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OSIM EHR/HIE Survey

Final Report

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1 Introduction

The Oklahoma State Innovation Model (OSIM) grant was awarded to the Oklahoma State Department of Health in December 2014. The goal of the OSIM is to provide state-based solutions to Oklahoma's healthcare challenges. Working through the Oklahoma Health Improvement Plan (OHIP) Coalition, a public-private partnership consisting of a broad spectrum of stakeholders across the state, Oklahoma's plan aims to improve health, provide better care and reduce health expenditures for more than 1.2 million Oklahomans. The Coalition has been developing a comprehensive model that focuses on the improvement of statewide health outcomes through value-based payment and healthcare delivery system innovation and redesign, while integrating evidence-based population and clinical interventions.

The plan is divided into three phases of work. Phase 1 seeks to achieve consensus among coalition stakeholders on the alignment of a socio-ecological model that includes clinical and population-based health measures for selected health topics: obesity, diabetes, hypertension and tobacco. In phase 2, stakeholders will assess and determine what a multi-payer, value-based purchasing model realistically achieves. Concurrently, in phase 3, stakeholders will identify strategies to increase adoption levels of Electronic Health Records (EHR) and attainment of Meaningful Use (MU) among providers; initiate planning for the development of a Value-Based Analytics Tool (VBA) for healthcare data analysis; determine benchmarks aimed at improving clinical and population health outcomes; and identify potential savings across multi-payer structures.

1.1 Purpose

In support of the third phase, a need was identified to determine current EHR penetration and adoption as well as Health Information Exchange (HIE) utilization throughout the state. OFMQ was contracted to perform a survey to assess the EHR adoption rate in Oklahoma, perform a gap analysis based upon findings, and advise the Coalition on strengthening and expanding the use of HIT and HIE to support population health, health care delivery and new value-based payment models. This report includes findings derived from this survey which will assist the work of the Coalition.

1.2 Scope

The scope of this project included the following:

1. Compiling of various contact lists to create one refined list
2. Developing the survey instrument
3. Delivering the survey via two methods (electronic and telephone based survey)
4. Performing analysis of survey data
5. Developing a report of findings and recommendations

2 Methodology

A survey of 36 questions was delivered to hospitals, Physician Office/Ambulatory Clinics, Behavioral/Mental Health facilities and Long-Term and Post-Acute Care (LTPAC)/Nursing Home) facilities

throughout the state of Oklahoma for which contact information was able to be determined. The survey was administered via two methods:

1. Electronic survey sent with SoGo Survey™
2. Telephonic survey

All responses were entered into the Sogo Survey™ tool either directly by the respondents, or by the callers, in order to have responses in one data source and to ensure consistency in data collection. An introductory and explanatory letter was sent to all providers via email with a link to the survey. An introductory and explanatory script was provided for the telephonic portion of the survey to ensure that all callers delivered the same message and followed the same protocol. The following table (Figure 1) outlines the number of surveys distributed by provider (Practice Point) type:

Practice Point Type	# Surveys (Master List)
Physician Office/Ambulatory Clinic	4406
Behavioral/Mental Health	652
Hospital	217
LTC	567
Total Practice Points	5842

Figure 1: Number of Surveys Distributed by Provider (Practice Point) Type

2.1 Overview

Work began upon contract award on March 1, 2015 with initial meetings between OFMQ and the Coalition to determine all available sources in order to compile an accurate contact list. OFMQ used their own extensive contact information and also obtained contact lists from the Oklahoma Health Care Authority (OHCA), the Oklahoma State Department of Health (OSDH), and MyHealth. Simultaneously, the survey instrument was developed and refined with input from the Coalition. The survey goal was to reach a 30% statewide response rate. A Practice Point was defined as a hospital, a Physician Office/Ambulatory Clinic, and a Behavioral/Mental Health facility or a Long-Term and Post-Acute Care (LTPAC)/Nursing Home facility. Hospitals were further classified as Acute Care, Critical Access and Rural. Physician Office/Ambulatory facilities from a single-doctor practice to a multi-provider clinic were considered to be a single Practice Point. Multiple Physician Office/Ambulatory Clinics, hospitals or LTC facilities within larger health care systems were accounted as separate Practice Points since adoption at each Practice Point can differ among Practice Points in the larger health care system. Stakeholder organizations were also contacted and encouraged to share the link to the survey with their membership (see Appendix). The survey was administered via two methods, electronic and telephonic, over the period of May 8, 2015 through June 17, 2015. After the survey period was closed, analysis was performed. Please note two points regarding the results discussed below. First, very few of the survey items forced respondents to answer before proceeding. Because of this, percentages discussed are always a reflection of the number of respondents to that individual survey item. Second, several of the survey items had a multi-select structure. For these survey items, the percentages displayed for each individual selection are based on the total number of participants that responded to the survey item not the total number of responses received.

2.2 Electronic

SoGo Survey™ smart tool was used for the electronic survey over a 5 week period of May 8, 2015 through June 17, 2015. All Practice Points on the master list received an invitation to participate in the survey via email. The email included an introductory letter explaining the purpose of the survey which included the link to the survey (see Appendix). Reminders for non-responders were distributed during week 2, and again during week 3 for an overall average of 2,260 email messages per distribution.

2.3 Phone

Non-responders from the three attempts at electronic survey were contacted for telephonic survey. Telephonic surveys were conducted over a 3 week period of May 21, 2015 through June 17, 2015. A script was provided to all callers that provided introductory text with explanations as to the purpose of the survey (see Appendix). Callers entered the responses into the electronic survey tool.

3 Findings

3.1 Analysis Overview

Survey responses were received from 1,488 Oklahoma Practice Points, representing a 25% overall survey response rate. The highest concentration of responses received were from the Oklahoma City and Tulsa metropolitan areas. Responses were received from at least one Practice Point Type in all but three of the 77 Oklahoma counties.

The following table (Figure 2) provides the number of surveys completed by Practice Point Type:

Practice Point Type	# Surveys Sent (Master List)	Completed Surveys			Overall Survey Total # (%)
		Electronic # (%)	Telephonic # (%)	Response Total # (%)	
Physician Office/Ambulatory Clinic	4406	154 (3.5%)	752 (17.1%)	906 (20.6%)	906 (60.9%)
Behavioral/Mental Health	652	41 (6.3%)	202 (31.0%)	243 (37.3%)	243 (16.3%)
Hospital	217	28 (12.9%)	62 (28.6%)	90 (41.5%)	90 (6%)
LTC	567	23 (4.1%)	224 (39.5%)	247 (43.6%)	247 (16.6%)
(Unidentified)			2 (0.2%)	2 (0.1%)	2 (0.1%)
Total Responses	5842	246 (4.2%)	1242 (21.3%)	1488 (25.5%)	1488 (100%)

Figure 2: Surveys Completed by Practice Point Type

Two surveys that were completed telephonically failed to document the Practice Point Type. However, most of the other information was completed, so those results are included in analyses where applicable. Of the 1486 participants identifying Practice Point Type, the majority of responses (61%) were received from Physician Offices/Ambulatory Clinics; an expected result, given that these Practice Points accounted for 75% of the Practice Point distribution list compiled. Roughly equal numbers of responses were received from primary and specialty care Physician Office/Ambulatory Clinics, with 27

responses received from multi-specialty clinics. Consequently, the survey results are often stratified by Practice Point Type in order to distinguish unique perspectives of the individual provider type. This approach further avoids the issue of responses “washing out” the input provided by the other Practice Point Types.

For all Practice Point Types, the majority of Practice Points identified as part of a larger healthcare system. Of note, only 41 responding Physician Office/Ambulatory Clinics identified as part of an Independent Practice Association. However, 340 respondents identified as Physician Office/Ambulatory Clinics but didn't select any options regarding the clinic's facility designation. These respondents may not have understood the question well enough to answer confidently, or they may have lacked sufficient information. In either case, the results of the survey should be interpreted with the understanding that clinics not affiliated with a larger healthcare system may be underrepresented.

Questions 6, 7, and 8 addressed the larger system with which the Practice Point was associated. INTEGRIS was the most common response. For Behavioral/Mental Health facilities, Red Rock was the most common response, more than all others combined. OSU was the most common response for questions 6 (larger healthcare system) and 8 (university/teaching system).

Over 70% of respondents indicated that they did not utilize an innovative payment model. This clearly points to the need for such a model in the state. Each of the categorical options for innovative payment model type received more than 15 responses, with 212 facilities participating in the Patient Centered Medical Home model. This shows that while there is an opportunity to increase participation in innovative payment models, there is some level of statewide awareness of this topic with a number of facilities already participating in some form.

Questions 10a, 10b, and 11 addressed the number of personnel employed at the Practice Point. As expected, the distribution of these responses varied substantially by Practice Point Type. Hospitals employed far more physicians and mid-level providers than other Practice Point Types, while Long-Term and Post-Acute Care (LTPAC)/Nursing Home facilities and hospitals had roughly equal non-provider staff size.

Regarding EHR adoption in the state, 86% of respondents reported utilizing an electronic record. The highest rate of adoption is in the Physician Office/Ambulatory Clinic setting at 94%, and the hospital setting, with 92%. This aligns with the national plan for EHR adoption and the requirement of meaningful use. Eligible providers and eligible hospitals are starting to realize penalties in 2015 if they have yet to implement an EHR and attest to meaningful use. The lower adopters are Behavioral/Mental Health (75%) and Long-Term and Post-Acute Care (LTPAC)/Nursing Home (64%) which correlates to the lack of incentives for these types of Practice Points.

Of the 181 respondents indicating a reason that they have yet to implement an EHR, 27% (48) stated they “never” plan to implement, while 35% (64) stated they will implement “in more than 24 months”. This is concerning considering the incentives are close to expiring and penalties have begun for Medicare providers. In examining the reasons for not adopting an EHR and reasons for never adopting an EHR, the results show that the ultimate barrier was cost, with 40% of respondents indicating this

barrier. The most common barriers supplied as “other” responses were related to the decision being out of the hands of the respondent, such as “it is a corporate decision” or “the physician does not want to implement”.

