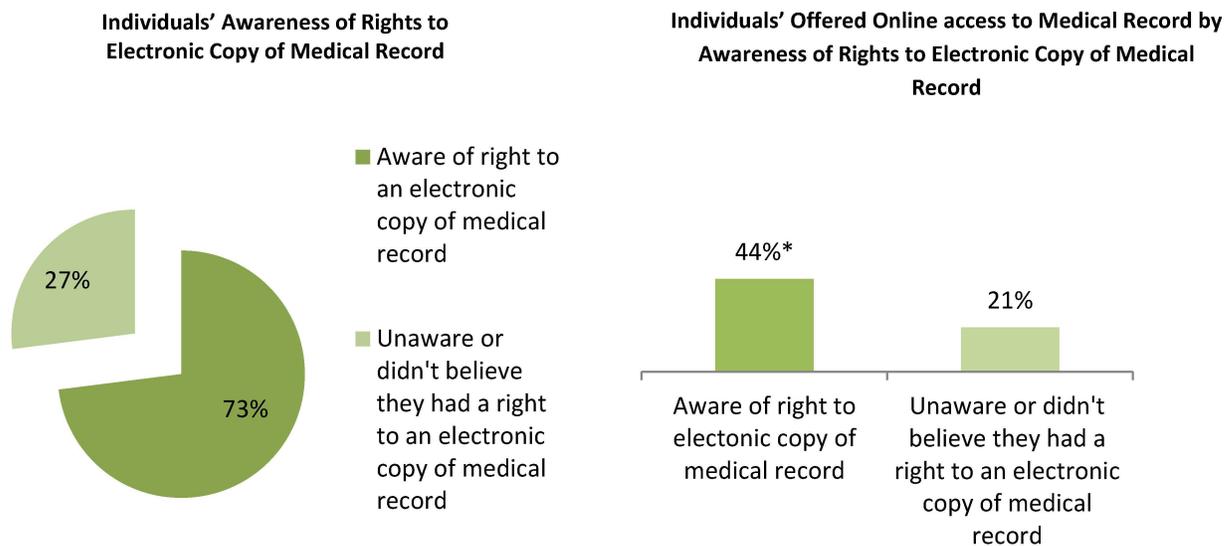
SOURCE: 2013-2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ In both 2013 and 2014, about three-quarters of individuals who did not access their online medical record indicated they didn't access it because that they did not have a need to use it.
- ★ About one in ten individuals who did not access their online medical record indicated it was because they had more than one online record.
- ★ Although not a statistically significant difference, fewer individuals noted privacy or security concerns in 2014 as a reason for not accessing their online medical record compared to 2013.



## Over one-quarter of individuals either didn't believe they had a right or were unaware of their right to an electronic copy of their medical record.

Figure 7: Percentage of Individuals aware of their right to an electronic copy of their medical record, and rates of online access to medical record by level of awareness, 2014.



Notes: \*Significantly different compared to reference category ( $p < 0.001$ ). Among 27% of individuals who are not aware, 19% indicated they didn't know whether existing laws provided them right to get an electronic copy of your medical record, and 8% incorrectly believed laws did not provide them with access.

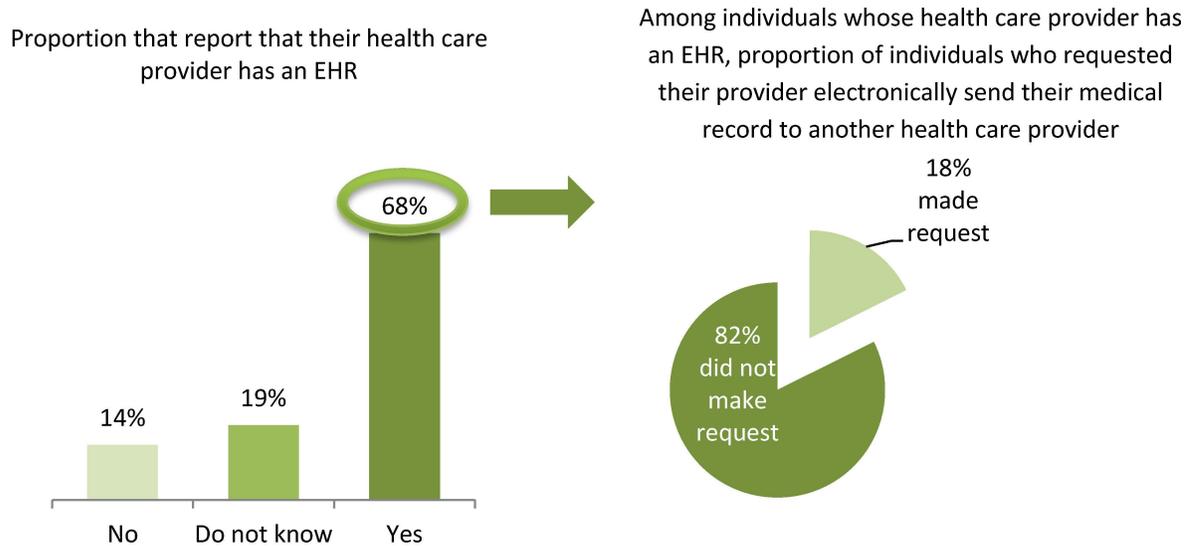
SOURCE: 2013-2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ Almost three-quarters of individuals of individuals were aware of their right to access their medical record electronically.
- ★ Individuals who were aware of their right to access their medical record electronically were offered online access to their medical record by their health insurer or health care provider at significantly higher rates compared to individuals who were not aware or did not believe they had a right to an electronic copy of their medical record were offered online access.



