Survey of Texas Physicians
2018

Electronic Health Records Research Findings
# Table of Contents

Executive Summary ................................................................................................................. 3

  EHR Status (June Question 1) ............................................................................................... 4

Physicians With No Plans for Implementing an EHR ................................................................. 4
  Reasons for Not Implementing an EHR (June Question 2) .................................................... 4

................................................................................................................................................. 5

Physicians With No Plans for Implementing an EHR ................................................................. 5
  Reasons for Not Implementing an EHR (June Question 2) .................................................... 5
  Incentives to Implement an EHR (June Question 3) ............................................................. 6

Physicians Who Want to Implement or Plan to Implement an EHR ......................................... 6
  Time Until EHR Implementation (June Questions 5-6) ......................................................... 6

Non-EHR Users – Other Technology Used .............................................................................. 8
  Other Technology in Practice (June Questions 4 and 7) ....................................................... 8

Practices Who Currently Use an EHR ..................................................................................... 8
  Use of More Than One EHR (June Questions 8-9) ............................................................... 8
  EHR Performance (June Questions 10-11) ........................................................................... 8
  HIE Participation (June Questions 12-14) ........................................................................... 9

E-Prescribing of Controlled Substances .................................................................................. 11
  Usage of EPCS (June Question 15) ..................................................................................... 11
  EPCS Technology (June Question 16) .................................................................................. 11
  Reasons for Not Using EPCS (June Question 17) ............................................................... 12
  EHR System (June Question 18) ......................................................................................... 12
  EHR Satisfaction (June Question 19) ................................................................................... 13
  EHR Data Entry (June Question 20) ................................................................................... 14
  EHR Impact on Care Quality (June Questions 21-24) ............................................................. 15
  Cyber Security (June Questions 25-27) ............................................................................... 17
  Cyber Liability Coverage (June Question 28) ....................................................................... 17
  EHR Disruption to Patient Care (June Question 29) ............................................................. 17
  Population Health Tools (June Questions 30-31) ................................................................. 19
  EHR Functions (June Question 32) ..................................................................................... 19
  Patient Portals (June Question 33) ..................................................................................... 20
  EHR and Billing (June Question 34) .................................................................................... 21
  EHR and Tracking Quality Program Data (June Question 35) ................................................. 21
Executive Summary

Every two years, the Texas Medical Association conducts a survey of Texas physicians to identify emerging issues, track the impact of practice and economic changes, assess physician priorities, and develop data to support TMA advocacy efforts. Health information technology, such as electronic health records, e-prescribing, and health information exchange, has the potential to improve patient quality of care. TMA’s goal is to help ensure HIT has a positive impact on physicians, patients, and practices by enhancing quality of care, patient safety, and practice viability. The current questions served as a benchmark of physician needs and experiences with EHRs. They are especially important as TMA tailors services and resources to help physicians use EHRs safely and in a way that improves patient outcomes and physician workflow.

The following results are based on an email survey conducted in June of 2018. Not all questions were answered by all respondents due to the survey design and skip patterns. The survey included a mix of closed-ended response items, Likert Scale, and open-ended response items. Many of the questions were structured for multiple choice or nominal scale responses. Approximately 44,364 Texas physicians and residents with email addresses in the TMA database were emailed a personalized link to the survey. By the end of the full survey period, responses were received from 1,274 Texas physicians and residents regarding their use of and experience with electronic health records.
EHR Status (June Question 1)
2018 saw an increase in the percentage of physicians using an EHR (85 percent). This has offset the decrease in physicians who reported they want to implement an EHR (3 percent) or those who do not plan to implement an EHR (12 percent).

### EHR Status

![EHR Status Chart](chart.png)

- We currently use an EHR.
- We want to implement or plan to implement an EHR.
- We do not plan to implement an EHR.

Physicians With No Plans for Implementing an EHR

Reasons for Not Implementing an EHR (June Question 2)
Within the 12 percent of Texas physicians who do not use EHR, 67 percent were most likely to report implementation is cost-prohibitive.
Physicians With No Plans for Implementing an EHR

Reasons for Not Implementing an EHR (June Question 2)
Within the 12 percent of Texas physicians who do not use EHR, 67 percent were most likely to report implementation is cost-prohibitive.
Twenty-six percent of physicians listed “other” as the reason why they were not planning to implement an EHR. Those selecting this option primarily stated it interfered with the patient-physician relationship and took too much time.