Looking at the importance of EHR utilization is a growing area of focus for many national-based grant opportunities and future funding programs. Identifying patients due for preventative follow-up care is the most utilized feature the survey identified (70% of respondents) with 57% of respondents “always using” and 13% of respondents “often using” their EHR for this purpose. This feature is a component and requirement of meaningful use which may explain the reason for high utilization. Respondents most frequently indicated always (41%) and often (28%) for generating lists of patients with specific health conditions. This feature is also a meaningful use objective which may explain the high utilization. The lowest utilized features (highest rates of rare utilization) were those centered on care coordination (electronically sending and receiving information) and patient engagement (patient view/portal). Care coordination and patient engagement are more prevalent in stage 2 meaningful use for which participation will ramp up in late 2015 due to the flexibility rule and proposed rule.

In examining the patient view/portal feature we find large differences by Practice Point Type that are worth noting. Behavioral/Mental Health (89%) and Long-Term and Post-Acute Care (LTPAC)/Nursing Home (48%) had the highest rates of rare usage which is described as using this feature 25% of the time or less. Hospital and Physician Office/Ambulatory Clinic utilization had the most responses in the always category at 69% and 66% respectively.

Regarding utilizing all functions of the EHR, 23% of respondents responded that they “don’t perceive a need to do more than what is already being done” with their EHR, versus 31% who responded that they “use all (their) my EHR’s functionalities”. When asked about patient panel management, diabetes (54%) and hypertension (53%) were the conditions for which respondents reported using their EHR most often. Additionally, 18% (234) of respondents stated they do not use their EHR for the management of chronic conditions.

For respondents who do utilize the EHR for Care Coordination, 72% (1070) of respondents reported having staff designated to perform the coordinating of care for patients with complex conditions, however there is a lower percentage of designated staff in the independent (IPA) provider (45%) setting and federally qualified health center (52%) setting.

Having the capability to access patient data electronically (data that was not collected at the Practice Point) occurs 43% of the time. The Physician Office/Ambulatory Clinic Practice Point has the highest rate of electronic data that was not collected at their facility at 55%, in comparison to Behavioral/Mental Health at 14%, hospitals at 37% and Long-Term and Post-Acute Care (LTPAC)/Nursing Home at 30%. For the physician clinic/Ambulatory Clinic Practice Point only 27% of independent practices (IPA) have electronic access to patient data not collected at their facility.

The survey identified that 46% of all respondents participate in an HIE. Physician Offices/Ambulatory Clinics and Hospitals had the highest adoption rates at 55% and 52% respectively while Behavioral/Mental Health and Long-Term and Post-Acute Care (LTPAC)/Nursing Homes had the lowest

adoption rates at 21% and 34% respectively. An affiliation with a health system appears to greatly impact the adoption rates. Facilities associated with a University had a 95% adoption rate, larger healthcare systems had a 65% adoption rate, while critical access hospitals had a 43% adoption rate, and independent practices (IPA) had 18% adoption rate. There is an additional correlation to staffing size and HIE adoption where Practice Points with fewer than 5 non-provider staff reporting a <25% HIE adoption rate. In contrast, Practice Points with more than 6 but fewer than 20 non-provider staff had a >40% HIE adoption rate. A key finding related to staffing is that Practice Points with more than 20 non-provider staff were more likely to not participate in an HIE (47%) than participate (41%).

The survey revealed that the primary reasons for not adopting an HIE are related to cost (Long-Term and Post-Acute Care (LTPAC)/Nursing Homes, Behavioral/Mental Health), technical challenges (Long-Term and Post-Acute Care (LTPAC), Physician Offices/Ambulatory Clinics), and other (Long-Term and Post-Acute Care (LTPAC)) reasons namely corporate decisions, and not having adopted an EHR. More than 50% of Physician Offices/Ambulatory Clinics that indicated reasons for not adopting an HIE cited the reasons “Slows me down”, “Lack of valuable data”, and “There is no need”. No other Practice Point Type cited these reasons at such a high percentage. However, it is important to note that Physician Offices/Ambulatory Clinics have the highest adoption rates at 55%. Hospitals reported few barriers to HIE adoption with technical challenges being the most cited barrier at 11%.

Of the HIE non-participants that provided a time frame for HIE connection, the majority (55%) do not plan on doing so within the next 24 months while 14% of respondents indicated they would never adopt an HIE. However, of these 14%, 27% indicated they would participate in an HIE if a voucher program existed. Overall, 81% of respondents indicated they would participate in a voucher program which speaks to the value of an HIE voucher program. Respondents indicating that they participate in an HIE reported that it helps their facility manage the care of its patients (91%). These respondents utilize a wide range of features within the HIE with most using the HIE to view patient/clinical data, labs, medication lists, allergy lists, and problem lists. This correlates to the advertised value of an HIE having current, up-to-date information for patients. The least used HIE features include patient portal and dashboards which is most likely attributed to these features being part of EHR systems and reports. 90% of HIE users have a system/process in place for utilizing the information within the HIE. 32% of HIE users indicated they needed more education to utilize the HIE more extensively.

4 Detailed Findings by Question

Please see the Appendix for a list of questions as well as a question flowchart showing skip logic.

4.1 Question 1

What is the name of your healthcare facility?

A total of 1488 unique responses were received. The information collected in this question was for referential purposes only.

4.2 Question 2

Complete your business information below.

The information collected within this question includes basic address information consisting of address, city, county, state, and zip code. The zip code and county information were used to generate a geographic plot of responses by county (Figure 3). Survey responses were received from all except three Oklahoma counties (Cimarron, Coal, and Ellis counties). Figure 3 shows that the highest concentration of responses received were from the Oklahoma City and Tulsa metropolitan areas. Similar results were found when examining the distribution of responses for each individual Practice Point Type (Question 3).

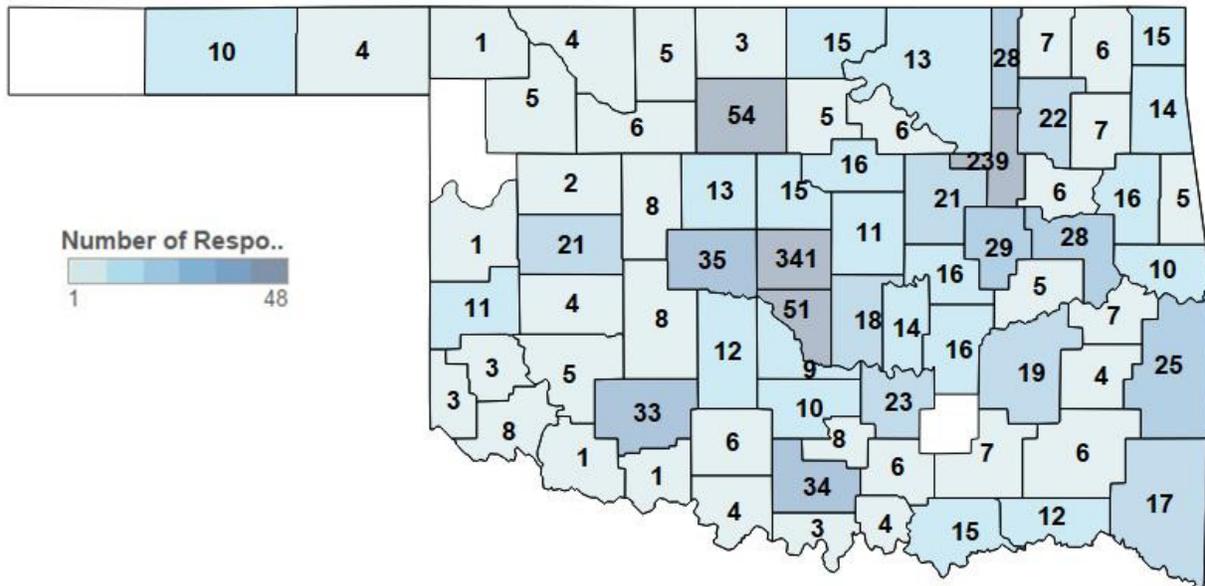


Figure 3: Number of Survey Responses by County

4.3 Question 3

Which of the following best describes your healthcare facility?

As seen in Figure 4, the majority of respondents, at 61% (906), identified as Physician Office/Ambulatory Clinic, 17% (247) identified as Long-Term and Post-Acute Care (LTPAC)/Nursing Home, 16% (243) identified as Behavioral/Mental Health, and 6% (90) identified as Hospitals. The high response rate for Physician Office/Ambulatory Clinic is expected, given the much higher number of these facilities relative to the other three types. Physician Office/Ambulatory Clinic as a group had the lowest response rate at 21%.

Responses	Count	%	Percentage of total respondents
Hospital	90	6.06%	
Physician Office/Ambulatory Clinic	906	60.97%	
Long-Term and Post-Acute Care (LTPAC) / Nursing Home	247	16.62%	
Behavioral/Mental Health	243	16.35%	
Total Responses	1486		

Figure 4: Question 3 Responses

4.4 Question 4

Which best describes your Physician Office/Ambulatory Clinic? (Select one)

As seen in Figure 5, the most frequent responses were Specialty Care at 49% (372), followed by Primary Care at 47% (358), and Multi-Specialty Care at 4% (27).

Responses	Count	%	Percentage of total respondents
Primary Care	358	47.29%	
Specialty Care	372	49.14%	
Multi-Specialty Care	27	3.57%	
Total Responses	757		

Figure 5: Question 4 Responses

4.5 Question 5

Which of the following applies to your healthcare facility? (Select all that apply)

This question was optional and a multi-select question with a 52% (775) unique response rate. As seen in Figure 6, the majority of responses, at 80%, indicated the Practice Point was part of a larger healthcare system.

