TEXAS MEDICAL ASSOCIATION

Physicians Caring for Texans

TMA Physician Survey

Health Information Technology, May 2016

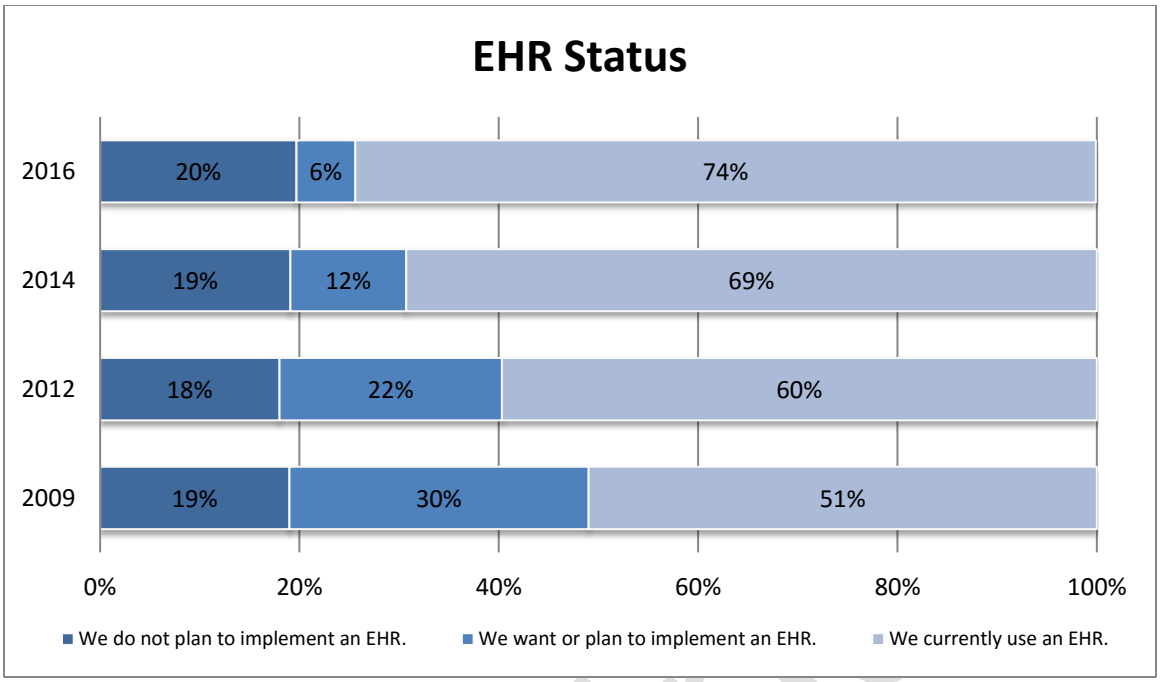
Every two years, the Texas Medical Association conducts a survey of Texas physicians to identify emerging issues, track the impact of practice and economic changes, assess physician priorities, and develop data to support TMA advocacy efforts.

In May of 2016, 38,340 physicians were surveyed regarding their opinion and experiences with health information technology (HIT). TMA's goal is to ensure HIT including electronic health records (EHRs), e-prescribing, and health information exchange (HIE) has a positive impact on physicians, patients, and practices by enhancing quality of care, patient safety, and practice viability. The current survey is a benchmark of physicians needs and experiences with EHRs and especially important as TMA tailors services and resources to help physicians with federal incentives and penalties for EHR use. After one week responses were received from 614 physicians. The following are preliminary findings.

Summary of Findings

EHR Status (Question 1)

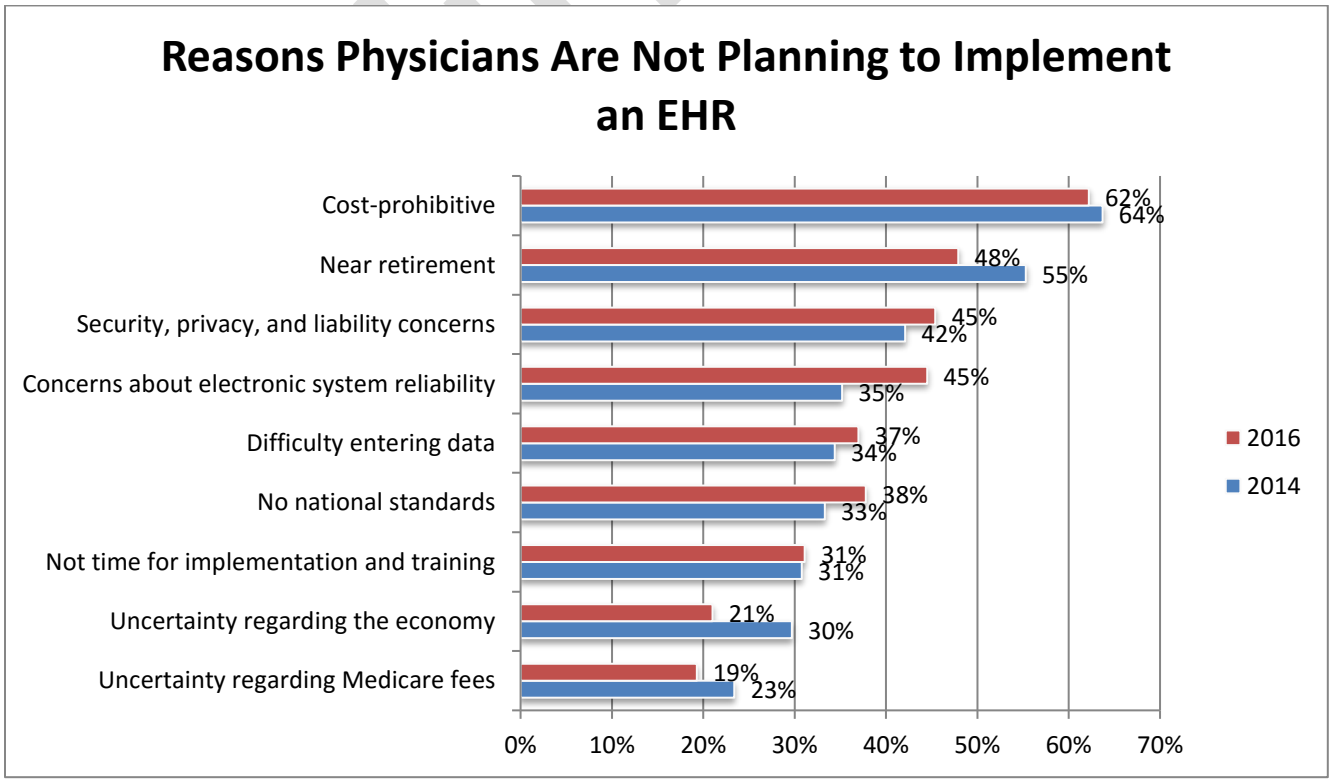
The percentage of physicians currently using an EHR (74 percent) continues to increase as the percentage of physicians planning to implement an EHR moves into the implemented stage. The percentage of physicians with no plans to implement an EHR remains steady at 20 percent.



Physicians with No Plans to Implement an EHR

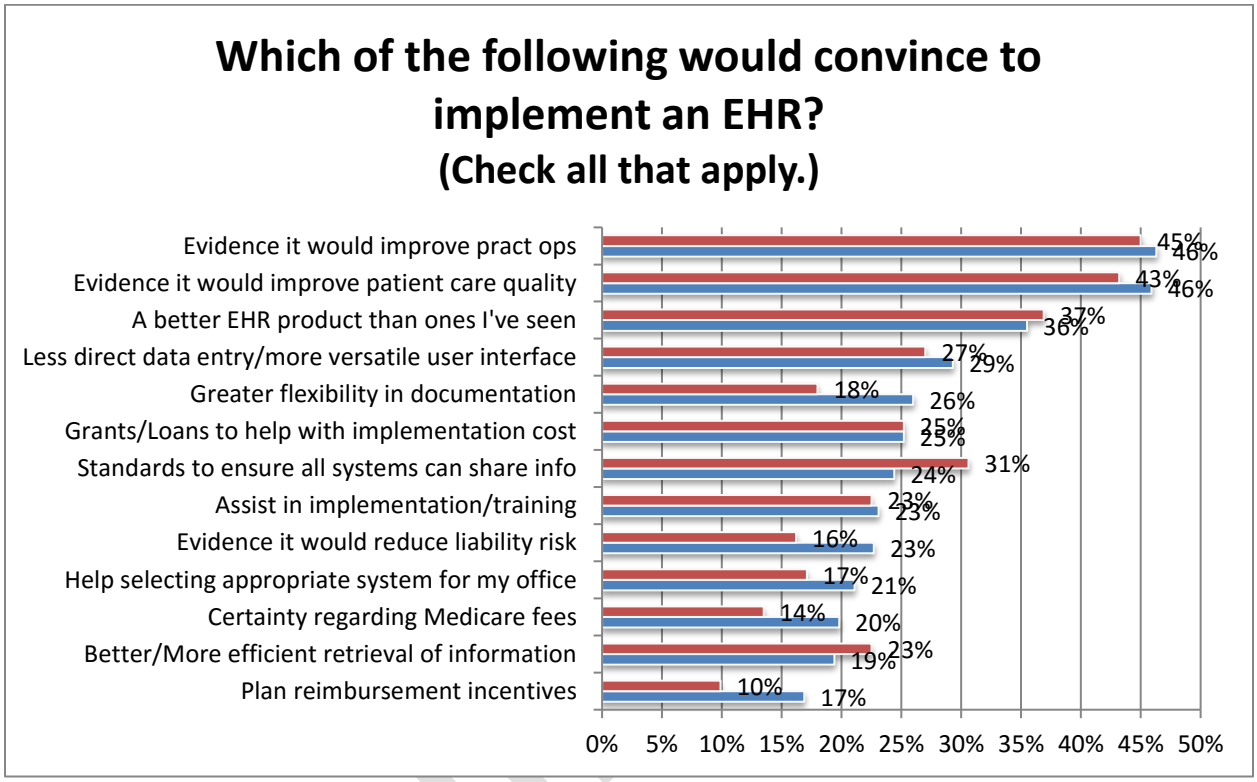
Reasons for Not Implementing an EHR (Question 2)

Physicians with no plans to implement an EHR continue to report the cost as prohibitive.