## In 2014, almost one-in-five individuals whose health care provider had an EHR requested their health care provider electronically exchange their medical record.

Figure 8: Among individuals whose provider has an EHR, proportion of individuals who requested that their health care provider electronically send their medical record to other health care providers, 2014



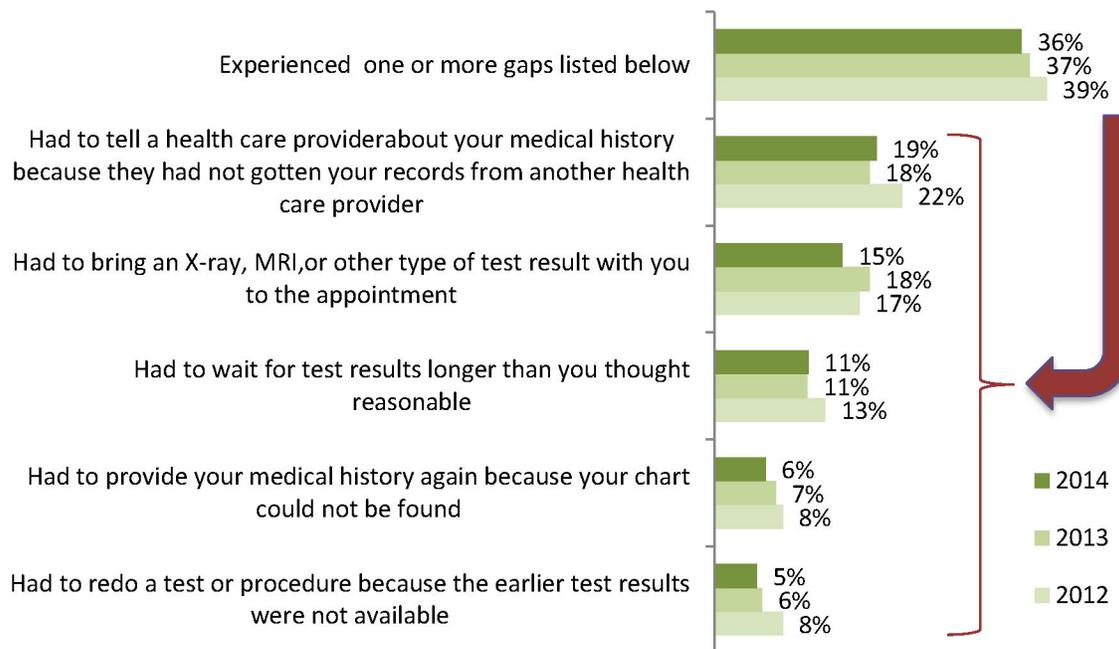
SOURCE: 2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ Over two-thirds of individuals report their health care provider has an EHR.
- ★ Across all individuals nationwide, regardless of whether their provider has an EHR or not, over one-in-ten individuals (12%) requested their health care provider electronically send their medical record to another health care provider.



## Among individuals who visited a health care provider within the past year, over one-third experienced at least one gap in information exchange in 2014.

Figure 9: Among individuals who visited a health care provider within the last year, proportion of individuals who experienced one or more gaps in health information among their providers or between themselves and their providers when seeking care for a medical problem, 2012-2014.



NOTE: No significant differences between estimates in 2013 and 2014.  
SOURCE: 2012-2014 Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange

- ★ Although there was a decline in the proportion of individuals who experienced at least one gap in information exchange between 2012 and 2014, these do not represent significant changes.
- ★ Having to recount one's medical history because the health care provider did not receive records from another health care provider is consistently the most common gap in information exchange experienced by individuals between 2012 and 2014.
- ★ Other common gaps in information exchange that remain issues in 2014 relate to test results; this includes having to bring test results with you to an appointment (15%) and having to wait for test results longer than you thought reasonable (11%).