Responses	Count	%	Percentage of total respondents
Part of a Larger Healthcare System	617	79.61%	
Part of an Independent Practice Association (IPA)	45	5.81%	
Part of a University/Teaching System	55	7.10%	
Designated as an Indian Health Service (IHS) Facility or Clinic	17	2.19%	
Designated as a Federally Qualified Health Center (FQHC) or Community Health Center	29	3.74%	
Designated as a Critical Access Hospital (CAH) or Small Rural Hospital	15	1.94%	
Total Responses	778		

Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

Figure 6: Question 5 Responses

We also looked at responses by Practice Point Type. These are shown in Figure 7.

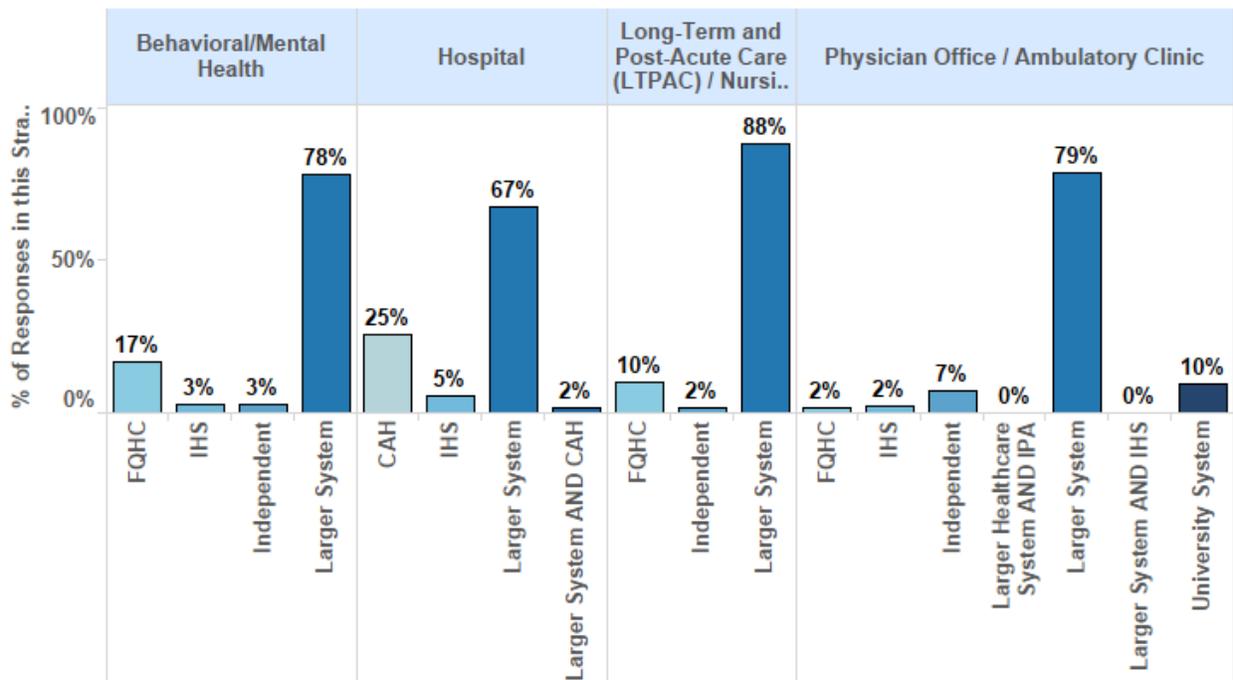


Figure 7: Facility Designation Stratified by Facility Type

Stratifying results by Question 5 (Facility Designation) reveals that 67% of hospitals indicated being a part of a larger healthcare system which was the lowest percentile for this category among the four Practice Point Types. Twenty-five percent of hospitals identified as a Critical Access Hospital or Small Rural Hospital. For Physician Offices, 10% of respondents identified as being a part of a University/Teaching System and 7% identified as being a part of an Independent Practice Association.

4.6 Question 6

Please identify which larger healthcare system your healthcare facility is part of

A total of 611 responses were received with just over 80 unique responses. As seen in Figure 8, Behavioral/Mental Health had all but two unique responses (Red Rock). Hospitals had multiple duplicative responses with INTEGRIS (42%) and Mercy (29%) having the highest concentration. Physician Office/Ambulatory Clinics had 29 unique responses with OSU (27%) and INTEGRIS (24%) having the highest concentration. Long-Term and Post-Acute Care (LTPAC)/Nursing Home associated with Reach Corp had the highest concentration.

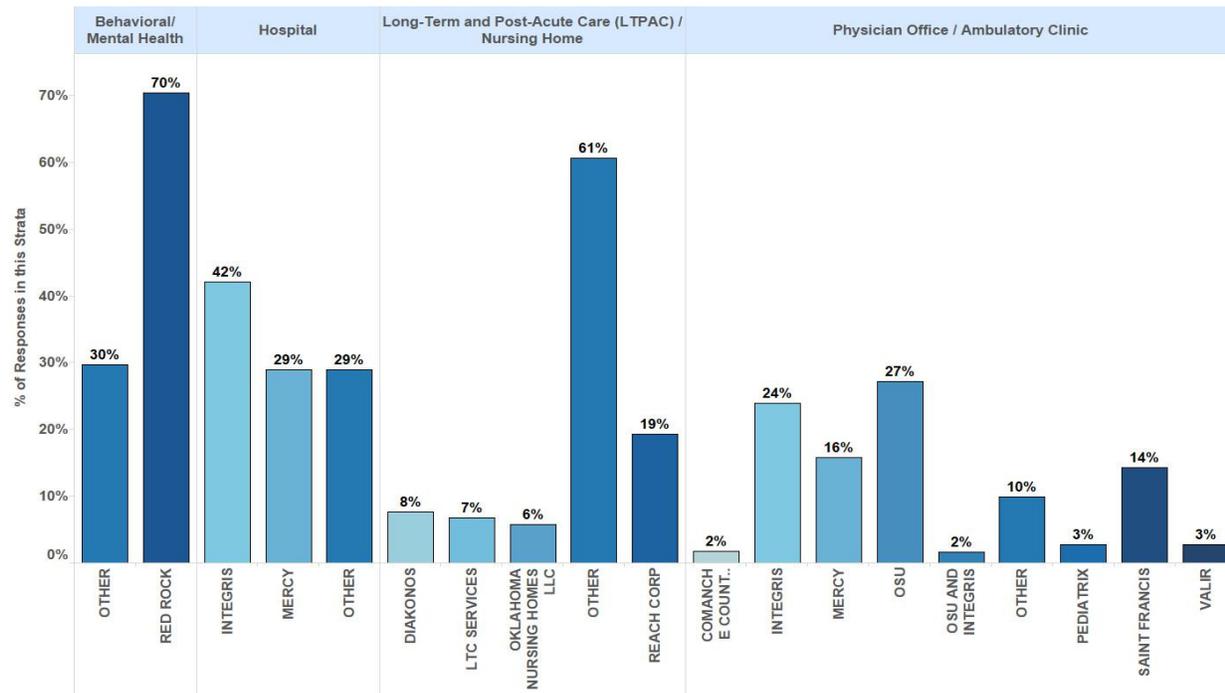


Figure 8: Frequency of Response for Affiliation by Facility Type

4.7 Question 7

Please identify which IPA your healthcare facility is a part of

As seen in Figure 9, a total of 23 (22 unique) responses were provided.

Responses	Count
Alpha Care Properties	1
Arbuckle Memorial Hospital	2
Duncan Phys Organization	1
Independent	1
INTEGRIS	1
Jeremiah S Rutherford MD	1
Mercy Memorial	1
Oklahoma Board of Optometry	1
Oklahoma physician association	1
Optometric and Dental	1
Outpatient Clinic	1
Private physical therapy office pediatrics	1
Privately owned and operated	1
Rural Health	1
Solara Surgical Partners	1
St. Francis, Bailey, Hillcrest	1
Triacle	1
Tulsa Spine and Specialty Hospital, Hillcrest Medical Center	1
We are an independent solo physician practice.	1
independent	1
none....but you required a response to that question	1
private practice	1
Total Responses	23

Figure 9: Frequency of Response for Independent Practice Association

4.8 Question 8

Please identify which University/Teaching System your healthcare facility is a part of

As seen in Figure 10, a total of 54 responses were provided. University of Oklahoma was the top response. It was noted, however, that 124 Physician Offices supplied OSU as a response to Question 6.

Responses	Count
OSU	2
OSU and OU	1
OU	48
OUQ	2
Through Soonercare affiliated with OSU Medical Center for Health Sciences, private practice	1
Total Responses	54

Figure 10: Frequency of Response for University/Teaching System

4.9 Question 9

Does your facility utilize any of the following innovative payment model categories? (Select all that apply)

This question was a multi-select question with a 99.9% (1,486) unique response rate. As seen in Figure 11, the majority of responses, at 71% (1059), indicated “None” (they do not utilize any innovative payment model category). Of the remaining responses, Patient Centered Medical Home was the most common response. This was most likely associated with more responses received overall from Hospitals and Physician Office/Ambulatory Clinics offices. Health Homes was the most common response for Behavioral/Mental Health facilities and Health Access Networks (HAN) was the most common response for Long-Term and Post-Acute Care (LTPAC)/Nursing Home facilities.

Responses	Count	%	Percentage of total respondents
Accountable Care Organization (ACO)	18	1.21%	
Bundled Payments for Care Improvement (BPCI)	16	1.08%	
Comprehensive Primary Care Initiative (CPCI)	44	2.96%	
Health Homes	35	2.36%	
Health Access Networks (HAN)	16	1.08%	
Patient Centered Medical Home (PCMH)	212	14.27%	
None	1059	71.27%	
Other (Please specify)	107	7.20%	
Total Responses	1507		

Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

Figure 11: Question 9 Responses

4.10 Question 10

10a. Number of providers at this location: Doctor (DO, MD)

As seen in Figure 12, the most frequent response, at 41% (612), indicated 5 or less physicians working at their facility.