**Incentives to Implement an EHR (June Question 3)**
Physicians reported they would be more likely to implement an EHR if they saw evidence it improved the quality of patient care (53 percent) or improved practice operations (47 percent). This is an increase over 2016.

**Physicians Who Want to Implement or Plan to Implement an EHR**

**Time Until EHR Implementation (June Questions 5-6)**
Within the 3 percent of practices that want to or plan to implement an EHR, almost half anticipate doing so within six months.
A majority of physicians continue to report assistance with optimizing new system efficiency and effectiveness would be a helpful service for those planning to implement EHR (64 percent).

Helpful Service for Practices Who Want to or Plan to Implement an EHR (check all that apply)

<table>
<thead>
<tr>
<th>Service</th>
<th>2018</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>A process to screen vendors</td>
<td>36%</td>
<td>37%</td>
</tr>
<tr>
<td>Financial assistance</td>
<td>39%</td>
<td>28%</td>
</tr>
<tr>
<td>Suggestions of appropriate and effective EHR products</td>
<td>39%</td>
<td>47%</td>
</tr>
<tr>
<td>Analysis of purchase and implementation costs</td>
<td>46%</td>
<td>38%</td>
</tr>
<tr>
<td>Assistance with optimizing new system efficiency and effectiveness</td>
<td>64%</td>
<td>54%</td>
</tr>
</tbody>
</table>
Non-EHR Users – Other Technology Used

Other Technology in Practice (June Questions 4 and 7)
The minority of physicians who either have no plans to implement EHR in their practice or plan to implement in the future were asked if they use other technology in their practice. A majority of these physicians (52 percent) reported they use electronic claims processing.

Practices Who Currently Use an EHR

Use of More Than One EHR (June Questions 8-9)
When asked how many times they changed EHRs in the past two years, 12 percent of physicians stated they changed EHRs one time. Less than 2 percent have changed their EHR two times or more in the last two years. Reasons for changing included lack of interoperability, high maintenance costs/fees, and ineffective product.

EHR Performance (June Questions 10-11)
A majority of physicians state their EHR performs as promised by the vendor (56 percent).
HIE Participation (June Questions 12-14)
Twenty-six percent of physicians reported participating in a local health information exchange (HIE) to share EHR data among other physicians and providers. This is a decrease from 2016. Of the physicians not participating, 37 percent stated it was not their decision, while 29 percent said they don’t know enough about HIEs.
Twenty-one percent of physicians who are participating state they participate in Greater Houston Healthconnect.

Physician Participation in Local HIEs
(check all that apply)

- Greater Houston Healthconnect (GHH) 21%
- Healthcare Access San Antonio (HASA) 9%
- PHIX, formerly known as Paso Del Norte (El Paso) 9%
- Integrated Care Collaboration (ICC – Austin) 8%
- Rio Grande Valley HIE (RGV) 3%
- Other 60%

*Option not offered in 2016
E-Prescribing of Controlled Substances

Usage of EPCS (June Question 15)
Since 2016, there has been a significant increase in physicians who use e-prescribing of controlled substances (EPCS) (46 percent in 2018).

![Percentage of Texas Physicians E-Prescribing Controlled Substances](image)

EPCS Technology (June Question 16)
An overwhelming majority of physicians (93 percent) use their EHR for e-prescribing.

![Technology Used for EPCS](image)
Reasons for Not Using EPCS (June Question 17)
While 93 percent of physicians using EPCS use their EHR for e-prescribing, 40 percent of those who do not use EPCS say it is because their EHR does not support this.

EHR System (June Question 18)
As in past years, “other” was one of the largest categories regarding which EHR system a practice uses. “Other” continues to be too numerous to quantify. While there is an increase in the “other” category (20 percent in 2018), there is also an increase in physicians reporting they use EPIC as their EHR (28 percent).
EHR Satisfaction (June Question 19)
Overall, physicians reported an increase in EHR satisfaction over 2016 (66 percent in 2018). Centricity, e-MDs and EPIC saw significant increases in satisfaction to 12 percent, 8 percent, and 7 percent, respectively.
EHR Data Entry (June Question 20)
In the 2018 survey, physicians were asked about their method of EHR data entry. Most physicians reported they either do their own data entry or use templates (74 percent or 67 percent, respectively). In 2016, physicians were asked if they use a scribe for data entry; there was a significant decline in usage in 2018 (11 percent).
EHR Impact on Care Quality (June Questions 21-24)

EHRs have the potential to improve patient safety and care, but they can introduce new types of errors or escalate small errors into larger ones. In 2016, 49 percent of physicians reported they saw patient care safety and quality improved with EHR use. This increased to 55 percent in 2018. At the same time, the 2018 survey showed an increase in physicians reporting they saw damage to patient care safety or quality with the use of EHRs (34 percent in 2016; 40 percent in 2018).