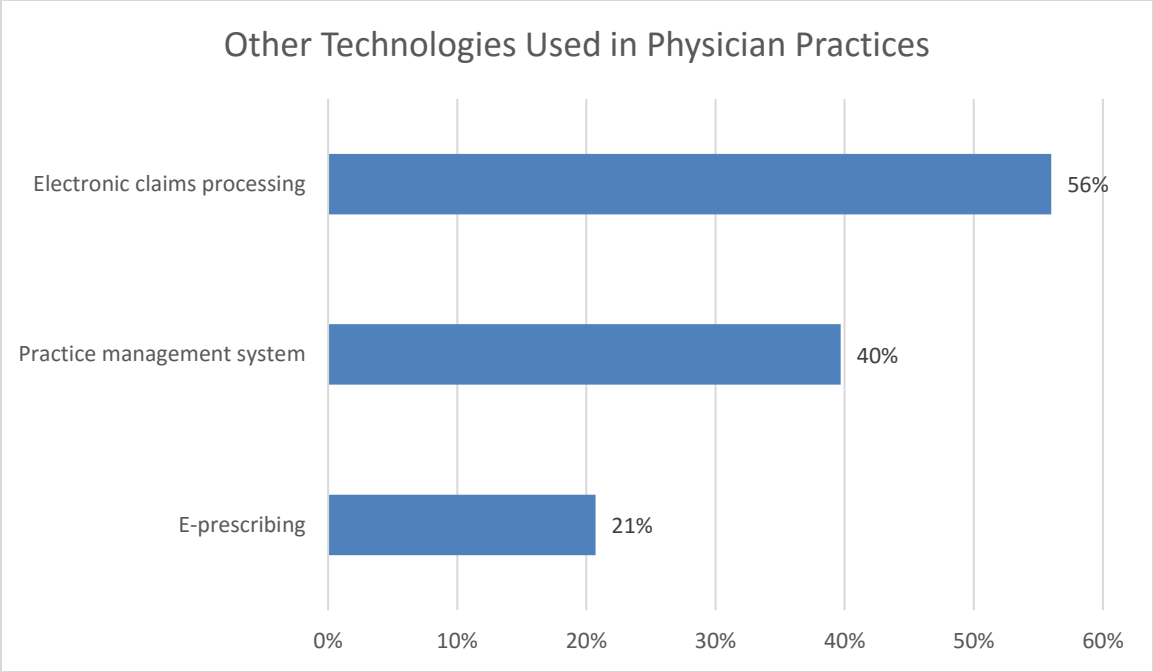
Incentives to Implement an EHR (Question 3)

Although the majority of physicians report the cost is prohibitive, few (35 percent) report grants, loans, or reimbursement incentives would convince them to implement an EHR. Eight-eight percent of physicians would implement an EHR if they saw evidence it improved practice operations and/or patient care.



Other Technologies Use in Physician Practices (Question 4)

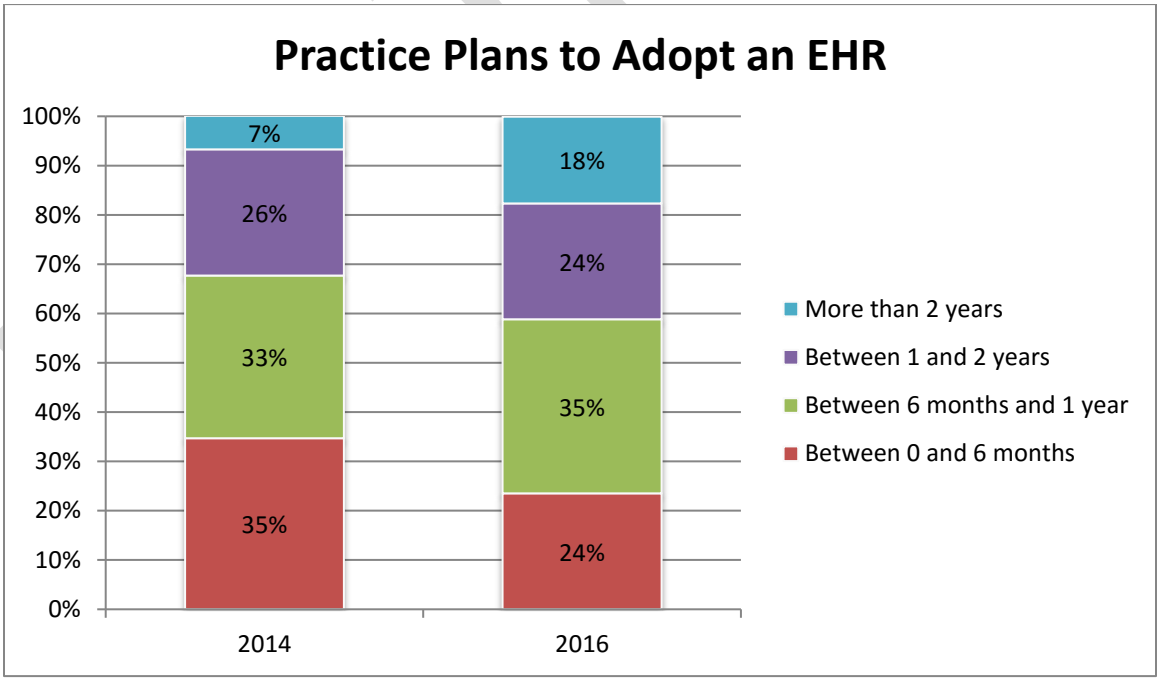
Although 20 percent of physicians are not using EHRs in their practice, they are using other technologies, particularly electronic claims processing (56 percent).



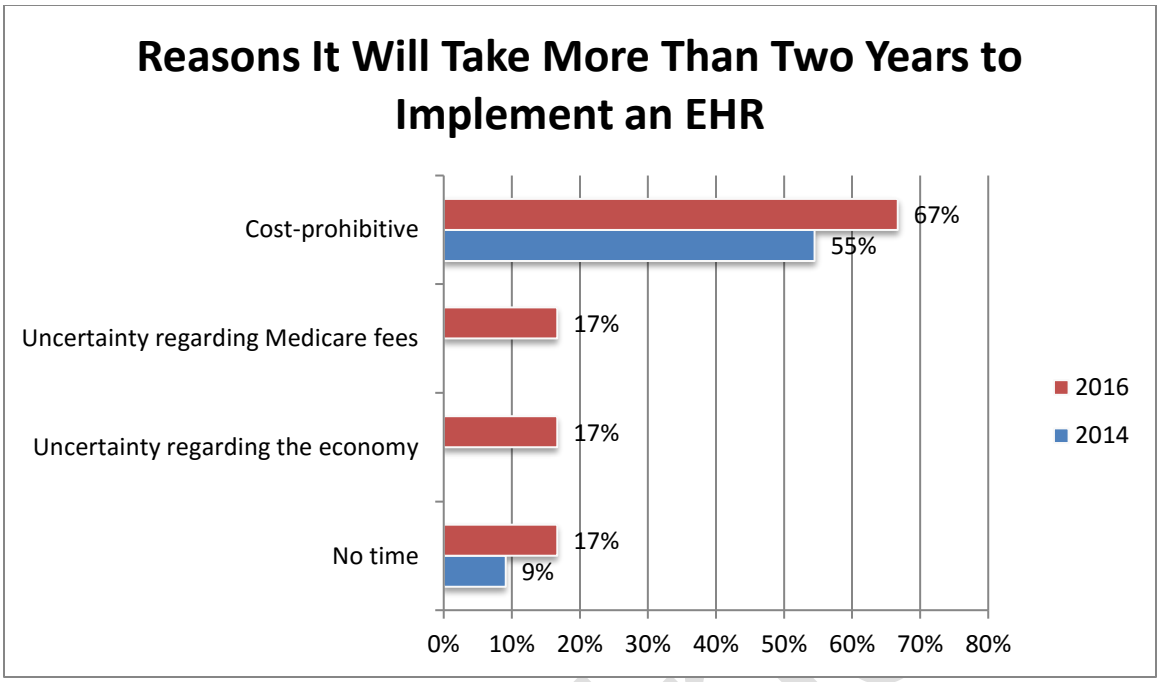
Practices with Plans to Implement an EHR

Time until EHR Implementation (Question 5-6)

The percentage of physicians who want to implement or plan to implement an EHR, but will wait more than two years to do so has grown from seven in 2014 to 18 percent.

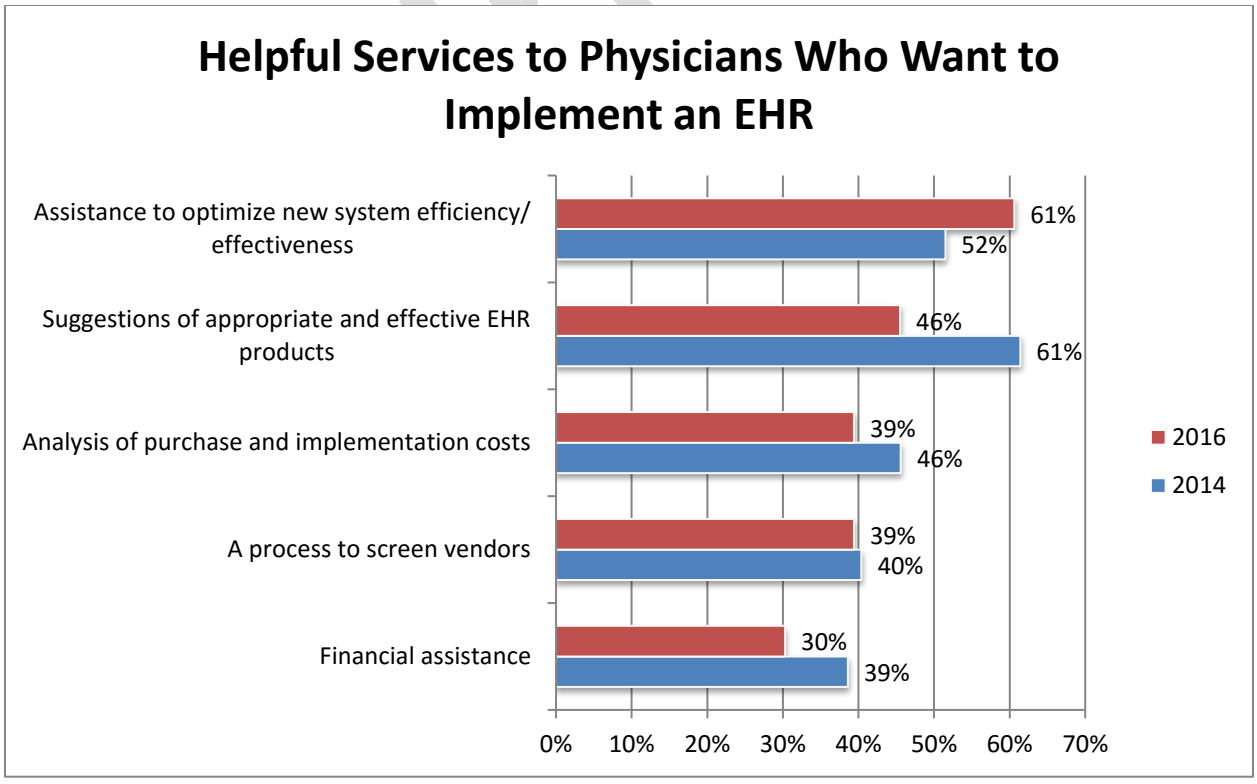


These physicians continue to report the cost is prohibitive.