Responses	Count	%	Percentage of total respondents
0-1	536	36.07%	
2-5	612	41.18%	
6-10	268	18.03%	
11-19	25	1.68%	
20+	45	3.03%	
Total Responses	1486		

Figure 12: Question 10 Responses

As seen in Figure 13, stratifying results by Question 3 (Facility Type) reveals that the most common number of physicians is 5 or less except in hospitals. The most common response within hospitals was 20+ physicians (37%), followed by 6-10 physicians (31%) and 2-5 physicians (19%).

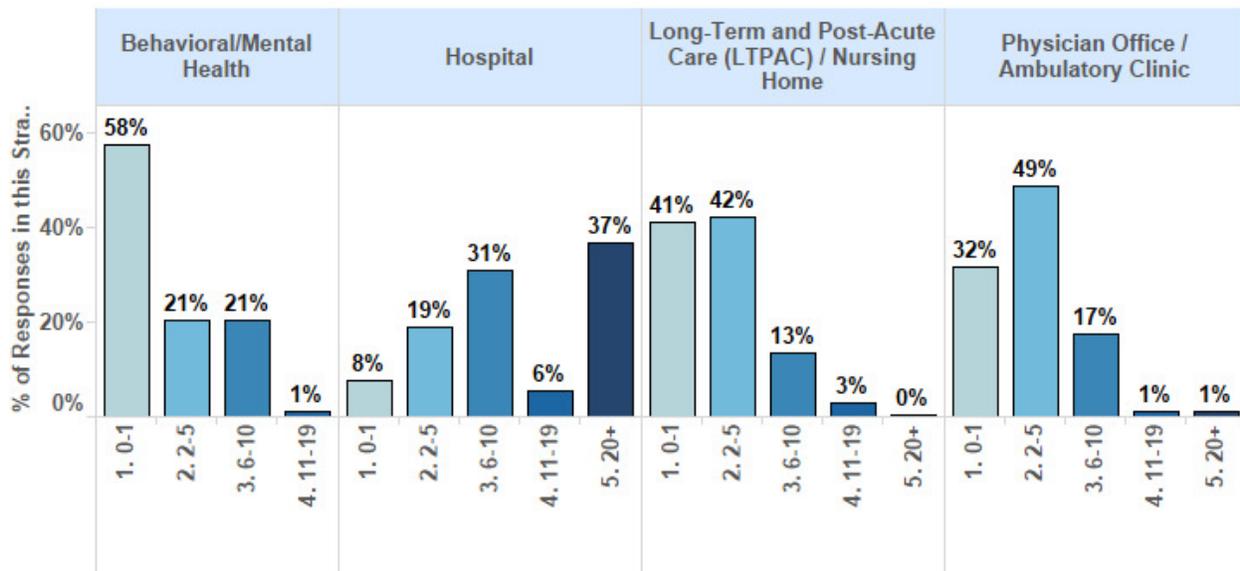


Figure 13: Number of Physicians Stratified by Facility Type

10b. Number of providers at this location: Mid-level (NP, PA)

As seen in Figure 14, the majority of respondents, at 62% (914), had 1 or less mid-level providers.

Responses	Count	%	Percentage of total respondents
0-1	914	61.51%	
2-5	456	30.69%	
6-10	86	5.79%	
11-19	9	0.61%	
20+	21	1.41%	
Total Responses	1486		

Figure 14: Number of providers at this location: Mid-level Providers (NP, PA)

As seen in Figure 15, stratifying results by Question 3 (Facility Type) reveals that Long-Term and Post-Acute Care (LTPAC)/Nursing Home (79%), Physician Office/Ambulatory Clinics (65%), and Behavioral/Mental Health (49%) all reported 0-1 mid-level providers. The majority of hospitals (52%) reported 2-5 mid-level providers, with 18% reporting 20+.

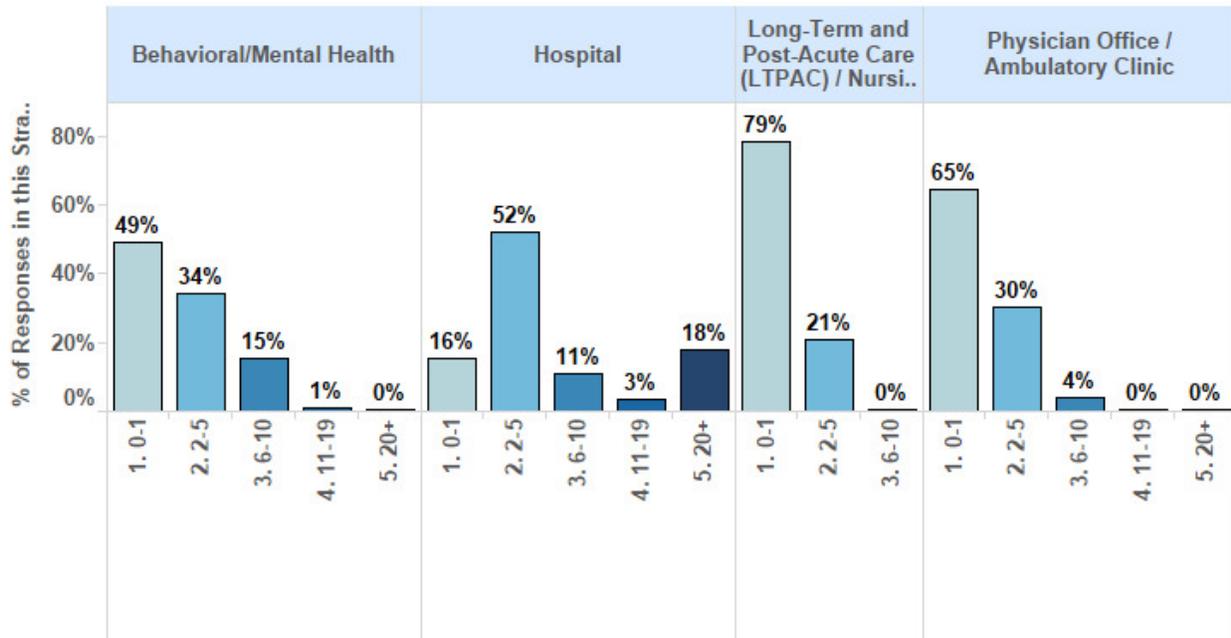


Figure 15: Number of Mid-Level Providers Stratified by Facility Type

4.11 Question 11

For your reported location, what’s the total number of staff NOT including the providers mentioned above?

As seen in Figure 16, the most frequent response, at 32% (471), indicated a non-provider staff size of 20 or more. More than half of respondents indicated a non-provider staff size of 11 or more, while only 2% of respondents indicated a staff size of 0-1.

Responses	Count	%	Percentage of total respondents
0-1	32	2.15%	
2-5	257	17.29%	
6-10	354	23.82%	
11-20	372	25.03%	
20+	471	31.70%	
Total Responses	1486		20% 40% 60% 80% 100%

Figure 16: Question 11 Responses

As seen in Figure 17, stratifying results by Question 3 (Facility Type) reveals that more than 80% of Hospitals and Long-Term and Post-Acute Care (LTPAC)/Nursing Home facilities reported a staff size of 20+. Physician Office/Ambulatory Clinics and Behavioral/Mental Health facilities showed a more even distribution within the different staff size categories.

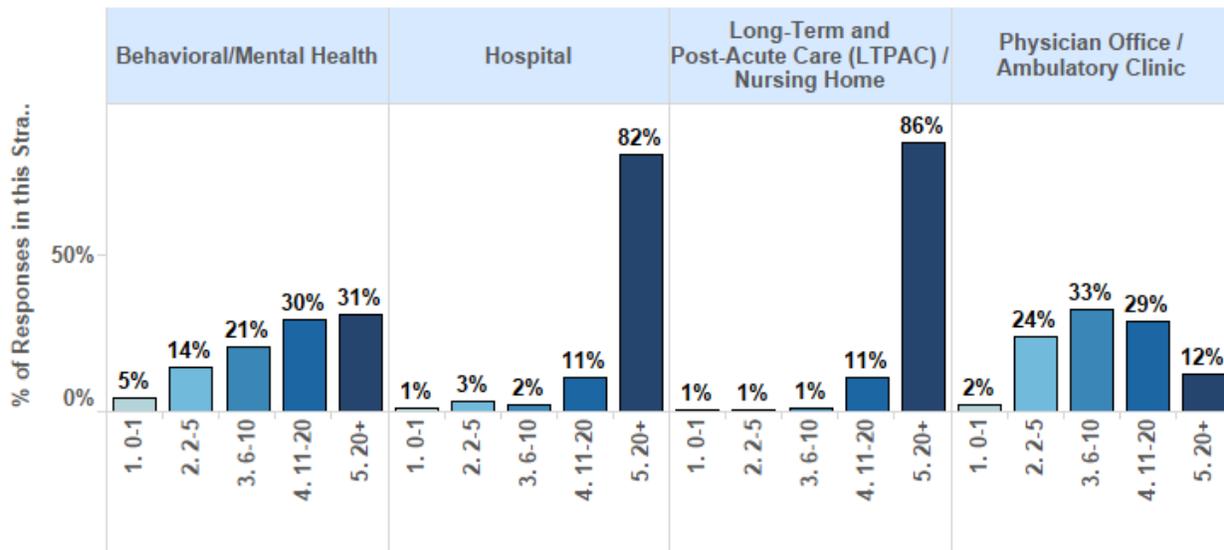


Figure 17: Number of Non-Provider Stratified by Facility Type

4.12 Question 12

Have you implemented an EHR?

As seen in Figure 18, the majority of respondents, at 86% (1277), indicated that they have implemented an EHR while 14% (211) indicated that they have yet to implement an EHR.

Responses	Count	%	Percentage of total respondents
Yes	1277	85.82%	
No	211	14.18%	
Total Responses	1488		

Figure 18: Question 12 Responses

Figure 19 below shows the number of responses received indicating “Yes” (EHR was implemented) by county.