Eighty percent of physicians who reported seeing damage to patient care safety or quality said they receive too much data from an EHR – a dramatic increase over 2016. There is a spike in the percentage of physicians reporting in the other categories also.
Just like for the increase in the percentage of physicians reporting specific damages, there is a significant increase in the percentage of physicians who reported specific types of improvement. Although not asked in the prior survey period, 79 percent of the physicians agreed patient safety or quality was improved because the EHR made medical records more legible. Additionally, 76 percent of these physicians reported improved access to records.

*The 2016 survey combined missing and inaccurate data as one option (40 percent). The 2018 survey separated these into two categories. 2016 data was listed in both categories for comparison purposes.
Over the past two years, physicians have changed their mind about whether they believe the improvements in patient safety and care quality due to EHRs outweigh the risks. The 2018 survey results show 61 percent of physicians believe the improvements from EHRs outweigh the risks. This is an increase over the prior survey period, which reported 48 percent agreed improvements outweighed the risks.

**Cyber Security (June Questions 25-27)**
Six percent of physicians reported they had experienced a ransomware attack (data encrypted until ransom paid), which cost a median of $1,000 for data unencryption. In 2016, 4 percent of physicians reported experiencing a ransomware attack. Five percent of physicians reported a data breach; this is up only slightly from 2016. Most physicians did not know the cost of recovering from the data breach.

**Cyber Liability Coverage (June Question 28)**
Twenty-eight percent of physicians reported their liability insurance carrier offered cyber liability coverage. This is the same as for the previous survey period.

**EHR Disruption to Patient Care (June Question 29)**
The 2018 survey showed physicians agreed EHR use decreases attentiveness to the patient’s presentation of signs and symptoms (68 percent), and data entry at the point of care disrupts a physician’s diagnostic thought process (62 percent). However, the agreement with both of these statements has decreased since the 2016 survey.
Percentage of Physicians Who Agree Data Entry at the Point of Care Disrupts Diagnostic Thought Process

Percentage of Physicians Who Agree Data Entry Process Disrupts Formation of the Differential Diagnosis

Percentage of Physicians Who Agree EHR Use Decreases Attentiveness to the Patient’s Presentation of Signs and Symptoms
Population Health Tools (June Questions 30-31)
Sixty percent of physicians do not use tools built into their EHR to analyze data about their patient population. Only 8 percent of the physicians who do not use their EHR tools use a third-party product to analyze data about their patient population.

EHR Functions (June Question 32)
As with the prior survey period, a large majority of Texas physicians use the e-prescribing (85 percent) and lab order (81 percent) tools in their EHR. Additionally, the use of patient portals (67 percent), imaging orders (66 percent), and patient management capabilities (59 percent) has increased.
**Patient Portals (June Question 33)**

Patient portals are online websites that give patients access to their personal health information. They are also the primary way in which practices demonstrated patient engagement in the Centers for Medicare & Medicaid Services’ Quality Payment Program (QPP). Sixty-seven percent of physicians have a patient portal. A majority of physicians who have portals experience challenges using them, including low patient adoption rates because patients have no interest in using a portal (74 percent), patients prefer speaking with a person (66 percent), and patients unable to use computers (65 percent). Given that these factors are beyond a physician’s or practice’s control, basing payment on patient use of portals may discourage practices from seeing older patients or patients with limited resources and may not be best from a policy or patient care standpoint.

*Direct messaging was not included in the 2016 survey.*
EHR and Billing (June Question 34)
The 2018 survey results show more than half of physicians reported using an EHR for billing purposes.