## Summary

Over the past several years there have been a number of initiatives, policies and regulations designed to increase individuals' electronic access to their health information that are connected to the broader goals of increasing patient engagement and improving health (1-5). Since 2012, individuals' electronic access to their medical record has increased significantly, from 28% of individuals being offered online access to their medical record in 2013 to 38% in 2014.

This increase in individuals' electronic access to their medical record may reflect significant growth in office-based physicians' and hospitals' VDT capabilities (6, 7). As of 2014, almost half of office-based physicians and over 6-in-10 hospitals possessed these VDT capabilities. This represents significant increases from 2013, before the start of Stage 2 of Meaningful Use (2,3). Although there has been some concern expressed that individuals' receipt of multiple online medical records or portals may dampen individuals' usage, these results show that few individuals endorsed this as a reason for not accessing their online medical record.

Furthermore, these results indicate that over half of individuals are taking advantage of their online medical record and most individuals who use their online medical record value the information. Individuals are using online medical records to better manage their health and health care needs. Monitoring health was consistently the most common use of online medical records. Individuals who reported accessing their online record, reported high rates of access to information that enabled monitoring, such as their list of medications, medical or health problems, and laboratory test results. In both 2013 and 2014, at least 8 in 10 individuals who had accessed their online medical record considered the information provided as very or somewhat useful, and in 2014, less than 5% of individuals did not consider it useful.

Although gaps in health information exchange remain persistent, these findings show that individuals are engaging in activities to help address these gaps. In 2014, over one-third of individuals who visited a health care provider in the last year experienced at least one gap in information exchange among their health care providers or between themselves and their health care provider. The most frequent gaps in information exchange related to health care providers not sharing medical records and test results. Individuals are beginning to use their online medical record to address potential gaps in interoperability among providers by directly sharing information with other health care providers or making requests of health care providers to send information to another provider on their behalf. Among individuals who did access their online medical record, 11% shared their electronic health information with a health care provider and 12% transmitted their health information to a PHR or app. Additionally, among individuals whose provider had an EHR, almost one in five individuals requested their health care provider electronically transmit their health information to another health care provider.

There is a significant opportunity for consumer outreach to increase individuals' awareness regarding electronic access and use of online medical records. Individuals' who were aware of their right to a copy of their electronic medical record had significantly higher rates of being offered online access compared to those who were unaware or incorrectly believed they didn't have this right. A lack of need remains the most frequently cited reason for not accessing an online medical record. Illustrating the value of using an online medical record to manage one's health and address information gaps among providers could increase usage among those individuals who cited a lack of need as a reason for not accessing an online medical record.



## Definitions

**Online medical record:** The survey defined this as: “Some patients can access information from their medical records online—that is, through the Internet—on secure websites set up for this purpose. By going to the secure website, patients can view parts of their own medical record, download the information, or send it somewhere else.”

**Gap in health information exchange:** Individuals who experienced one or more of the following gaps within the last year when seeing a healthcare provider: (1) Had to bring an X-ray, MRI, or other type of test result with you to the appointment; (2) Had to wait for test results longer than you thought reasonable?; (3) Had to redo a test or procedure because the earlier test results were not available?; (4) Had to provide your medical history again because your chart could not be found?; (5) Had to tell a health care provider about your medical history because they had not gotten your records from another health care provider?

## Data Source and Methods

Data are from The Office of the National Coordinator for Health Information Technology’s (ONC) Consumer Survey of Attitudes Toward the Privacy and Security Aspects of Electronic Health Records and Health Information Exchange. The survey was conducted by NORC at the University of Chicago with MITRE.

The respondent universe for the survey was the civilian, non-institutionalized population ages 18 years old and older within the 50 states and the District of Columbia. This survey utilized a dual random digit dialing (RDD) frame of landline phone numbers and wireless/mobile phone numbers developed by Survey Sampling International (SSI). In order to reduce sampling variability and to represent the nation, NORC stratified the landline RDD frame by Census Region. The 2013 survey oversampled Hispanic, Asian and Black populations. From each household with a selected phone number in a given frame only one adult was selected to complete the telephone interview. The survey utilized the last-birthday respondent-selection method, asking for the eligible person (adult at least 18 years old) within the sampling unit (i.e., household) who had the most recent birthday or would have the next birthday. This method provided a true within-unit probability sample without intrusive or burdensome screening of eligible persons in the household and ensured maximum respondent anonymity, as no identifying information was collected. A total of 2,123 surveys were completed, with an interview completion rate of 70% and an unweighted response rate of 28% (calculated based upon the Council of American Survey Research Organizations method). Data presented in this data brief are weighted national estimates.