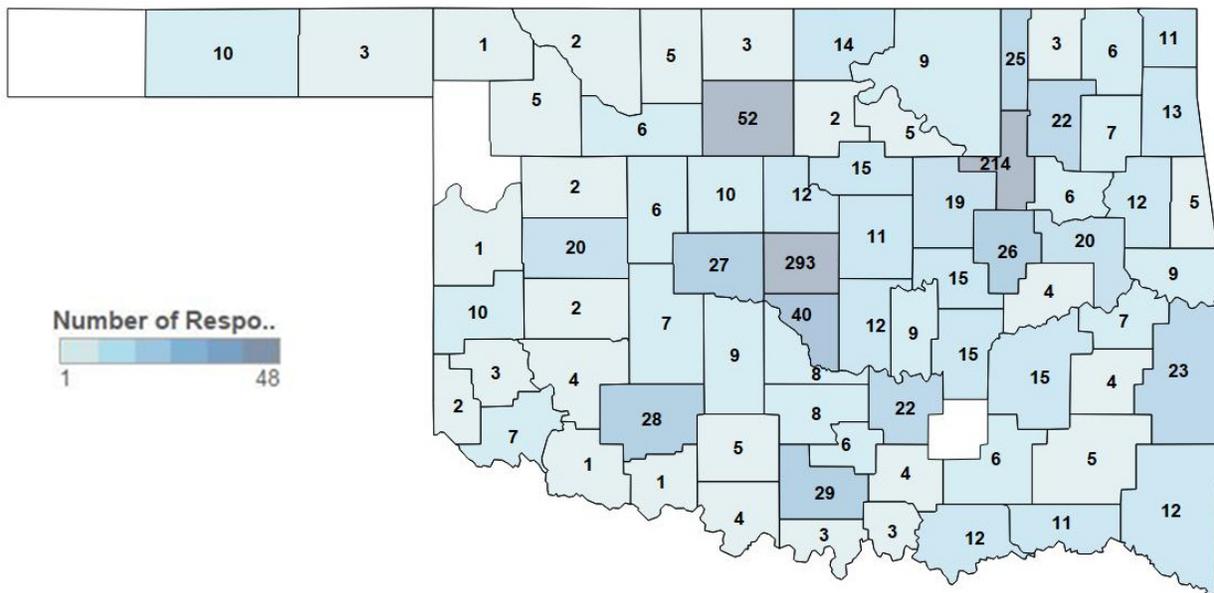


Figure 19: EHR Implementation Response Rates by County

As shown in Figure 20, stratifying results by Question 3 (Facility Type) reveals that Hospitals (92%) and Physician Office/Ambulatory Clinics (94%) have the highest rate of adoption. Behavioral/Mental Health (75%) and Long-Term and Post-Acute Care (LTPAC)/Nursing Home (64%) have the lowest rate of adoption.

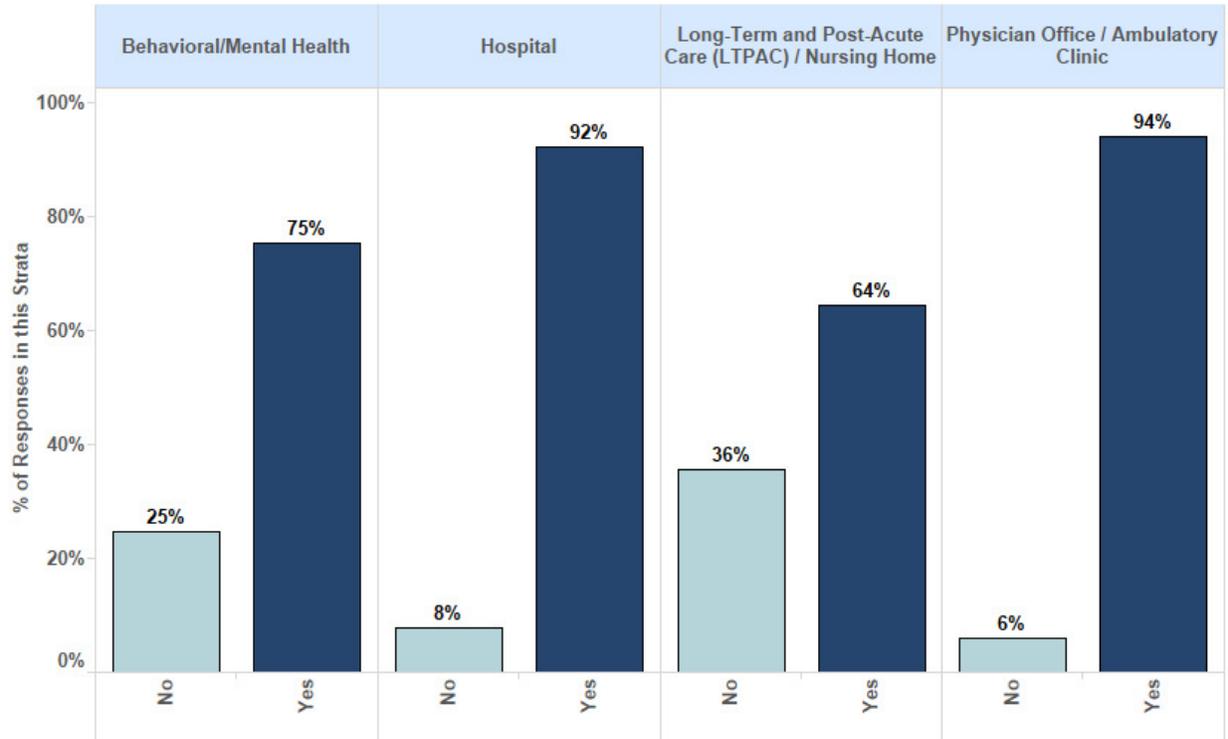


Figure 20: EHR Implemented Stratified by Facility Type

As shown in Figure 21, stratifying results by Question 5 (Facility Designation) reveals that the highest percentages of non-EHR adopters are those associated with an IPA at 23% (10) and Federally Qualified Health Centers at 24% (7).

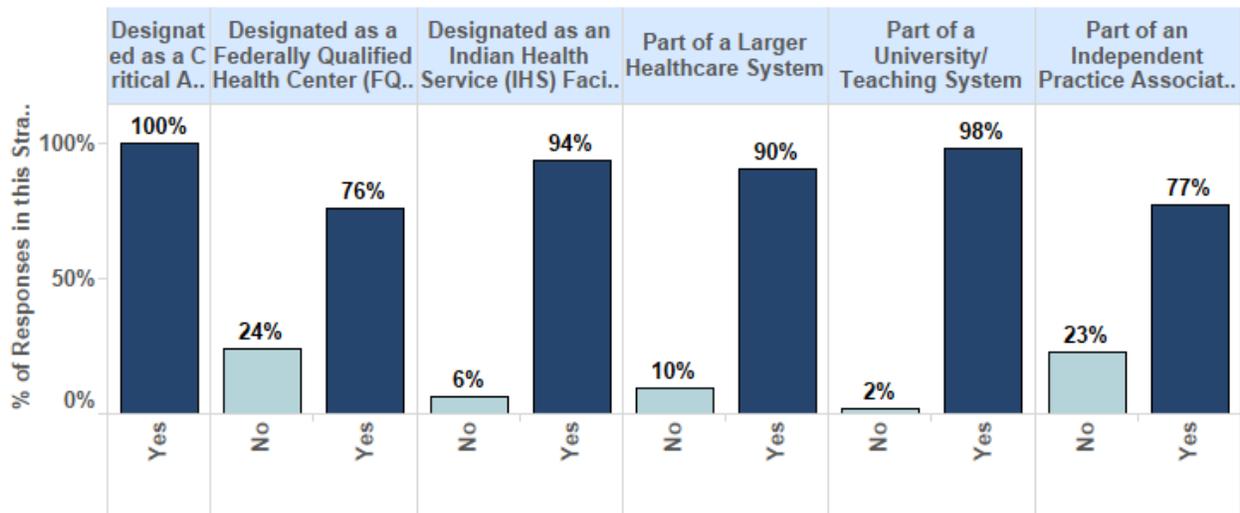


Figure 21: EHR Implemented Stratified by Facility Designation *Responses with a frequency of 1 were not displayed.

4.13 Question 13

When do you plan on implementing an EHR?

As shown in Figure 22, 181 of the 211 respondents to Question 12 indicating that had not fully implemented an HIE provided information as to their plans on EHR implementation, with nearly 62% indicating they had no plans (Never 26.5%) or that implementation of an EHR is at least 2 years out (35.4%). A small percentage, 20%, is either in the process or will complete implementation within the next 12 months, and 18% (32) indicated that they plan on implementing an EHR within 12-24 months.

Responses	Count	%	Percentage of total respondents
In the process	18	9.94%	
Within 6 - 12 months	19	10.50%	
Within 12 - 24 months	32	17.68%	
In more than 24 months	64	35.36%	
Never	48	26.52%	
Total Responses	181		

Figure 22: Question 13 Responses

As seen in Figure 23, stratifying results by Question 3 (Facility Type) reveals that Hospitals (60%) and Physician Office/Ambulatory Clinics (63%) have the greatest percentage of no plans to implement an EHR. Please note that the hospital percentage of 60% is based on only 5 respondents because so few hospitals have yet to implement an EHR. There were 48 respondents overall that do not plan on implementing an EHR.