EHR and Tracking Quality Program Data (June Question 35)
The government has moved from multiple quality programs to the Quality Payment Program. Some physicians (45 percent) use their EHR to track the data they need for reporting purposes. The next largest category is of physicians who don’t know if their EHR is used for tracking QPP data (42 percent).
Percentage of Physicians Who Use EHR for QPP Data Tracking

- Yes, 45%
- Don't know, 42%
- No, 4%
- N/A - I don't participate in the QPP, 8%
## Physician Demographics

<table>
<thead>
<tr>
<th>Gender</th>
<th>2010</th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>75</td>
<td>73</td>
<td>70</td>
<td>67</td>
<td>66</td>
</tr>
<tr>
<td>Female</td>
<td>25</td>
<td>27</td>
<td>30</td>
<td>33</td>
<td>34</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th>2010</th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 and younger</td>
<td>21</td>
<td>19</td>
<td>18</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>41 to 50</td>
<td>27</td>
<td>23</td>
<td>22</td>
<td>22</td>
<td>23</td>
</tr>
<tr>
<td>51 to 60</td>
<td>33</td>
<td>32</td>
<td>27</td>
<td>27</td>
<td>26</td>
</tr>
<tr>
<td>61 and older</td>
<td>19</td>
<td>25</td>
<td>33</td>
<td>32</td>
<td>33</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specialty</th>
<th>2010</th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obstetrics-Gynecology</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>7</td>
<td>8</td>
<td>10</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Surgical Specialty</td>
<td>13</td>
<td>13</td>
<td>13</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Indirect Access</td>
<td>14</td>
<td>15</td>
<td>16</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Nonsurgical Specialty</td>
<td>33</td>
<td>32</td>
<td>24</td>
<td>29</td>
<td>30</td>
</tr>
<tr>
<td>Primary Care</td>
<td>25</td>
<td>26</td>
<td>30</td>
<td>27</td>
<td>28</td>
</tr>
<tr>
<td>County</td>
<td>2010</td>
<td>2012</td>
<td>2014</td>
<td>2016</td>
<td>2018</td>
</tr>
<tr>
<td>---------------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Bexar</td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Dallas</td>
<td>13</td>
<td>12</td>
<td>13</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Harris</td>
<td>19</td>
<td>17</td>
<td>18</td>
<td>20</td>
<td>21</td>
</tr>
<tr>
<td>Tarrant</td>
<td>8</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Travis</td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Smaller metro</td>
<td>34</td>
<td>41</td>
<td>37</td>
<td>35</td>
<td>36</td>
</tr>
<tr>
<td>Rural</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Rio Grande Valley</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TMA Membership Status</th>
<th>2010</th>
<th>2012</th>
<th>2014</th>
<th>2016</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Former</td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>Nonmember</td>
<td>13</td>
<td>14</td>
<td>17</td>
<td>12</td>
<td>7</td>
</tr>
<tr>
<td>Member</td>
<td>87</td>
<td>86</td>
<td>83</td>
<td>81</td>
<td>75</td>
</tr>
</tbody>
</table>
APPENDIX — Survey Instrument

June Health IT

Q1 Which statement best describes the current status of your practice?

☐ We do not plan to implement an EHR.
☐ We want to implement or plan to implement an EHR.
☐ We currently use an EHR.

Q2 Why are you not planning to implement an EHR? (Check all that apply.)

☐ Near retirement
☐ Cost-prohibitive
☐ No time for implementation and training
☐ Concerns about electronic system reliability
☐ Difficulty entering data
☐ No national standards
☐ Security, privacy, and liability concerns for myself or my patients
☐ Other (please specify): sle ________________________________
Q3 Would any of the following convince you to implement an EHR? (Check all that apply.)

☐ Less direct data entry or more versatile user interface (i.e., voice recognition or PDA entry)
☐ Greater flexibility in where and how I document
☐ Better/more efficient retrieval of needed information
☐ Grants or loans to help with implementation cost
☐ Health care payment plan payment incentives (i.e., stimulus package, pay for performance)
☐ Help in selecting the appropriate system for my office
☐ Assistance in implementation and training
☐ Evidence it would improve the quality of patient care
☐ Evidence it would improve my practice operations
☐ A better EHR product than the ones I’ve seen
☐ Standards to ensure that all systems can share information
☐ Other (please specify): ________________________________________________
Q4 What technologies do you use in practice? (Check all that apply.)