Helpful Services for Implementation (Question 7)

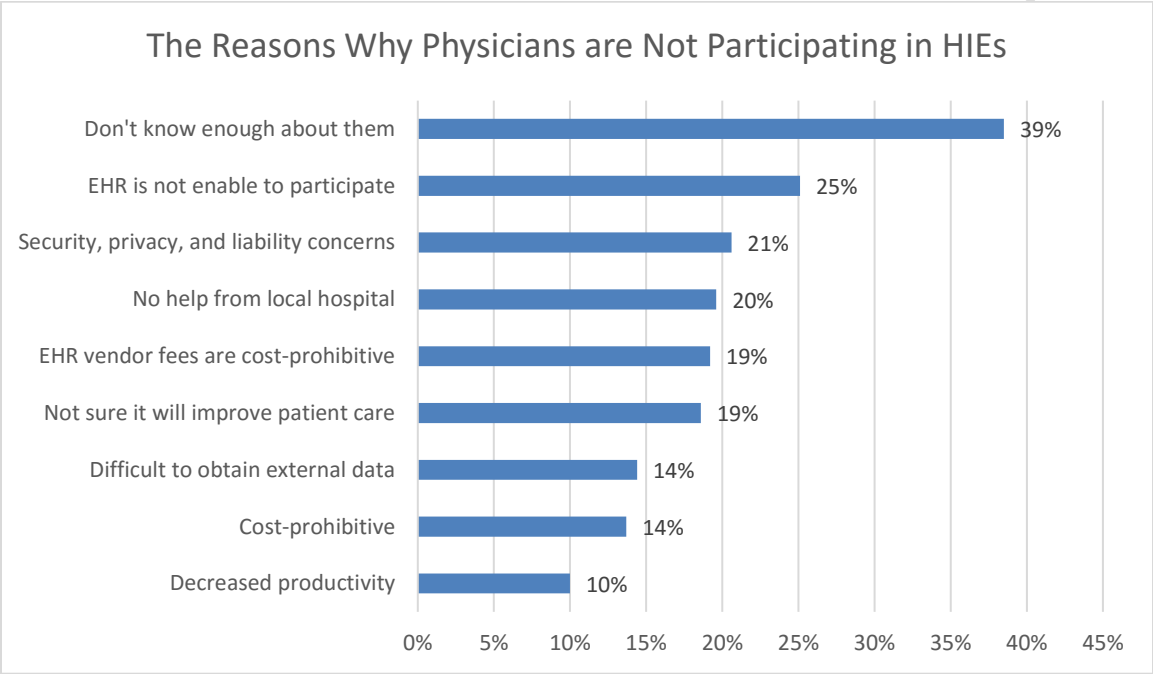
Physicians who plan to implement an EHR are most likely to report they would benefit from assistance optimizing new system efficiency and effectiveness (61 percent) and TMA should increase efforts to alert physicians that help is available to them.



Practices That Have Implemented an EHR

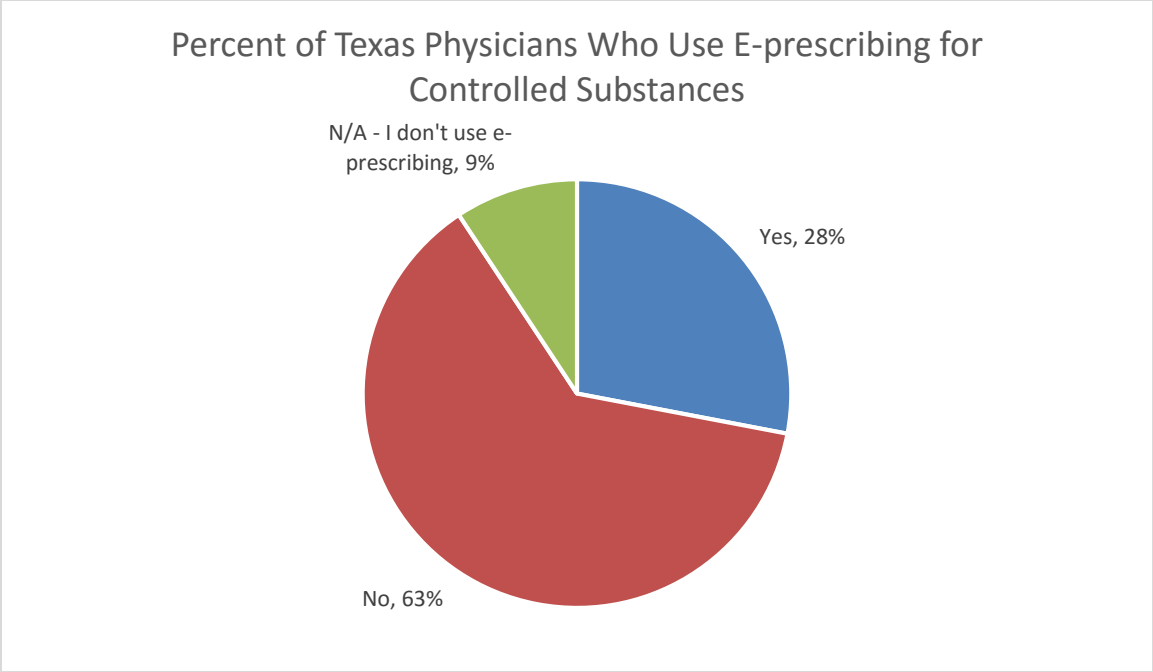
Health Information Exchange Participation (Question 8-9)

Thirty-four percent of physicians are participating in a local HIE in order to share EHR data among health care providers. Among physicians not participating in a HIE, the large minority don't know enough about them (39 percent), suggesting a need for increased outreach and education from TMA.

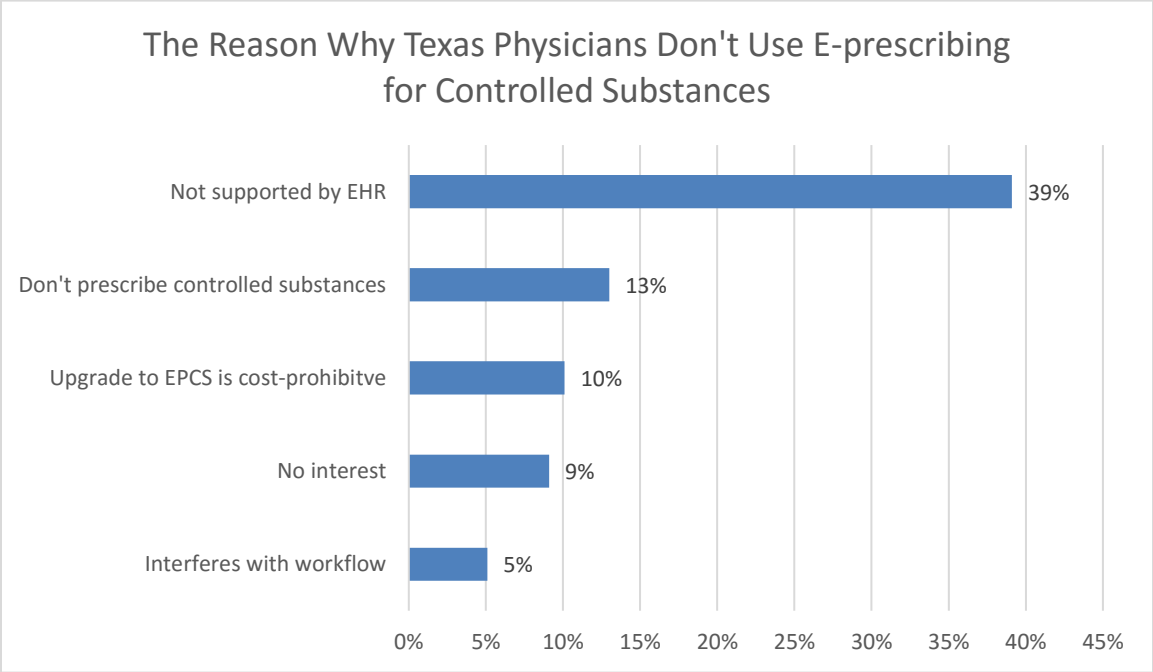


E-prescribing (Question 10-11)

Twenty-eight percent of physicians use e-prescribing for controlled substances.

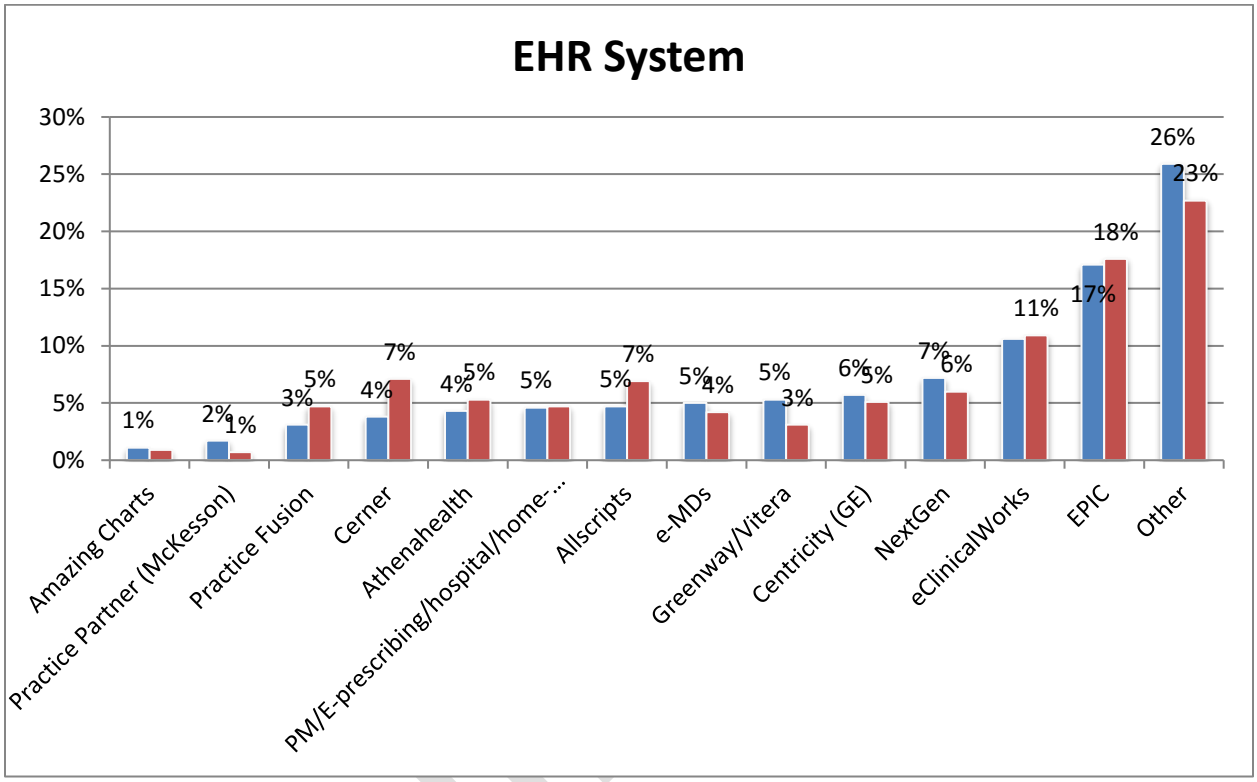


Physicians' not using e-prescribing for controlled substances (EPCS) report it is not supported by their EHR (39 percent).