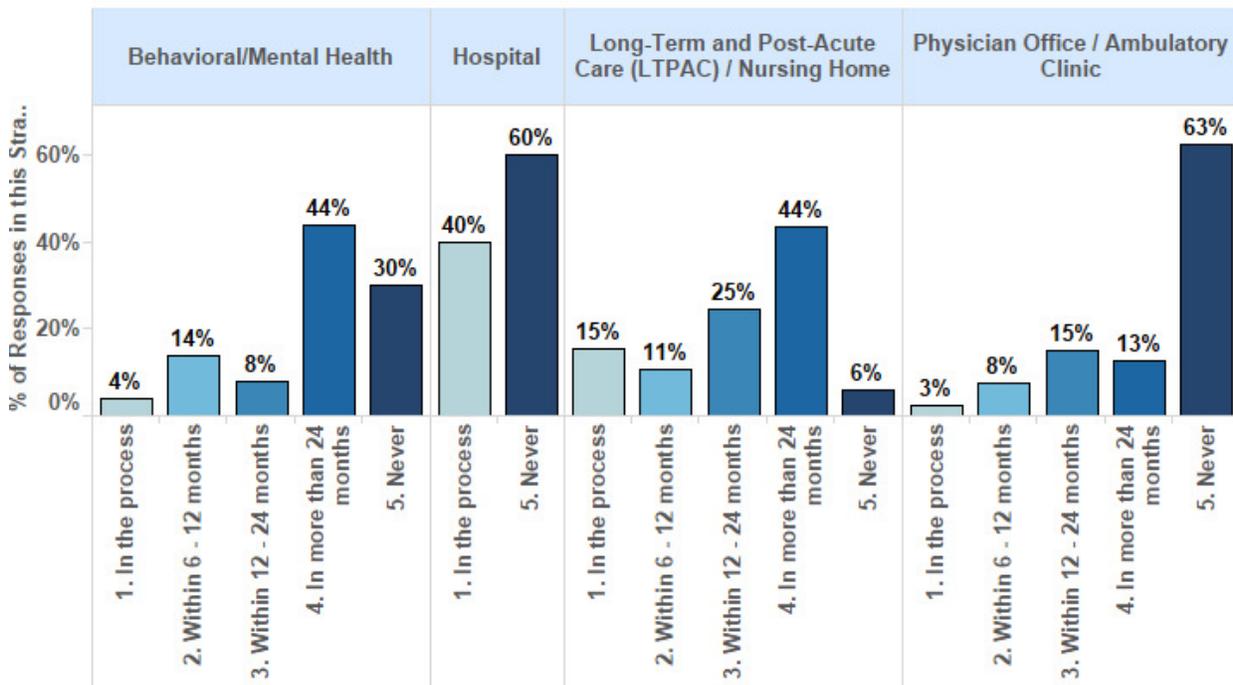


Figure 23: EHR Implementation Target Date by Facility Type

4.14 Question 14

What are the reasons you have not implemented or do not plan to implement an EHR?

This question was a multi-select and optional question with a 10% (149) unique response rate. As seen in Figure 24, the most frequent response, at 40% (60), indicated that cost is prohibitive (no return on investment).

Responses	Count	%	Percentage of total respondents
Business closing / business selling / retiring soon	4	2.68%	
Cost is prohibitive (no return on investment)	60	40.27%	
Disrupts workflow	15	10.07%	
Lack of IT or technical staff to support implementation needs	20	13.42%	
Unable to find the right EHR to meet our / my needs	20	13.42%	
Lack of IT infrastructure to support implementation (e.g., internet access, computers)	11	7.38%	
Unable to find training	8	5.37%	
Other (Please specify)	71	47.65%	
Total Responses	209		

Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

Figure 24: Question 14 Responses

Respondents were allowed to enter free text if “Other” was chosen. Figure 25 provides the results of analysis of these responses. “Corporate Decision” (27%) and “Physician does not want/Clinic does not need” (25%) were the most cited responses.

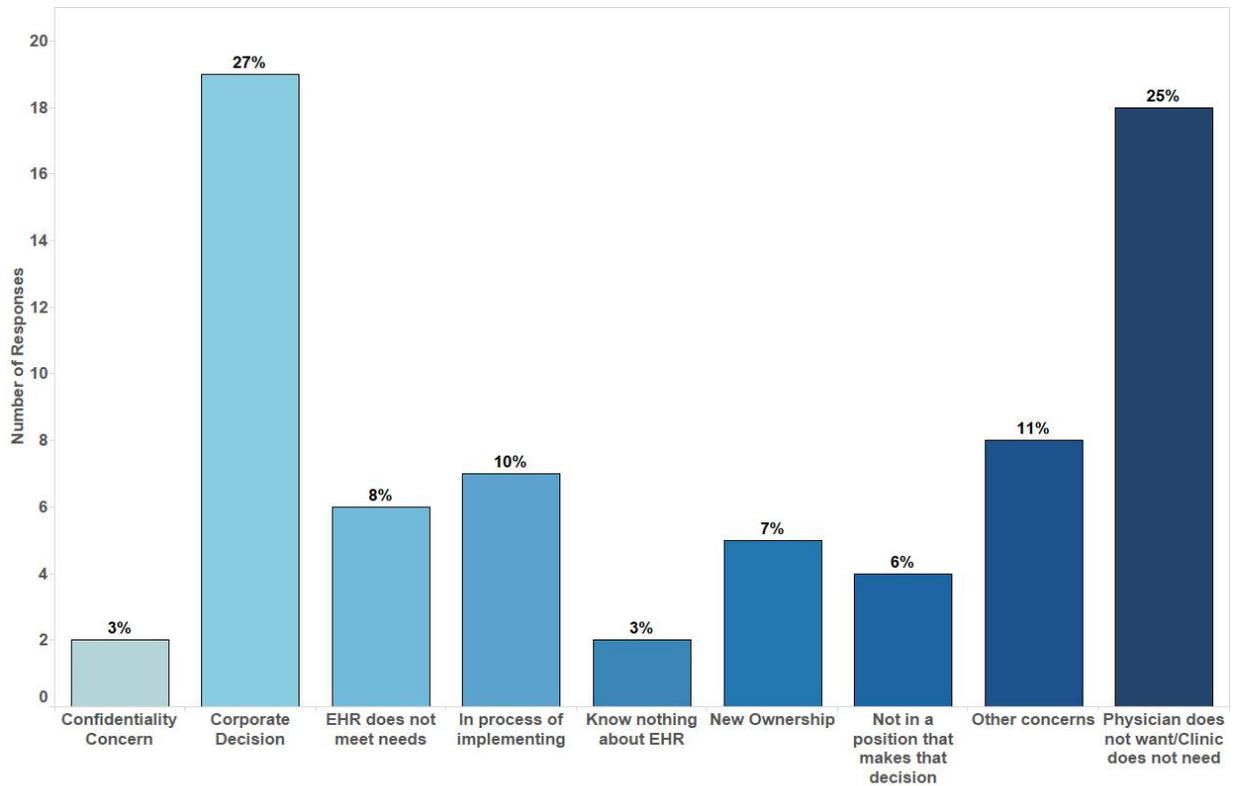


Figure 25: Distribution Responses for No EHR – Other Grouped

4.15 Question 15

Q15.What year did you first implement your current EHR?

As seen in Figure 26, the year 2013 was the most popular for attestations with 18% (155), followed by 2014 at 17% (152), and 2008 at 13% (116).

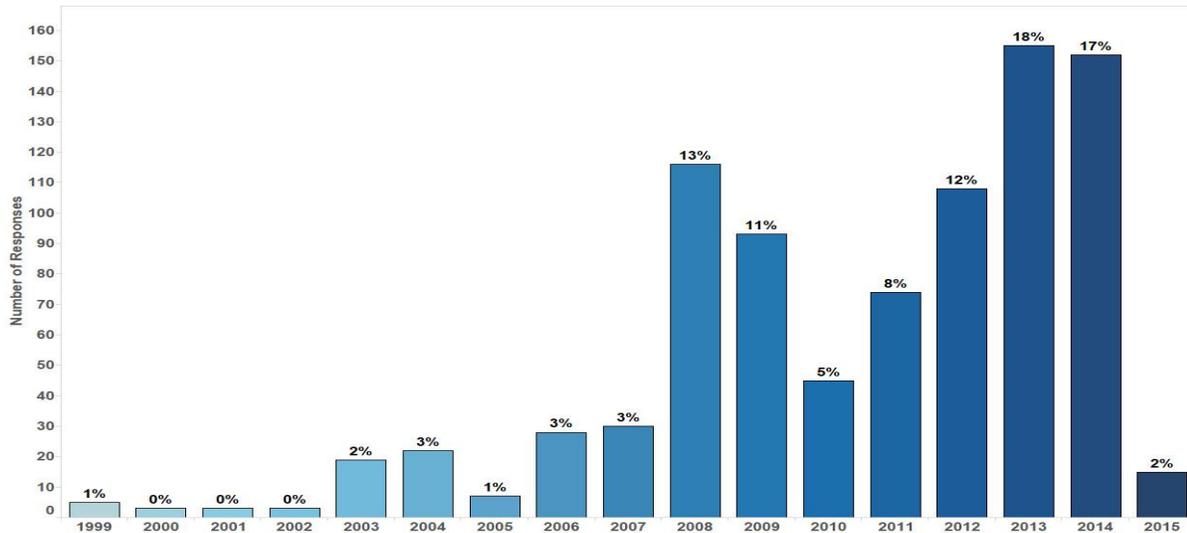


Figure 26: Distribution Responses for EHR Implementation Year

4.16 Question 16

If you have adopted an EHR but not attested to Meaningful Use, why not? (Select all that apply)

This was a multi-select and optional question, with a 56% (849) unique response rate. As seen in Figure 27, the majority of responses, at 68% (578), indicated that they have attested to Meaningful Use, 24% (201) indicated that they were not an eligible provider, and 7% (59) indicated other responses.

Responses	Count	%	Percentage of total respondents
I have attested to Meaningful Use	578	68.08%	<div style="width: 68.08%;"></div>
Do not meet required patient thresholds	9	1.06%	<div style="width: 1.06%;"></div>
Too time consuming	13	1.53%	<div style="width: 1.53%;"></div>
Not an eligible provider	201	23.67%	<div style="width: 23.67%;"></div>
Not worth the money	15	1.77%	<div style="width: 1.77%;"></div>
Other (Please specify)	59	6.95%	<div style="width: 6.95%;"></div>
Total Responses	875		<div style="width: 100%; text-align: center;">20% 40% 60% 80% 100%</div>

Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

Figure 27: Question 16 Responses

Respondents were allowed to enter free text if “Other” was chosen. Figure 28 provides the results of analysis of these responses with the highest responses being “No Knowledge of MU” (34%) and “In Process” (29%).