☐ A practice management system
☐ Electronic claims processing
☐ E-prescribing
☐ E-prescribing of controlled substances (EPCS)
☐ Prescription Monitoring Program (PMP)
☐ Direct messaging
☐ Patient reminders
☐ Patient portals
☐ Telemedicine
☐ Other (please specify): ________________________________________________
☐ ☒ None

Q5 If you want to implement an EHR, how soon do you anticipate doing so?

☐ Between zero and six months
☐ Between six months and one year
☐ Between one and two years
☐ More than two years
Q6 Which of the following services would you find helpful? (Check all that apply.)

☐ Suggestions of appropriate and effective EHR products
☐ Analysis of purchase and implementation costs
☐ A process to screen vendors
☐ Assistance with optimizing new system efficiency and effectiveness
☐ Financial assistance
☐ Other (please specify): ________________________________

Q7 What technologies do you use in practice? (Check all that apply.)

☐ A practice management system
☐ Electronic claims processing
☐ E-prescribing
☐ E-prescribing of controlled substances (EPCS)
☐ Prescription Monitoring Program (PMP)
☐ Direct messaging
☐ Patient reminders
☐ Patient portals
☐ Telemedicine
☐ Other (please specify): ________________________________
☐ × None
Q8 In the past two years, have you switched EHRs in your current, primary place of practice because your former one:

<table>
<thead>
<tr>
<th>Reason</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was ineffective?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had poor customer service?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Went out of business?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Was acquired by another company and no longer supported?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had certification that expired or was revoked?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Had high maintenance costs and/or other fees?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lacked interoperability?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Display This Question:

If In the past two years, have you switched EHRs in your current, primary place of practice because... = Yes

Q9 How many times has your practice had to switch EHRs in the past two years?

Q10 Is your EHR performing as promised by the vendor representative selling the product?

- Yes
- No
- Don’t know

Display This Question:

If Is your EHR performing as promised by the vendor representative selling the product? = No
Q11 Why not?

Q12 Are you participating in a local health information exchange (HIE) to share EHR data among physicians and health care providers?

- Yes
- No
- Don’t know

Display This Question:  
If Are you participating in a local health information exchange (HIE) to share EHR data among physicians and health care providers... = Yes

Q13 Which local HIE do you participate? (Check all that apply.)

- Greater Houston Healthconnect (GHH)
- Healthcare Access San Antonio (HASA)
- Integrated Care Collaboration (ICC – Austin)
- PHIX, formerly known as Paso Del Norte (El Paso)
- Rio Grande Valley HIE (RGV)
- Other (please specify): ________________________________________________

Display This Question:  
If Are you participating in a local health information exchange (HIE) to share EHR data among physicians and health care providers... = No
Q14 If not, why not? (Check all that apply.)

- Don’t know enough about HIEs
- Security, privacy, and liability concerns
- EHR system not enabled to participate
- Decreased productivity
- No help from local hospital
- Difficult to obtain external data
- Not sure it will improve patient care
- Cost-prohibitive HIE fees
- Cost-prohibitive EHR vendor interface fees
- Not my decision
- Other (please specify): _________________________________

Q15 Do you use e-prescribing for controlled substances (EPCS)?

- Yes
- No
- Not applicable – I don’t prescribe controlled substances.

Display This Question:
If Do you use e-prescribing for controlled substances (EPCS)? = Yes

Q16 What technology do you use for EPCS?

- My EHR’s e-prescribing tool
- Standalone e-prescribing software
Q17 If you don't use EPCS, why not? (Check all that apply.)

☐ I'm not interested in using it.
☐ The upgrade to EPCS is cost-prohibitive.
☐ My EHR does not support it.
☐ It interferes with workflow.
☐ Other (please specify): ______________________________________________

Q18 Which EHR system are you using in your primary place of practice?

☐ Allscripts
☐ Amazing Charts
☐ Athenahealth
☐ Centricity (GE)
☐ Cerner
☐ e-MDs
☐ eClinicalWorks
☐ EPIC
☐ Greenway
☐ NextGen
☐ Practice Fusion
☐ Sevocity (Conceptual Mindworks)

☐ I only use a practice management system, e-prescribing system, hospital system, or home-grown system.

☐ Other (please specify vendor): ______________________________________________
Q19 How satisfied are you with your EHR system?

- [ ] Very dissatisfied
- [ ] Somewhat dissatisfied
- [ ] Somewhat satisfied
- [ ] Very satisfied

Q20 How do you document in your EHR? (Check all that apply.)