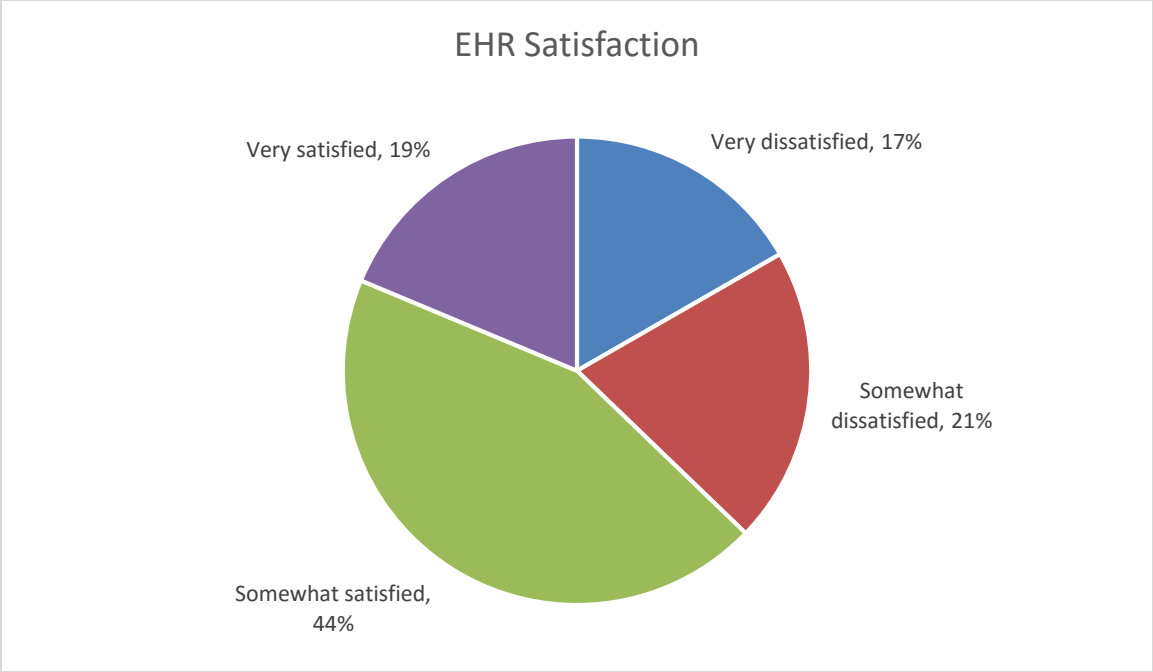
EHR System (Question 12)

The EHR system with the largest percentage of users remains EPIC (18 percent). In years past the large minority of physicians reported using "other" EHRs, too numerous to mention. This percentage continues to decrease as EHRs with more market share gain users.

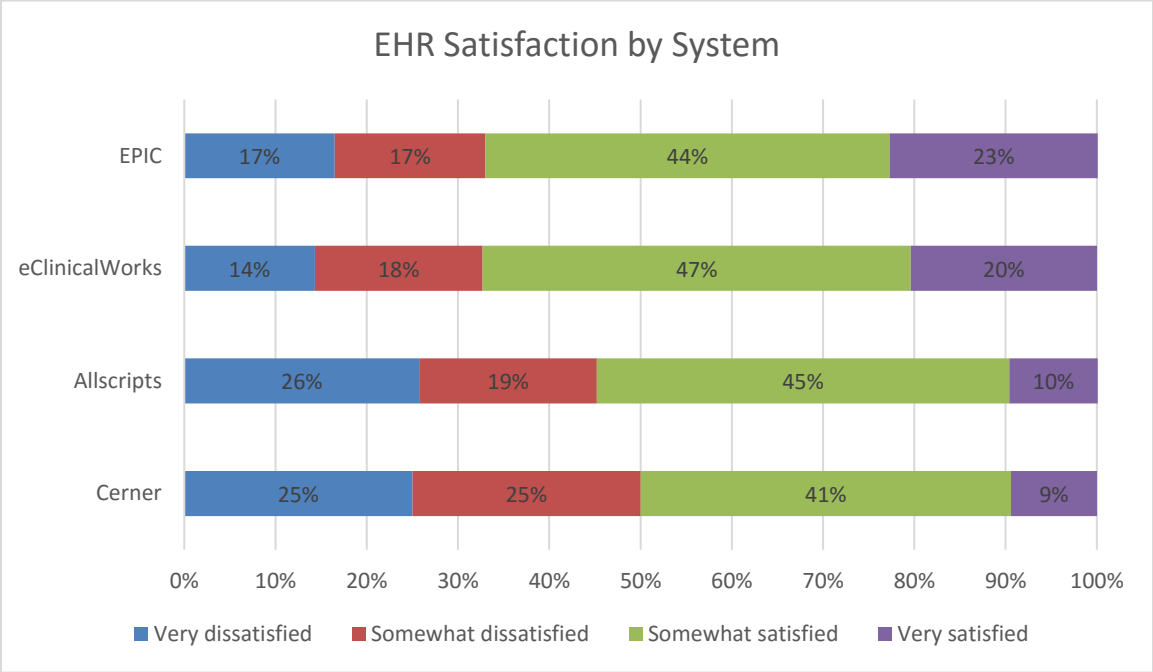


EHR Satisfaction (Question 13)

Overall physicians are satisfied with their EHR (63 percent).



There were a few EHR systems with enough users to analyze satisfaction by system. There is high satisfaction among EPIC and eClinicalWorks users (67 percent).



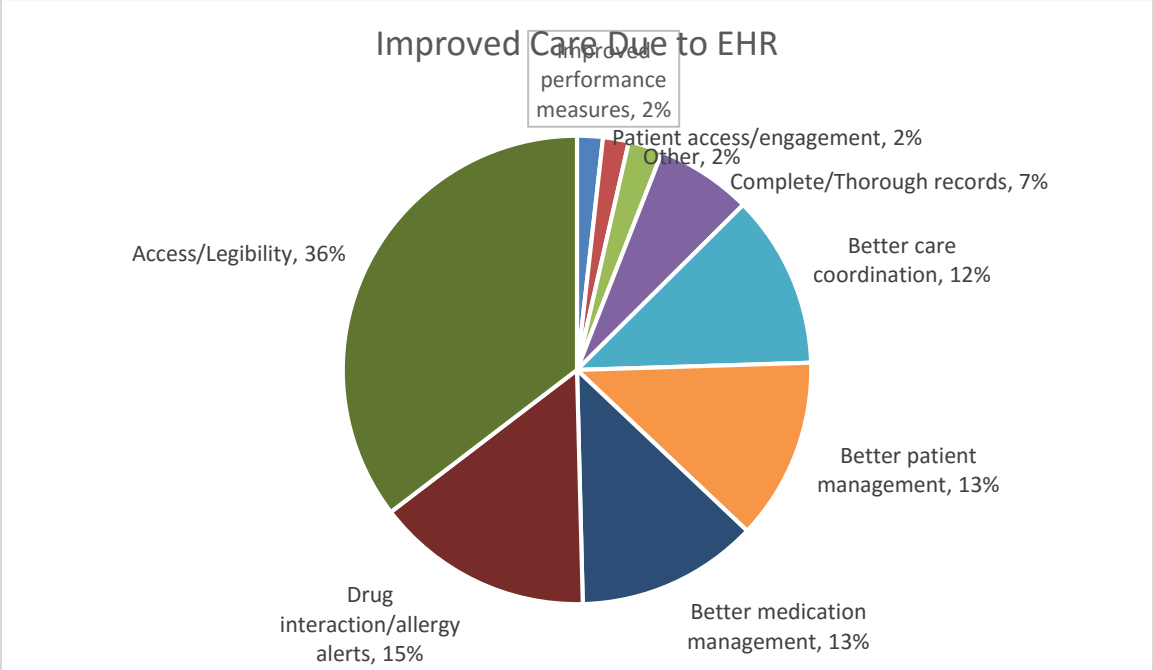
Scribes (Question 14)

Twenty-three percent of physicians report their practice is using scribes for data entry, up from the 21 percent reported in 2014.

EHR Effect on Patient Safety and Quality of Care (Question 15-18)

EHRs have the potential to improve patient safety and care, but they can also introduce new types of errors or escalate small errors into larger ones. Half of physicians experienced improved patient safety and care as a result of using an EHR, but 34 percent of physicians experienced damage to patient safety and care.

Physicians who experienced improved care quality as a result of using an EHR are most likely to point out the access to and legibility of records (36 percent).



Comments include:

Access and Improved Legibility

- [The] ability to access charts from home while on call, including medication history, improves patient care and safety. Pediatrician
- [The] ability to actually read physician's notes rather than attempting to read scribbles. Physical Medicine & Rehabilitation Specialist
- [The] ability to check labs and tests from any computer [and] to read handwriting/notes with ease since they are typed. Internal Medicine physician
- [The] ability to quickly and easily access previous records, etc. Emergency Medicine specialist
- [The] ability to read notes from others. Psychiatrist
- [I am] able to check medications and administrations accurately [and] not worry about misreading or deciphering handwriting. Anesthesiologist

- [I am] able to cover for other physicians much more easily with access to records from nearly anywhere. Psychiatrist

- [I am] able to obtain data in emergency situations. Ophthalmologist
- [I am] able to quickly access prior and current health data not obtainable from the patient due to emergent condition. Emergency Medicine specialist
- [I am] able to see hospital discharge info and medications for a hospital follow-up appointment. Family Medicine physician
- [I have] access to previous visits and lab results helps a lot to decide more appropriate treatments. Family Medicine physician
- …As a consultant, I can now READ what is recorded. Internal Medicine physician
- [The] availability of patient records after hours enhancing medical decision-making ability. Family Medicine physician
- …We are able to see the care that patients are getting not only at our practice and institution, but at other … sites. We have better data on how were are managing preventive care, diabetes, and other chronic conditions. Cardiologist
- [I have] better access to information. Emergency Medicine specialist
- [There is] better documentation. [It is] easy to manage records as well as see records from other clinic in same group. Internal Medicine physician
- [I] can look up records from home for when on call. Family Medicine physician
- Care is provided much more efficiently since information is easily accessible. Cardiologist
- [I] don't have to chase paper. Family Medicine physician
- [The] ease of access to chart in an efficient manner where better care can occur. Family Practitioner
- [It is] easier to find information from other providers on shared EMR. Otolaryngologist
- [It is] easier to read others plans [and there is] better tracking of vaccines and vaccine forecasting. Pediatrician
- Easily accessible medical history in those patients who are poor historians. Emergency Medicine specialist
- [I can] easily find and flag critical lab values and flag when erroneous dosages are ordered. Critical Care Pediatrician
- Easily retrieved information. Family Medicine physician
- [It is] easy to review past visits. CPOE adds clarity to orders. Emergency Medicine specialist
- Everyone has access to the chart at the same time. Prescriptions are carefully documented and easily traceable. Ob/Gyn
- From EM standpoint, EHR gives me access to Personal Medical History in patients who are unable to provide that information. Emergency Medicine specialist
- I am able to read notes. There is no issue with illegibility. Physical Medicine & Rehabilitation specialist
- I have faster access to care for my patients, even from home. It allows me to see the patient data whenever I have time and whenever I need to. Anesthesiologist

- I like to be able to pull up meds and notes while on call. It avoids overprescribing and misuse of medications. Psychiatrist
- Improved readability & easier to organize care. Neonatalogist

- [It] improves efficiency for location of information, documentation, and dissemination to appropriate parties. Orthopedic Surgeon
- It is so easy now to get any and all information needed, quickly. Orthopedic Surgeon
- Just by going from hand scripted data entries to digitized format has tremendously improve documentation and safety. Anesthesiologist
- Legibility. Family Medicine physician
- Legibility of records and scripts is a HUGE improvement. Family Medicine physician
- Legibility. [The] potential to have notes in an organized way and able to share info with other clinicians. Psychiatrist
- LEGIBLE. Gynecologist
- Legible handwriting. Quick ease of getting and receiving information. Otolaryngologist
- Legible medications. Nephrologist
- Legible prescriptions. Colon & Rectal Surgeon
- More complete and legible records, and some drug to drug interaction "catches". Family Medicine physician
- More efficient & timely when I need patient info. Thoracic surgeon
- More than one department can work on a patient chart at one time. This decreases the time needed to get consults, medications, or phone calls answered. Pediatrician
- My personal access to treatment data and my ability to quickly summarize information to other clinicians- although due to my patient requests I personally send such information without using online communications. Psychiatrist
- No lost charts. Better communication. Ophthalmologist
- Not having to interpret handwriting from another provider. Alerts for allergies and drug interactions. Otolaryngologist
- Notes are easier to read, store, retrieve, reproduce, transmit, etc. Automatic analysis like PQRS, medication interaction, etc. Psychiatrist
- Notes are legible and available in real-time, instantaneously. Radiation Oncologist
- Notes are more legible. Pain Medicine Anesthesiologist
- Notes are more legible and allergy alerts when sending prescriptions electronically are helpful in preventing bad drug interactions or allergies. Ophthalmologist
- Now there are less errors due to misreading poor handwriting. Pediatrician
- Other physicians in group having easy access to important patient medical history. Pediatrician
- Our EHR is cloud-based, so I am now able to log into the system when I am on call and review a patient's chart to help with after-hours questions. Allergy & Immunologist
- Our practice has two clinics, being able to access records from both locations has been useful. Pediatrician
- Records are legible and widely available, easily accessible. Psychiatrist