Appendix Table A1. Selected Items used for this analysis, 2014

Question Text	Response Options
1. In the past 12 months, when getting for a medical problem, was there a time when you...	
a. Had to bring an X-ray, MRI, or other type of test result with you to the appointment?	YES/NO
b. Had to wait for test results longer than you thought reasonable?	YES/NO
c. Had to redo a test or procedure because the earlier test results were not available?	YES/NO
d. Had to provide your medical history again because your chart could not be found?	YES/NO
e. Had to tell a health care provider about your medical history because they had not gotten your records from another health care provider?	YES/NO
2. Have any of your health care providers or health insurers ever informed you that you could access your health information from your medical record through a secure website?	YES/NO
3. Were you offered access to your online medical record...?	
a. By your health care provider?	YES/NO
b. By your health insurer?	YES/NO
4. How many times did you access your online medical record through the website over the last 12 months?	1–2 times 3–5 times 6–9 times More than 10 times None
5. I would like to learn more about why you have not accessed your online medical records through the website. Was it because...	
a. You do not have a way to access the website?	YES/NO
b. You did not have a need to use your online medical record?	YES/NO
c. The website was difficult to use?	YES/NO
d. You were concerned about privacy or security of the website that had your medical records?	YES/NO
e. You had more than one online medical record?	YES/NO
6. What types of information are in your online medical record?	
a. Laboratory test results	YES/NO
b. Current list of medication	
c. List of Health/medical problems	
7. How did you use the medical record that you accessed through the website?	
a. Did you download the information to your computer or mobile device, such as a cell phone or tablet?	YES/NO
b. Did you send the information somewhere else, such as to an app on a mobile device or to a personal health record? A personal health record, or PHR, is an electronic application that allows you to access, enter, and manage some of your health information.	YES/NO
c. Did you share it with another health care provider treating you?	YES/NO
d. Did you share it with a family member or someone else involved with your health care?	YES/NO
e. Did you ask your health care provider to correct any errors you found in the online record?	YES/NO
f. Did you use the online record to monitor your health, for example by using it to check on a medication or to check the date of a test result?	YES/NO
8. How useful did you find the information that you accessed online, on a scale of 0 to 10, with 0 being not at all useful and 10 being very useful?	Lkert Scale, 0-10
9. As far as you know, do any of your health care providers maintain your medical record in an electronic system?	YES/NO/DO NOT KNOW
a. [IF YES] Within the last 12 months, have you requested that your medical record be sent electronically to another health care provider? Electronic does not include telephone, mail or fax.	YES/NO
10. As far as you know, under existing laws do you have the right to get an electronic copy of your medical record?	YES/NO/DO NOT KNOW



## References

1. Department of Health & Human Services. New rule protects patient privacy, secures health information. <http://www.hhs.gov/news/press/2013pres/01/20130117b.html>
2. Department of Health & Human Services Centers for Medicare and Medicaid Services (2014). Eligible Professional Meaningful Use Core Measures Measure 7 of 17 Stage 2. Retrieved from [http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/Stage2\\_EPCore\\_7\\_PatientElectronicAccess.pdf](http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/downloads/Stage2_EPCore_7_PatientElectronicAccess.pdf).
3. Federal Register. vol 77 no 171. <http://www.gpo.gov/fdsys/pkg/FR-2012-09-04/pdf/2012-21050.pdf>
4. Department of Health and Human Services. Office of the National Coordinator for Health IT. Your Records: About Blue Button. Retrieved from <http://www.healthit.gov/patients-families/blue-button/about-blue-button>
5. Department of Health and Human Services. Office of the National Coordinator for Health IT. Leading Pharmacies and Retailers Join Blue Button Initiative. Retrieved from <http://www.healthit.gov/buzz-blog/consumer/leading-pharmacies-retailers-join-blue-button-initiative/>
6. Heisey-Grove D. & Patel V. (September 2015) Physician electronic exchange of patient health information, 2014. *ONC Data Brief, no. 31*. Office of the National Coordinator for Health Information Technology: Washington DC.
7. Charles D. Gabriel M. & Henry J. .Electronic Capabilities for Patient Engagement among U.S. Non-Federal Acute Care Hospitals: 2012-2014. *ONC Data Brief, no. 29*. Office of the National Coordinator for Health Information Technology: Washington DC.



### **About the Authors**

The authors are with the Office of the National Coordinator for Health Information Technology, Office of Planning, Evaluation, and Analysis and the Office of Consumer e-Health.

### **Acknowledgements**

MITRE and NORC at the University of Chicago contributed to the development of the survey instrument, survey administration, and data analysis. Jason Rothstein contributed to the text.

### **Suggested Citation**

Patel V., Barker W. & Siminerio E. (October 2015). Trends in Consumer Access and Use of Electronic Health. ONC Data Brief, no.30. Office of the National Coordinator for Health Information Technology: Washington DC.