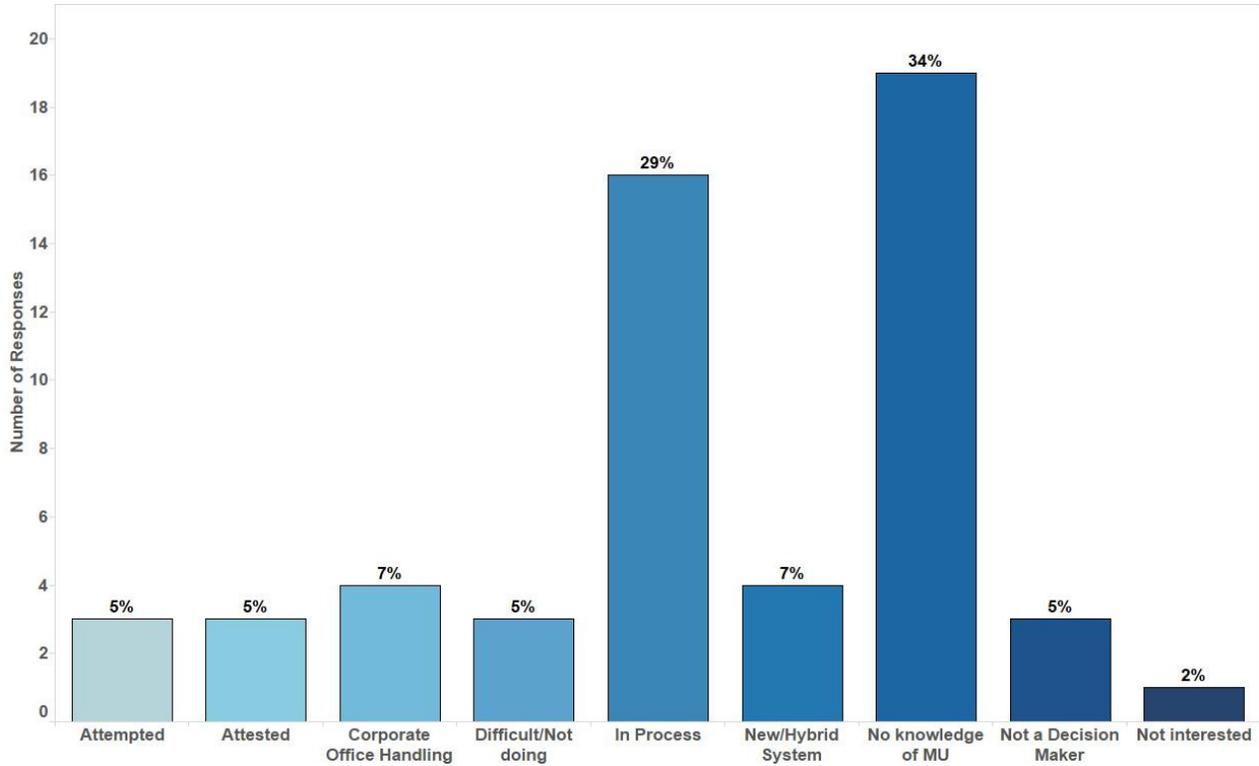


Figure 28: Distributions of Reasons for Meaningful Use Attestation – Other Grouped

4.17 Question 17

How often do you utilize your EHR in the following ways?

Figures 29-34 provide the frequencies of responses for Questions 17a-17f. 70% of responses for 17a and 17b indicate use of these features $\geq 50\%$ of the time. 63% of responses for 17d indicate use of these features $\geq 50\%$ of the time. Only 57% of responses for 17c, 17d and 17e indicate use of these features $\geq 50\%$ of the time.