Drug Interaction and Allergy Alerts

- Alerts for drug interactions. Otolaryngologist
- Allergy alert when prescribing medications. Pediatrician

- Allergy checks and availability to access detailed records even from on-call doctor at home in order to guide care. Ob/Gyn
- Automatic checking of drug interactions. Family Medicine physician
- Built in checks (prescription interactions, duplicate prescribing). Family Medicine physician
- Computer intercepts prescriptions included in allergy history. Occupational Medicine specialist
- [It] cross checks prescriptions for interactions. [It] easily "remembers" the dosage of the last prescription… Psychiatrist
- Dosage checking and drug interaction alerts have reduced these types of errors. Emergency Medicine specialist
- Drug interaction alerts and easy access to historical data. Internal Medicine physician
- Drug interaction alerts. Allergy alerts. Improved communication with patients via secure messages. Internal Medicine physician
- Drug interaction check. Pulmonologist
- Drug interaction checking. Family Medicine physician
- [It is] easier to see all the meds that patient is on and possible interactions. Internal Medicine physician
- Identify drug interaction. Internal Medicine physician
- Immunization forecasting software has found multiple examples of vaccines given at improper intervals in the past before we had it Medication interaction checker has identified potentially dangerous combinations. Specialized protocols allow us to provide outstanding care to patients with chronic issues such as asthma and ADHD. Pediatrician
- Interactions between medications and warns against using medications that conflict with a patient's disease. Ob/Gyn
- Pharmacy tips regarding drug-drug interactions. Psychiatrist
- Program can tell if there is a reaction to medication. Rapidly access labs and data like blood pressure. General Practitioner
- Reminders of allergies and drug interactions adds an extra layer of patient protection. Problem lists are easier to amend. Family Medicine physicians
- Warnings about drug interactions. Anesthesiologist
- Warnings for drug allergies and interactions. No misfiling of charts, access to patient charts after hours for phone calls. Ophthalmologist

Better Prescription Management

- Avoid duplicate and wrong medications. Legible notes. Anesthesiologist
- Avoid prescribing overlapping or interacting medications. Ob/Gyn
- Avoiding prescription mistakes. Neurologist
- Better medications lists, better identification of drug interactions, better lists for problems and vaccine history. Family Medicine physicians
- Better medication reconciliation and better access to all radiology and lab. Oncologist

- Better prescription management. Better able to keep track of labs, recommended treatments, quality control, drug interactions, etc. Family Medicine physician
- Better record keeping of medications. Family Medicine physician
- Catches medication errors. Oncologist
- Faster prescriptions. Pediatrician
- Less medication dosing errors. Pediatrician
- Less problems with medication questions, updated and tracking of X rays, lab work. Pulmonologist
- Med reconciliation, care coordination; patient engagement; medication cross check. General Surgeon
- Reduction [in] medication errors. Reminder to do a more thorough exam. Family Medicine physician
- Medication reconciliation and management. Orthopedic Spine Surgeon
- Medication reconciliation is improved with EHR. Gastroenterologist
- Reduced medication errors, improvement in undue radiation exposure for children, early detection of sepsis, readable record. Pathologist

Better care coordination

- Better coordination of care and access to all pertinent diagnoses in the perioperative period. Adult Reconstructive Orthopedic Surgeon
- Better preventative services and keeping patients up to date. Family Medicine physician
- Check list reminder for general health maintenance and disease-specific guidelines. Critical Care Pulmonologist
- Clarity of plan and medications. Pediatric Rheumatologist
- Coordination of care among multiple providers thus ensuring a decrease in error an increase in continuity of care. Psychiatrist
- Easier communication between providers. Sports Medicine Family Practitioner
- Follow patient's drug profile. Family Medicine physician
- Good consult notes combining data from many sources and presented for others to use. Unfortunately rare. Can only recall one instance- Pre-Operative Note synthesized Hospitalist/ Cardiologist/ GI Notes into proper diagnosis and suggested correct treatment path. Anesthesiologist
- I can tell what the PCP is ordering etc. Orthopedic Surgeon
- Improved data gathering, patient satisfaction, and intra-staff communication. Family Medicine physician
- Improved documentation of the patient care pathway and sustainability of care enhanced. Urologist
- Improved information management. Psychiatrist
- It helps us to implement a crisis response plan that is done on every client from the time of admission and can be changed depending on events that the client experiences. Child & Adolescent Psychiatrist
- More clear and precise visit documentation. Internal Medicine physician

- More communication around patient care with staff, better lab review and plan, giving patient plans, and better medication prescribing. Family Medicine physician
- Some documentation requirements improve patient identification and overall care. Anesthesiologist
- Working in small hospital ER, there are times when the past history, problem list, and medication list are available to help with care. Family Medicine physician

Better Patient Management

- [The] ability to use reminders to be sure needed evaluations/ treatments are being performed. Family Medicine physician
- Better star ratings via use of tracking and reminders. Family Medicine physician
- Clinical reminders for screening tests help. Family Medicine physician
- Easier to clarify and keep track of medications and physician documentation. Pediatrician
- [It is] easy to track visits. Ob/Gyn
- I am able to follow my patients easily. Anesthesiologist
- Mostly improvement of vaccination rates for tetanus or pneumococcal. Internal Medicine physician
- Order entry, care pathways, alerts, reminders, communication, pictures. Orthopedic Surgeon
- Order reminders. Emergency Medicine physician
- Orders are clearer and more immediate response from pharmacy in the hospital about medication dose questions or concerns. I like how orders pop up quickly to nurses. Pediatrician
- Quality management reminders keep screening and other preventative actions on track. [It is] very easy to gather and send patient records to ER for history, med lists. [I] can do that in the middle of the night from my home computer. Family Medicine physician
- Reminders to perform screening. Improved information retrieval and sharing especially regarding medication records. Internal Medicine physician
- Tracking data for primary care screening allows better tracking of mammograms and colonoscopies. General Surgeon
- We are able to screen and monitor depression more easily, prescribe medications with less delay which helps medication adherence, and evaluate fall risks. Internal Medicine physician

Complete and Thorough Records

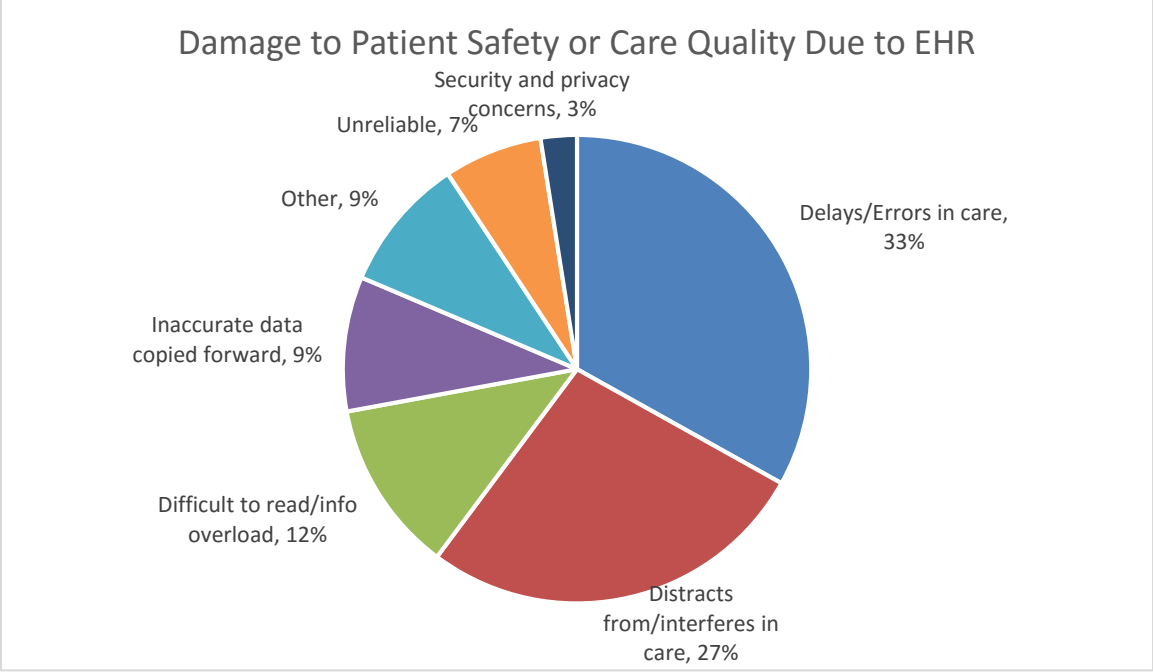
- All data covered. Orthopedic Surgeon
- Better diagnosis and history. Psychiatrist
- Better records and automatic interaction checking. Family Medicine physician
- … [It] has helped me know what prior work up a patient has had and precluded duplicate testing. Also [I] can see prior diagnoses the patient (or parent) has forgotten about. Pediatrician
- More comprehensive view with labs and old records. Internal Medicine physician

- No more repeat testing... Ob/Gyn
- Not missing X-ray reports. Thoracic Surgeon
- Provider more thorough in history taking thus obtained information that was critical. Ob/Gyn
- Records are more complete, no lost pieces. Less duplication of efforts, tests, etc. Anesthesiologist
- Physical exam documentation more complete. Occupational Medicine specialist

Improved Performance

- Our rate of postoperative nausea and vomiting prophylaxis has improved and subsequently decreased the rate of use for rescue antiemetics in the PACU in our anesthesia department. Anesthesiologist
- The VA uses EHR data to look at many performance measures which definitely improve quality of care. Geriatric Psychiatrist
- We are able to mine data pertaining to certain chronic disease measures and perform quality improvement projects. Internal Medicine physician

Physicians who experienced damage to patient safety or care as a result of using an EHR most frequently reported delays and errors in patient care (33 percent), sometimes as a result of a system crash or failure. Physicians also report EHRS are distracting and interfere in the patient-physician relationship and with attentiveness to a patient's signs and symptoms (27 percent).