- [ ] I do my own data entry.
- [ ] I use a scribe.
- [ ] I use voice recognition.
- [ ] I use MACROS.
- [ ] I use templates.
- [ ] I use check boxes.
- [ ] Other (please specify): ________________________________

Q21 In the past two years, have you seen specific cases in which:

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>The safety or quality of patient care was adversely affected by the use of an EHR?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The safety or quality of patient care was improved by the use of an EHR?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Display This Question:

If In the past two years, have you seen specific cases in which: = The safety or quality of patient care was adversely affected by the use of an EHR? [ Yes ]
Q22 If you saw specific cases in which the safety or quality of patient care was adversely affected, what were the causes? (Check all that apply.)

☐ There were missing data.
☐ There were inaccurate data.
☐ Too much data obscured important or relevant information.
☐ It interfered in the patient-physician relationship.
☐ There were care delays/the EHR was unreliable.
☐ There were security/privacy issues.
☐ Other (please specify): ________________________________

Display This Question:

If in the past two years, have you seen specific cases in which: = The safety or quality of patient care was improved by the use of an EHR? [Yes]

Q23 If you saw specific cases in which safety or the quality of patient care was improved by an EHR, what were the causes? (Check all that apply.)

☐ The patient’s medical record was more thorough.
☐ The patient’s medical record was more legible.
☐ The patient’s medical record was accessible from anywhere.
☐ The patient’s care was better coordinated.
☐ There was an alert or a reminder.
☐ There was improved prescription management.
☐ Other (please specify): ________________________________
Q24 Do the improvements in patient safety and care quality due to the EHR outweigh the risks to patient safety and care quality?

- Yes
- No

Q25 In the past two years, has your practice experienced a ransomware attack (data encrypted until ransom paid) or data breach?

<table>
<thead>
<tr>
<th></th>
<th>Don't know</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ransomware</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data breach</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Display This Question:

If In the past two years, has your practice experienced a ransomware attack (data encrypted until r... = Ransomware [Yes]

Q26 How much was the ransom to have your data unencrypted? (If your practice experienced more than one ransomware attack, answer for the most recent one.)

Display This Question:

If In the past two years, has your practice experienced a ransomware attack (data encrypted until r... = Data breach [Yes]

Q27 How much did it cost your practice to recover from the data breach including information technology support, notifying patients, updating policies, and the like? (If your practice experienced more than one data breach, answer for the most recent one.)
Q28 Does your liability insurance carrier offer cyber liability coverage?

- Yes
- No
- Don't know

Q29 Indicate your agreement with each of the following:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Somewhat disagree</th>
<th>Somewhat agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data entry at the point of care disrupts a physician’s diagnostic thought process.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data entry process disrupts formation of the differential diagnosis.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of the EHR decreases attentiveness to the patient’s presentation of signs and symptoms.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using an EHR creates data retrieval problems in reviewing patients' history.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q30 Are you using tools built in to your EHR to analyze data about your patient population?

- Yes
- No

Display This Question:

If Are you using tools built in to your EHR to analyze data about your patient population? = No

Q31 Do you use a third-party product to analyze data about your patient population?

- Yes
- No
- Don't know
Q32 Which EHR functions do you use? (Check all that apply.)

- Quality reporting
- Patient management
- E-prescribing
- Direct messaging
- Patient portals
- Care coordination
- Public health reporting
- Clinical decision support
- Imaging orders
- Lab orders
- Other (please specify): ________________________________________________

Display This Question:

If Which EHR functions do you use? (Check all that apply.) = Patient portals

Q33 Which problems, if any, have you or your practice experienced with patient portals? (Check all that apply.)

- Patients without access to Internet or high-speed Internet
- Patients unable to use computers
- Patients who prefer speaking with physician or practice staff
- Patients who have no interest
- Other (please specify): ________________________________________________

- [X] None
Q34 Do you do your billing through your EHR?

- Yes
- No
- Don't know

Q35 Is your EHR capable of tracking data for the Centers for Medicare & Medicaid Services Quality Payment Program?

- Yes
- No
- Don't know
- Not applicable — I don’t participate in the Quality Payment Program.

Q36 May TMA staff contact you regarding any of your answers to the previous questions?

- Yes
- No