Comments are as follows:

Delays and Errors in Care

- A patient received a vaccine they should not have on our first day of using the EHR, due to inexperience with the new system. Pediatrician
- Access to cloud base data was delayed by system crash and this delayed appropriate prescriptions. Infectious Diseases specialist
- Antibiotics are left off bridge orders from ER on patients being treated for infection. Neurological Surgeon
- Bad diagnosis. Psychiatrist
- Care suffers when EHR doesn't cooperate. Emergency Medicine specialist
- .. EHR is very cumbersome and counter intuitive. I find it has actually increased errors then decreased them. Also has greatly decreased workflow and efficiency. Emergency Medicine specialist
- Confusion about information entered in the wrong location on the EHR chart. Ophthalmologist
- Confusion over medication due to automated multiple entries. Delay in medication needed. Neurological Surgeon
- Delay in seeing patients due to loss of data or systems down. Orthopedic Surgeon
- Delays in patient care due to orders not being released or the system not allowing input of orders. Critical Care Medicine Anesthesiologist
- Delays, confusion in scheduling appointments, increased stress for me and office staff, longer work days. Ob/Gyn
  Obstetrics and Gynecology
- Dependence on the accessibility of a hospital-based EHR led to an extremely delayed diagnosis of a life threatening problem because a test result performed at a hospital (that I was unaware had been performed) was not transmitted to my office. Pre-EHR, couriers would have delivered the ER note and the test result. Internal Medicine physician
- Discontinue fentanyl patch was ordered and IV started. Patch was deleted from MAR so nurse didn't know it was on when she started drop. Patient died of overdose. Hematologist
- Excessive testing due to order sets. Delays in patient care due to cumbersome nature of EHR. Emergency Medicine specialist
- I have seen orders put in on the wrong patient. I have seen dosage errors. I have seen errors when the system did not have the correct order programmed into it. Emergency Medicine specialist
- I review charts frequently for attorneys. These EHRs are full of errors and inaccurate entries. The copy and paste from previous records is a killer. The pre-populated fields are dangerous-the C/C is one thing and that very problem is denied because the practitioner hit the "all negative" or WNL choice. The nurses notes in the hospital are not informative and a waste of time generally. Diagnostic Radiologist
- I see records every day where the physician has used the computer template for history and physical without correcting errors. Often I read about normal findings in patients with very abnormal exams. An example of this is normal pulses in a prosthetic limb. Patients complain that the doctor takes care of the computer, not them. Internal Medicine physician

- If information is not entered into the EHR in a timely manner, patient safety and quality of care is sometimes, albeit rarely, compromised. General Surgeon
- Inappropriate use of anticoagulants. Otolaryngologist
- It has added diagnoses the patient doesn't have and changed diagnoses in the chart and flow sheet. Ob/Gyn
- Medication error, wrong patient error, failure to submit error leading to delay in care, invalid contact errors leading to delay in action, documenting mislabeling/misclassification error leading to "lost document" to provider, document processing latencies for urgent/stat documentation >= 2 hours (document lost to cyberspace during such latency). Critical Care Medicine Pulmonologist
- Medication errors, not correctly noted or available options not robust. Pulmonologist
- Medication …was for DS dosing (incorrectly) rather than ER resulting in potential for large number of patients getting the wrong dose. Gastroenterologist
- Meds get lost and the system for checking allergies is not that great. [There is] lots of wasted time when it comes to the EMR. Family Medicine physician
- Merging of electronic records of two patients with the same first and last names! Improper scanned entry of documents into the wrong EHR records Improper cut-and-paste of one note (with an error) replicated and copied numerous times in the same record. Ophthalmologist
- Missed orders, delayed care, excessive alerts and alert fatigue. Internal Medicine physician
- My own husband was told to take medications when he was discharged after a heart catheter that he does not take. The nurse said she was not allowed to remove the meds from the med list. Luckily, since I am a physician and my husband and I are both mentally cognizant, he did not take the medications "prescribed" because we knew better. However, if he had taken them, he could have had a bad outcome. And to make matters even worse, he is seen every month for infusions of IVIG for an immune deficiency and he goes through the rigmarole of telling the nurse he does not take the mediations. This has happened for years. Pediatrician
- [The] system is complicated enough that it hinders access to patient information and slows patient care. Anesthesiologist
- Order sets incorrect. Emergency Medicine Pediatrician
- Physicians reliant on pre-populated dosing buttons …can sometimes choose wrong dose for patient instead of making sure dose is appropriate for reason for prescribing medication. Critical Care Pediatrician
- Providers no longer take a history or if they have a history already entered, they don't review it. Results: giving estrogen to a patient with h/o PE. Ob/Gyn
- Prescription errors. Multiple crashes so data from previous visits or providers inaccessible. Family Medicine physician
- Tasks will not get to staff causing delay in patient care (referral to specialist never processed). Family Medicine physician
- [It is] tedious to clean up medication lists on the fly, prescribe old doses and confuse patient and physician. Family Medicine physician
- The way our EHR sends orders to the lab often messes up lab orders. [The] time of patient visits is often longer. Family Medicine physician

- Transmitting wrong prescriptions. General Practitioner
- Wrong drug prescribed - accidently selected by physician. Child & Adolescent Psychiatrist
- Wrong medication given to a patient. Orders placed in the system on the wrong patient. General Surgeon

Distracts and Interferes

- [It is a] constant distraction. Incomplete and fractured data entry. Duplicate information, contradictory information, and obscured information. Family Medicine physician
- Distracted by data entry & hard to review previous data. Family Medicine physician
- I am too busy trying to fulfill EHR requirements for the billing than face time with my patients. In the room I am looking at my screen… It is ridiculous. Pediatrician
- I think it detracts from the patient encounters overall. Psychiatrist
- It interferes with work flow and makes it hard to know their history properly. Urologist
- It's too easy to check a box saying the routine exam was done and was normal; much easier than with handwritten notes. The system I use at one clinic… makes it hard to see the history of meds for the patient during the time I've been carting (past meds). Or, maybe it's easily to find that, but since I wasn't trained by the clinic on how to use the program, I have no clue where to find the information. Also, the …program makes taking notes while talking to the patient an impossible task without distracting from a personal doctor patient relationship. Psychiatrist
- Lack of eye contact with patients during interactions with them. Psychiatrist
- Less face to face time with patients. Ob/Gyn
- Less focus on patient. Hand Surgeon
- More time and effort is spent on EHR activities than patient care. I believe in the EHR concept, but existing products and regulatory demands have made them time consuming and inefficient. Information is frequently unhelpful, despite an increase in "data entry." Pediatrician
- More time spent documenting and reading EMR rather than speaking to and caring for the patient. Gastroenterologist
- Nurse [was] so busy writing in EMR, totally missing patient decompensating. Ob/Gyn
- Our notes can't import labs done outside our system. Must leave the note to review labs scanned into Onbase, then type them into our notes. Time consuming and does not serve the patient. Makes encounters longer than they need to be, clinic is half as efficient as it should be. Internal Medicine physician
- Physician /patient relationship interfered by EHR. Internal Medicine physician
- Physician attention diverted by malfunctioning EHR. Anesthesiologist
- [It] prevent quality visits due to so much data entry needed. Family Medicine physician
- …Far less personal interaction, much more fixation with the keyboard. Pediatrician
- [It is] severely intrusive in preventing physician from watching face and body language of patient. So much "garbage" that the pearls are lost amongst the putrefying oysters. Ophthalmologist

- …Hospital EMR … where doc and nurse notes/orders do not " talk "to each other. Ob/Gyn
- So labor intensive some information is not included in patient chart. Cardiologist
- Spend way more time documenting then discussing. Internal Medicine physician
- [It] takes longer to take of patient. Oncologist
- [It] takes too much time to complete EHR, taking away time with patients. Geriatric Psychiatrist
- Templated, useless notes. Otolaryngologist
- The traditional paradigm for care valued a good history and physical and notes on acute care or follow-up treatment. The evolving medical culture calls for completion of check off lists and pages of regurgitated past history. There is hopefully a little summary note buried somewhere with hints about the patient's current condition. Care is moving from treating fellow humans to treating the chart according to current regulatory fashion. No so good for patients. Family Medicine physician
- …When more time is spent on computer physician order entry, less time is available to listen to the patient, and to work through a differential diagnosis, and to be there for the patient's concern. Emergency Medicine specialist
- Too time consuming. Oncologist
- [It is] too cumbersome to use. [I] can't take care of my patient's concerns because there's too much useless data I have to document. [It] is difficult to use, hard to look up the data I need quickly, and the system crashes WAY too frequently. Internal Medicine physician
- [It is] too easy to confuse records or check wrong item. Emergency Medicine specialist
- [There is] too much time and focus on entering data, missed entering history pieces and exam details and discussion and instruction given to patient. Family Medicine physician
- [There is] too much time on data entry and losing contact/therapeutic alliance with patients. Psychiatrist

Difficult to Read/Information Overload

- [It is] difficult to read the final product and figure out exactly what happened to the patient. [The] CPOE [is] rigid and makes unique orders difficult to enter. Changes to orders and order sets require multiple approvals before changes can be made. Emergency Medicine specialist
- Difficulty in communication with staff about patient care and knowing another observations of ongoing patient care in real time. Emergency Medicine specialist
- [It is] easy to overlook critical information buried in page after page of unimportant information. Allergy & Immunologist
- Finding old data can be onerous, especially in old records from other facilities. Takes too much time, therefore people skip the search. Family Medicine physician
- Important data not being readily found, medication list not adequately representing the current meds, immunizations found in several places. Family Medicine physician
- Information garbled. Vascular & Interventional Radiologist
- Not user friendly interface, difficult to read at times. Anesthesiologist

- Notes are full of useless data to satisfy E&M requirements and important information gets lost. General Surgeon
- Patient management altered by the excess of information indicating need for therapy unneeded by clinical assessment. Urologist
- Provider notes are now so voluminous that no one reads them. In the hospital this leads to lost information. Providers' record inaccurate information and it becomes a permanent part of the chart. Internal Medicine physician
- [There is] too much interfering data that is not relevant. [It is] difficult to have a concise, readable office visit. Bulky, cumbersome, non-human friendly input and presentation. Family Medicine physician
- Unable to capture non- algorithmic data. Volumes of useless data hides important clinical data. Neurologist

Inaccurate Data Carried Forward

- Carries incorrect data forward. Oncologist
- Clones notes then not sure what's happening. Neonatalogist
- Copy forward notes with no change in notes on inpatient side…Internal Medicine physician
- Cutting and pasting notes allows inaccurate information to be perpetuated. Oral & Maxillofacial Surgeon
- EHR pre-filled data and "default sets" are implemented … without verifying and when they send over their H&P it is riddled with inaccuracies. General Surgeon
- EHR auto-fills and auto-populates information into prescriptions. If we change the start date for example or if we select "take as directed" and try to type in instructions about taking a half- tablet or something other than its automated choice it then recalculates the number of tabs to give, incorrectly. This sometimes leaves our HIV+ patients without medicines- which can potentially cause resistance to the HIV meds, illness, or death! Pediatrician
- Erroneous information that continues to be propagated into new notes, thereby giving appearance of a patient having a particular problem or diagnosis, when in fact it is purely an EMR data entry error. This especially is a problem in ICD billing codes that later cause a great deal of confusion for pre-authorizations or predeterminations. No way to purge the error. So it continues. Plastic Surgeon
- Inaccurate information carried through affecting decision making. Physical Medicine & Rehabilitation specialist
- Progress Notes are predominantly cut and paste of previous notes. No current or independent thinking. Diabetes out of control (Glucose >400), BP out of control (Systolic >220), Unstable Angina w/ HR>110.--All due to failure to independently examine patient and lab. Laziness enabled by EHR. Anesthesiologist
- Wrong information, or worse no information, regarding diagnosis and treatment and plans in EHR entry. General Surgeon

Unreliable

- EHR was "down" at a time information was needed for a procedure. Gastroenterologist
- Error on EHR not processing orders. Family Medicine physician
- Glitches in the system will sometimes change the intended prescription or not deliver a test result. Rheumatologist
- I have had records lost in server problems, viruses infecting the server, prescriptions wrong [due] to choosing wrong drop down. Ophthalmologist
- Loss of info with change of EMR. No ability to data transfer to new system. Duplication of services. Lost clinical information. Family Medicine physician
- Order entered, "dies" in the EMR. [I] find out about failure through the patient asking "when test will be scheduled." Family Medicine physician
- There have been issues of failed transmissions of e-scripts causing delay in treatment. When the EHR becomes unresponsive (internet failure or software issue), cannot access information from previous visits that could impact the patient's care. Family Medicine physician
- When the EHR is not working, inability to access files. Difficulty finding and reading old notes because it is so cumbersome. Internal Medicine physician

Other

- As a specialists in order to get the appropriate level of care pre-existing templates are used but the organ system not necessarily evaluated. General Surgeon
- EHR often makes one enter things in a pre-formatted way rather than what is truly accurate and specific for that patient (e.g., I have to make a diagnosis to link my lab orders when the diagnosis may not be clear which is why we're doing labs in the first place. That "fudged" diagnosis then stays with that patient forever.) Also, since we are strongly incentivized to do a huge ROS and exam to get paid what we think is fair, there is a lot of nonsense and meaningless information in the chart and no time to really write a true assessment and plan that would communicate the accurate situation of the patient. It's pathetic! Plus, when you have to dig through multiple screens of nonsense to get the info/opinion you're looking for, you are less likely to take the time to do this. Infectious Disease specialist
- Fragmented notes -- difficult to see information from multiple providers. Recent overtreatment of patient with rectal cancer - due to fragmentation of presentation of data. Oncologist
- Hospital EHR not tailored for pediatrics. Pediatrician
- Lists don't have the item I need so I have to do a workaround. Screens impossible to read, information skipped over because it's just too hard to read/find. Family Medicine physician
- Med allergies incomplete and past surgeries incomplete. Family Medicine physician
- Medical problems are not well documented and coordinated with medication list. Orthopedic Surgeon
- Notes by others not entered in a timely fashion. Cardiologist
- Order sets in CPPE in the hospitals are redundant and do not readily incorporate clinical backstops for patient safety. Hospitalist

- Unable to enter old (no longer produced) meds or meds from Mexico as allergies. Risk of hacking. Family Medicine physician

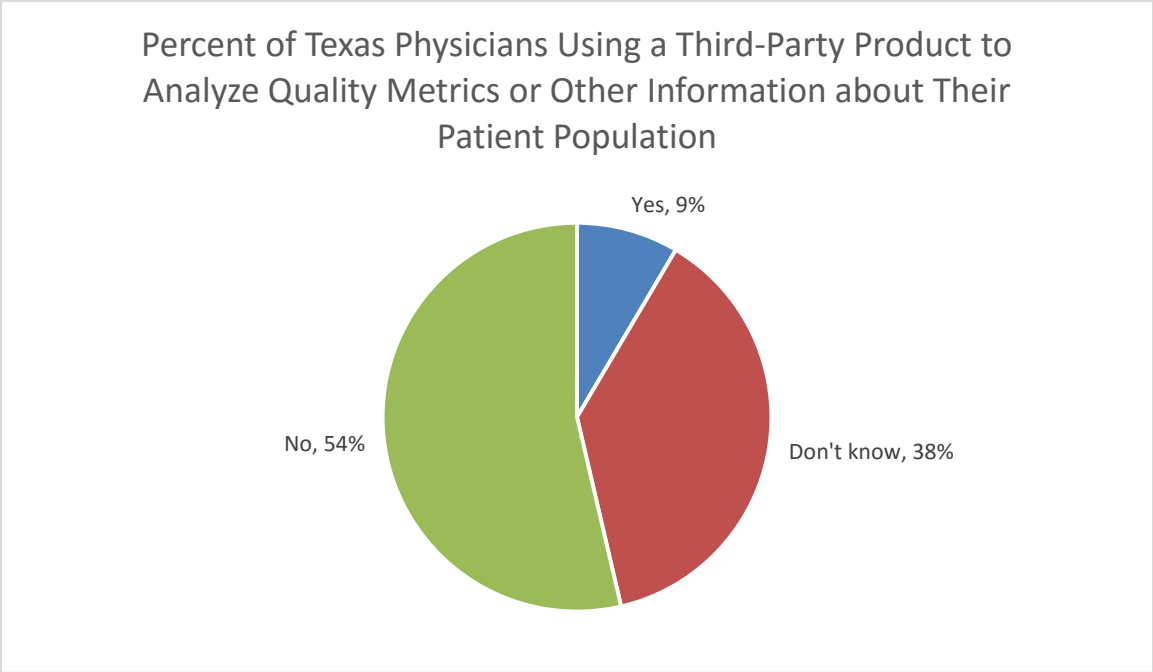
Security and Privacy Concerns

- …System accessed inappropriately and used to view patient data for employee in system who was then let go. Family Medicine physician
- More targeting by insurance companies-- I'm afraid to mark smoking anymore. Ob/Gyn

Physicians are split with 48 percent agreeing that improvements in patient safety and care due to EHRs outweigh the risks.

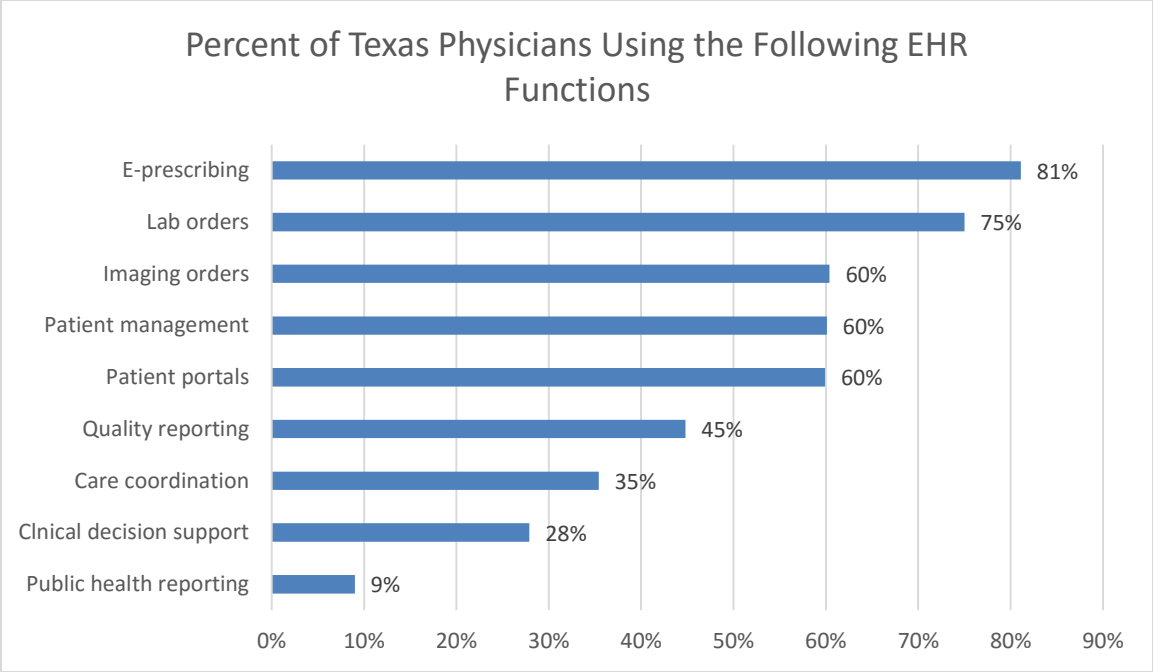
Quality Metric Analysis (Question 19-20)

Sixty percent of physicians are using tools built-in to their EHR to analyze quality metrics or other information about their patients. Among physicians not using tools built-in to their EHR to analyze quality metrics, nine percent are using a third-party product.



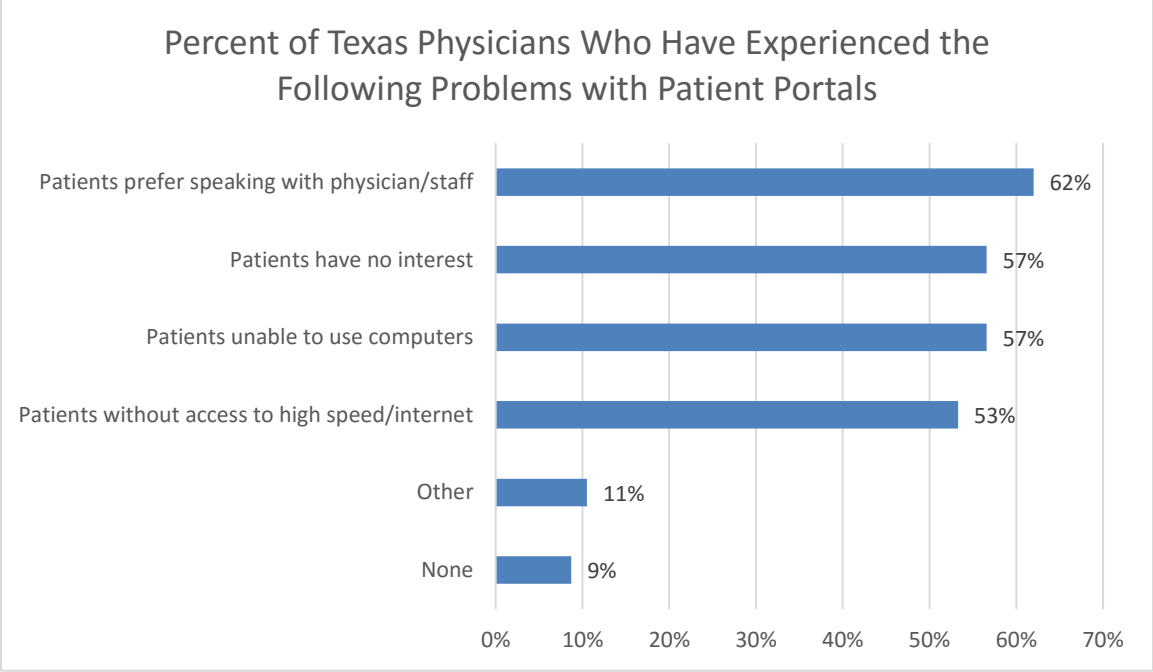
EHR Function (Question 21)

The majority of physicians use the following EHR functions: e-prescribing (81 percent), lab orders (75 percent), imaging orders, patient management, and patient portals (60 percent).



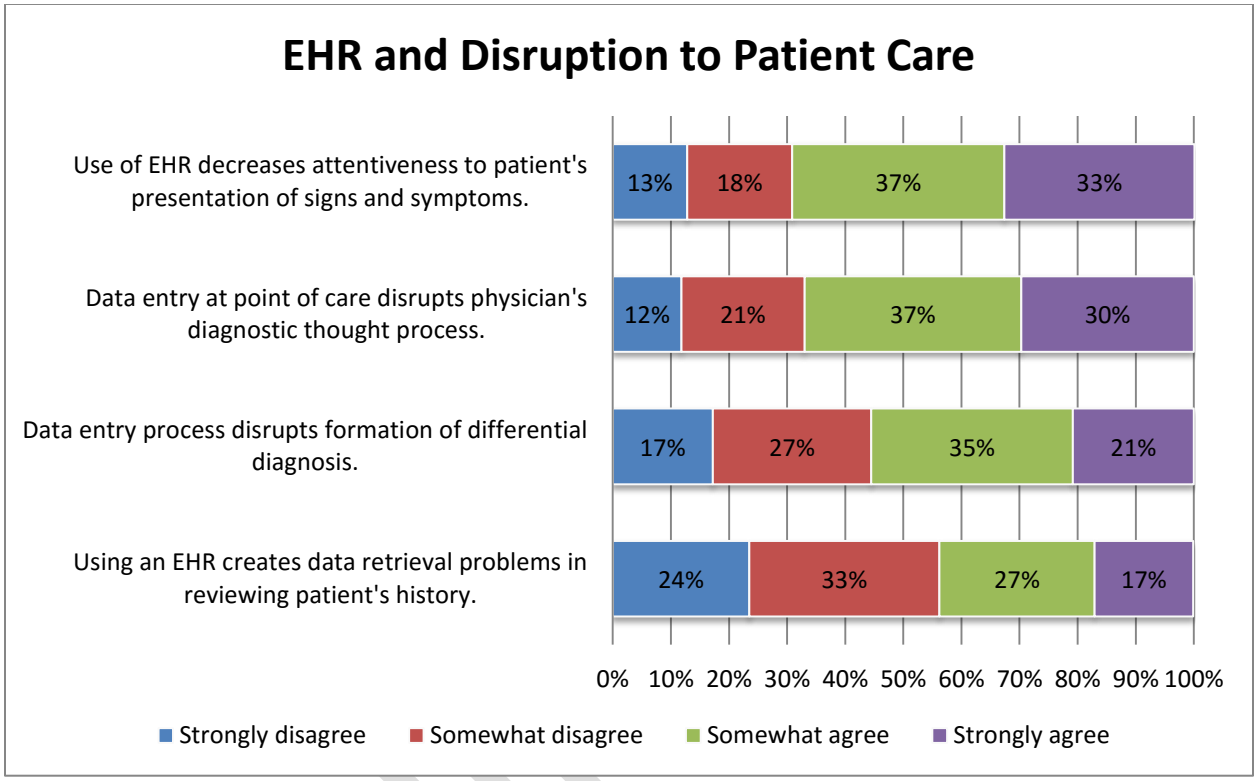
Patient Portals (Question 22-23)

Seventy-five percent of physicians report they have a patient portal. Physicians who have a patient portal report problems using them because patients prefer speaking with the physician and/or practice staff (62 percent), have no interest in using them, and/or are unable to use computers (57 percent).



EHR Disruption to Patient Care (Question 24)

Physicians continue to agree use of the EHR decreases attentiveness to the patient's presentation of signs and symptoms (70 percent) and data entry at the point of care disrupts a physician's diagnostic thought process (67 percent).

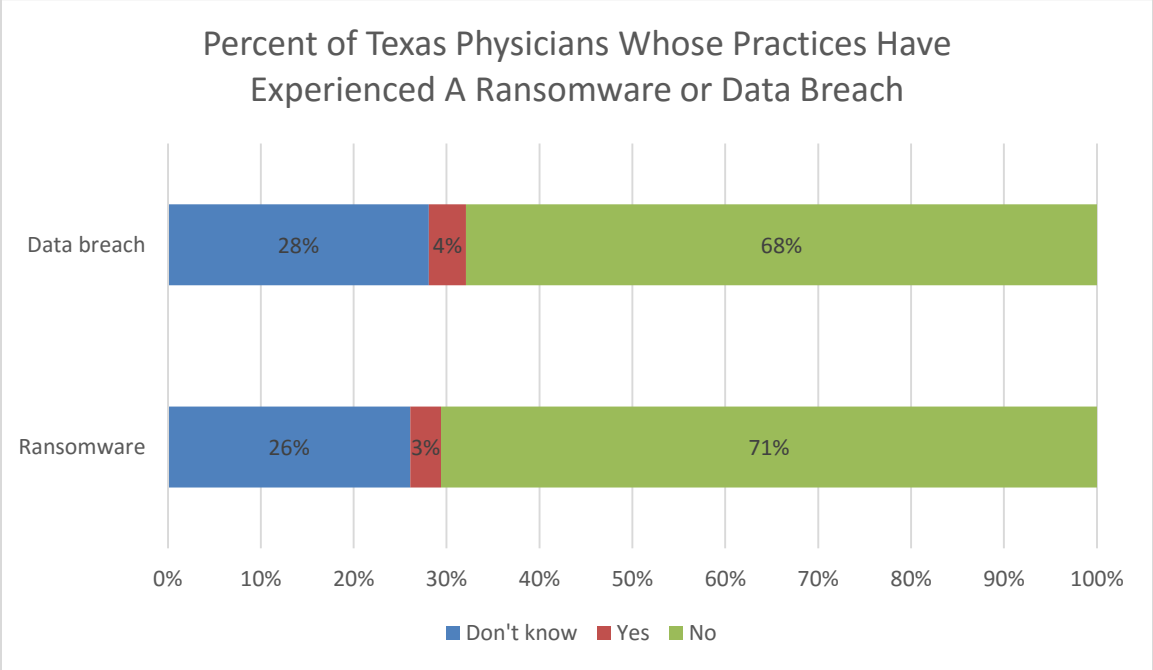


Use of More Than One EHR (Question 25)

Twenty-two percent of physicians changed EHRs due to ineffectiveness of their former one and seven percent changed because their previous EHR went out of business.

Cyber Security (Question 26-28)

Three percent of physicians' practices have experienced a Ransomware (data encrypted until ransom paid) and four percent have experienced a data breach.



Among physicians who experienced a Ransomware, the cost to unencrypt their data was on average $750 while the cost to recover from the data breach cost an average of $20,000.

Cyber Liability Coverage (Question 30)

Thirty percent of physicians report their liability insurance carrier offers cyber liability coverage.

Physician Demographics

Gender

	May 2016 %
Male	69
Female	31

Age

	May 2016 %
40 and younger	14
41 to 50	19
51 to 60	32
61 and older	32

Specialty

	May 2016 %
Indirect Access	12
Primary Care	32
Pediatrics	9
Obstetrics/Gynecology	4
Surgical Specialty	11
Non-surgical Specialty	31

County

	May 2016 %
Bexar	6
Dallas	12
Harris	19
Tarrant	6
Travis	11
Rural	8
Small Metro	39

TMA Membership Status

	May 2016 %
Member	84
Nonmember	16

APPENDIX — Survey Instrument

1. Which statement best describes the current status of your practice?

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

<u>No Plans to Implement an EHR</u>

2. 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
❑ Uncertainty regarding Medicare fees
❑ Uncertainty regarding the economy
❑ Other (please specify): _____

3. 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 reimbursement 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 reduce my liability risk
❑ Evidence it would improve my practice operations
❑ A better EHR product than the ones I've seen
❑ Standards that ensure that all systems can share information
❑ Certainty regarding Medicare fees
❑ Other (please specify): _____

4. What technologies do you use in practice? (Select all that apply.)

❑ A practice management system
❑ Electronic claims processing
❑ E-prescribing
❑ Other (please specify): _____
❑ None

Want or Plan to Implement an EHR

5. 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

Answer If you want to implement an EHR, how soon do you anticipate... More than two years is selected

6. Why will it take you more than two years to implement an EHR? (Check all that apply.)

❑ Cost-prohibitive
❑ No time
❑ Uncertainty regarding Medicare fees
❑ Uncertainty regarding the economy
❑ Other (please specify): _____

7. 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 to optimize new system efficiency and effectiveness
❑ Financial assistance
❑ Other (please specify): _____

8. Are you participating in a local health information exchange (HIE) in order to share EHR data among health care providers?

❍ Yes
❍ No

Answer If Are you participating in a local health information exchange (HIE) in order to share EHR data among healthcare providers? No Is Selected

9. If not, why not? (Select all that apply.)

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

10. Do you use e-prescribing for controlled substances?

- ❍ Yes
- ❍ No
- ❍ Not applicable – I don't use e-prescribing

Answer If Do you use e-prescribing for controlled substances? No Is Selected

11. If you don't use e-prescribing for controlled substances (EPCS), why not?

- ❍ I'm not interested in using it.
- ❍ I don't prescribe controlled substances.
- ❍ The upgrade to EPCS is cost prohibitive.
- ❍ It is not supported by my EHR.
- ❍ It interferes with workflow.
- ❍ Other (please specify): _____

12. Which EHR system are you using?

- ❍ Allscripts
- ❍ Amazing Charts
- ❍ Athenahealth
- ❍ Centricity (GE)
- ❍ Cerner
- ❍ e-MDs
- ❍ eClinicalWorks
- ❍ EPIC
- ❍ Greenway/Vitera
- ❍ NextGen
- ❍ Practice Fusion
- ❍ Practice Partner (McKesson)
- ❍ Sevocity (Conceptual Mindworks)
- ❍ I only use a practice management system, e-prescribing system, hospital system, or home-grown system.
- ❍ Other (please specify vendor): _____

13. How satisfied are you with your EHR system?

- ❍ Very dissatisfied
- ❍ Somewhat dissatisfied
- ❍ Somewhat satisfied
- ❍ Very satisfied

14. Does your practice use scribes for EHR data entry?

- ❍ Yes
- ❍ No

15. Have you experienced or witnessed:

	Yes	No
Damage to patient safety or care quality due to use of the EHR?	❍	❍
Improved patient safety or care quality due to use of the EHR?	❍	❍

Answer If Instances where an EHR damaged or harmed safety or care quality? - Yes Is Selected

16. If you have seen damage or harm to patient safety or care quality due to an EHR, please describe:

17. Answer If Instances where an EHR improved patient safety or care quality? - Yes Is Selected

18. If you have seen an improvement in patient safety or care quality due to use of an EHR, please describe:

19. Do the improvements in patient safety and care quality due to the EHR outweigh the risks to patient safety and care quality?

❍ Yes
❍ No

20. Are you using tools built-in to your EHR to analyze quality metrics or other information about your patient population?

❍ Yes
❍ No

Answer If Are you using tools built-in to your EHR to analyze quality metrics or other information about you... No Is Selected

21. Do you use a third-party product to analyze quality metrics or other information about your patient population?

❍ Yes
❍ No
❍ Don't know

22. Which EHR functions do you use? (Select all that apply.)

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

23. Do you have a patient portal?

❍ Yes
❍ No

Answer If Do you have a patient portal? Yes Is Selected

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

❑ Patients without access to Internet or high speed Internet.
❑ Patients unable to use computers.
❑ Patients prefer speaking with physician or practice staff.
❑ Patients have no interest.
❑ Other (please specify): _____
❑ None

25. Indicate your agreement with each of the following:

	Strongly disagree	Somewhat disagree	Somewhat agree	Strongly agree
Data entry at the point of care disrupts a physician's diagnostic thought process	❍	❍	❍	❍
Data entry process disrupts formation of the differential diagnosis	❍	❍	❍	❍
Use of the EHR decreases attentiveness to the patient's presentation of signs and symptoms.	❍	❍	❍	❍
Using an EHR creates data retrieval problems in reviewing patient's history	❍	❍	❍	❍

26. In your current, primary place of practice have you switched EHRs because your former one was:

	No	Yes
Ineffective?	❍	❍
Went out of business?	❍	❍
Other (please specify):	❍	❍

27. Has your practice experienced a Ransomware (data encrypted until ransom paid) or data breach?

	Yes	No	Don't know
Ransomware	❍	❍	❍
Data breach	❍	❍	❍

Answer If Ransomware - Yes Is Selected

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

Answer If Data breach - Yes Is Selected

29. How much did it cost your practice to recover from the data breach including IT support, notifying patients, updating policies, etc.? (If your practice experienced more than one data breach, answer for the most recent one.)

30. Does your liability insurance carrier offer cyber liability coverage?

❍ Yes
❍ No
❍ Don't know