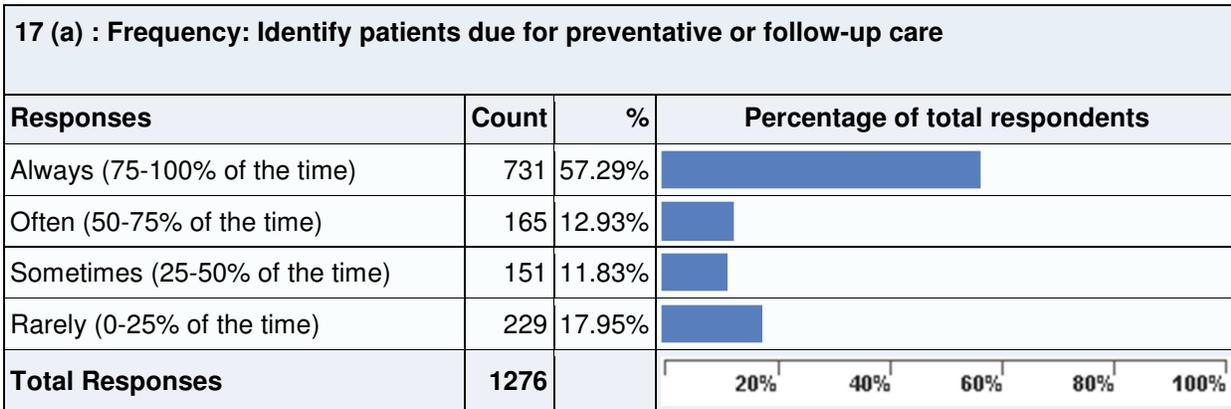


Figure 29: Question 17a Responses

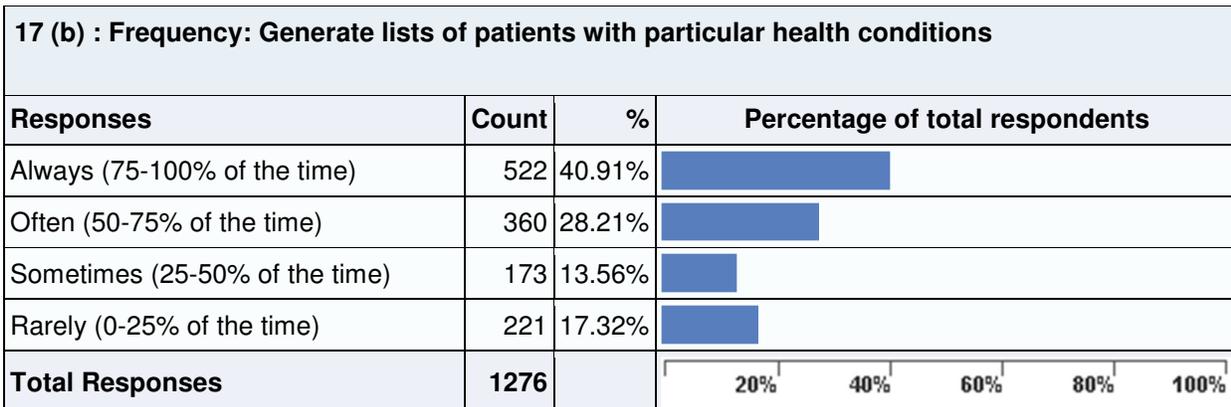


Figure 30: Question 17b Responses

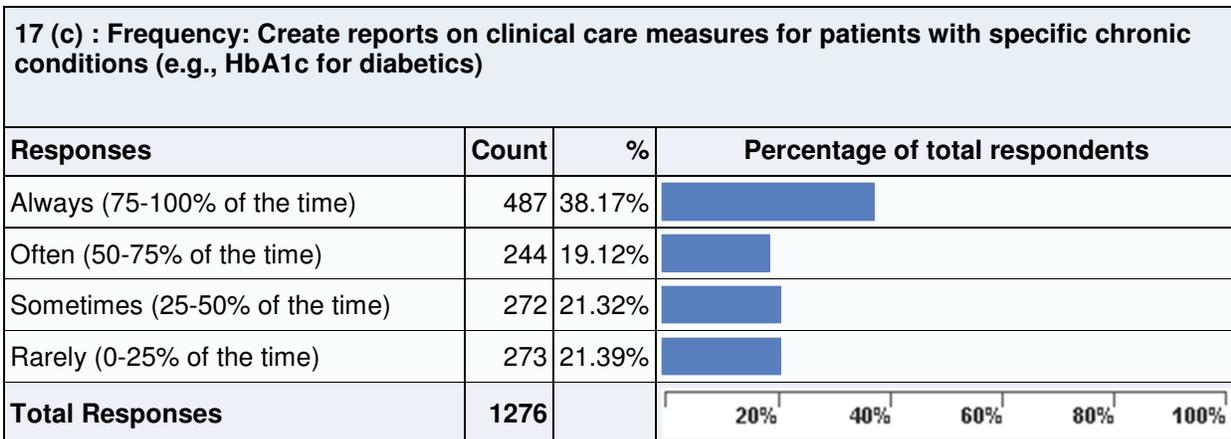


Figure 31: Question 17c Responses

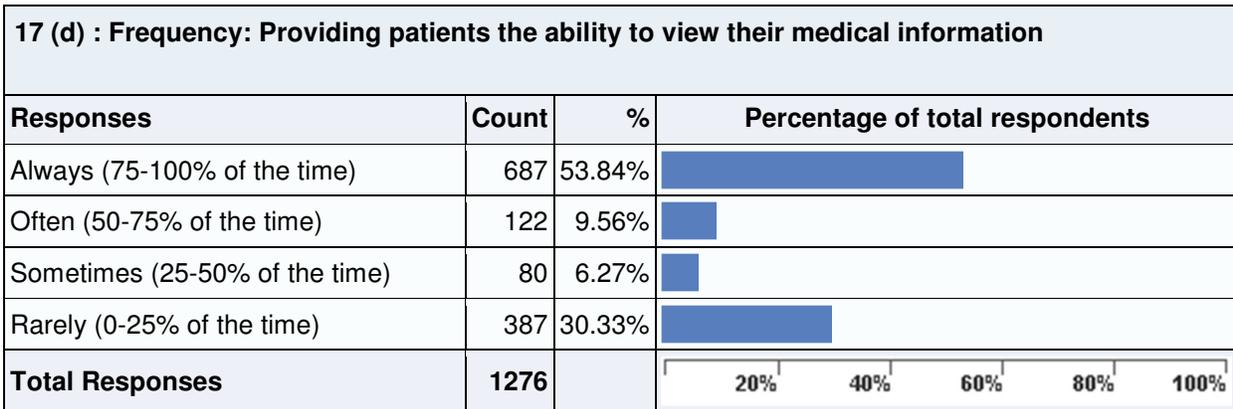


Figure 32: Question 17d Responses

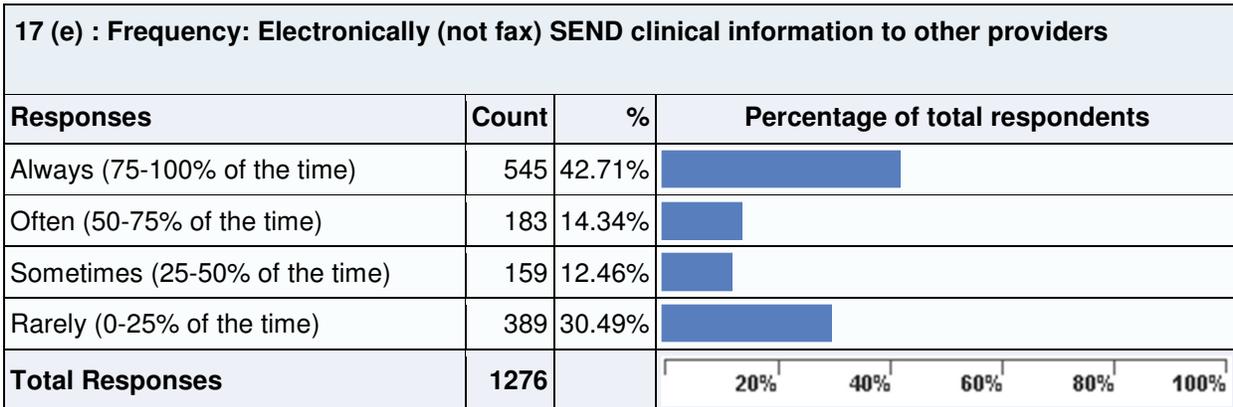


Figure 33: Question 17e Responses

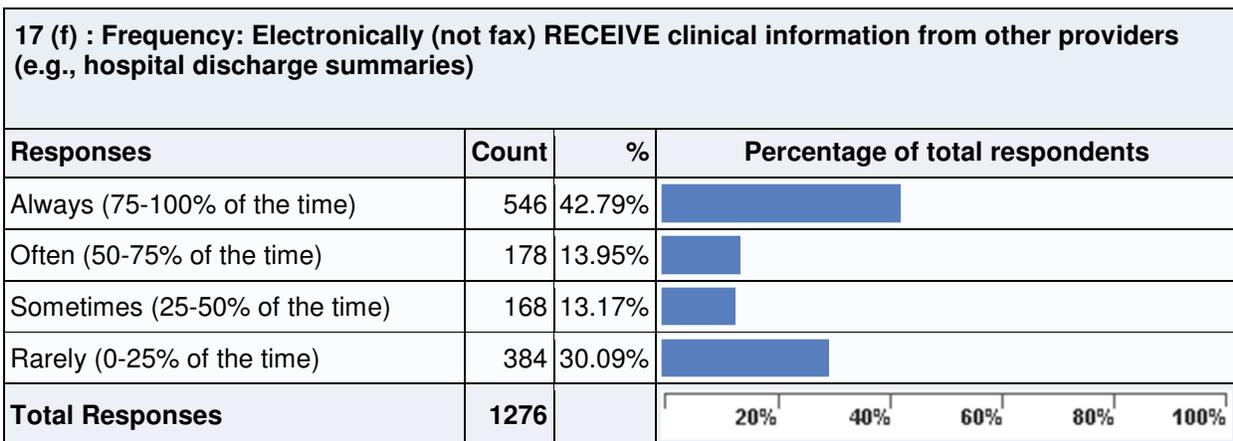


Figure 34: Question 17f Responses

Analysis of responses to 17d by Practice Point Type was also performed and can be seen in Figures 35-38. 89% of Behavioral/Mental Health and 48% of Long-Term and Post-Acute Care (LTPAC)/Nursing Home provide patients the opportunity to view information only “rarely (0-25% of the time)”, whereas Hospitals and Physician Office/Ambulatory Clinic indicated “always (75-100% of the time)” using this feature 69% and 66% respectively.

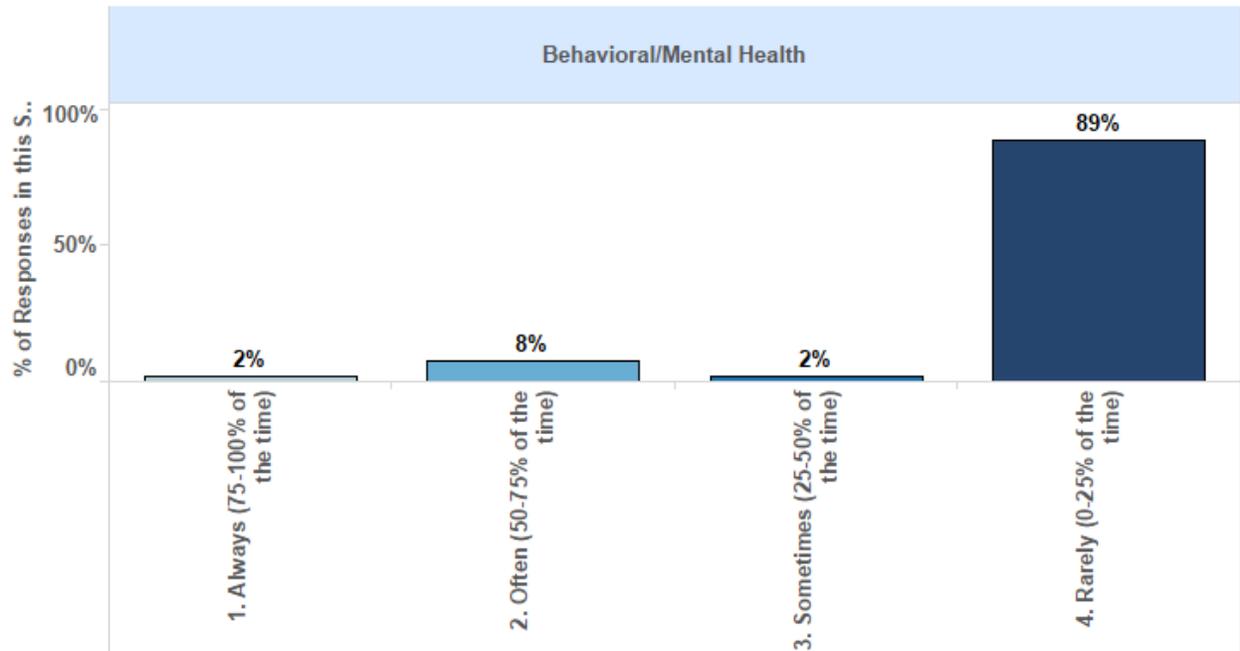


Figure 35: EHR Utilization – Patient View Information by Behavioral/Mental Health Facility Type

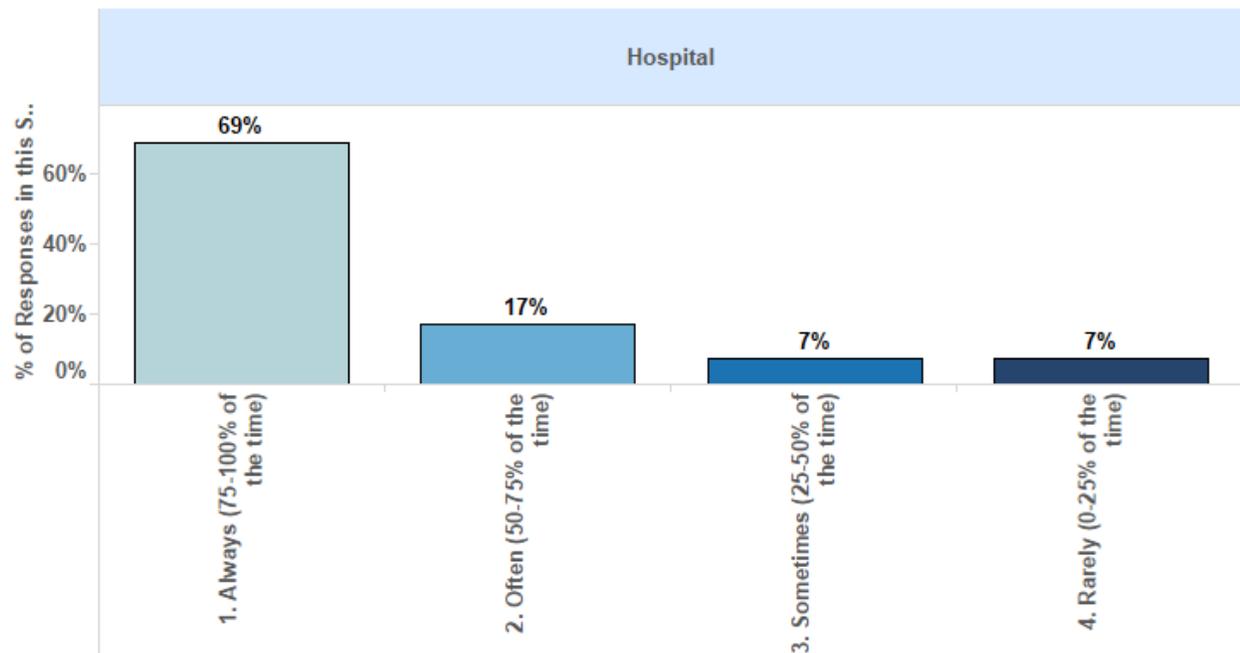


Figure 36: EHR Utilization – Patient View Information by Hospital Facility Type

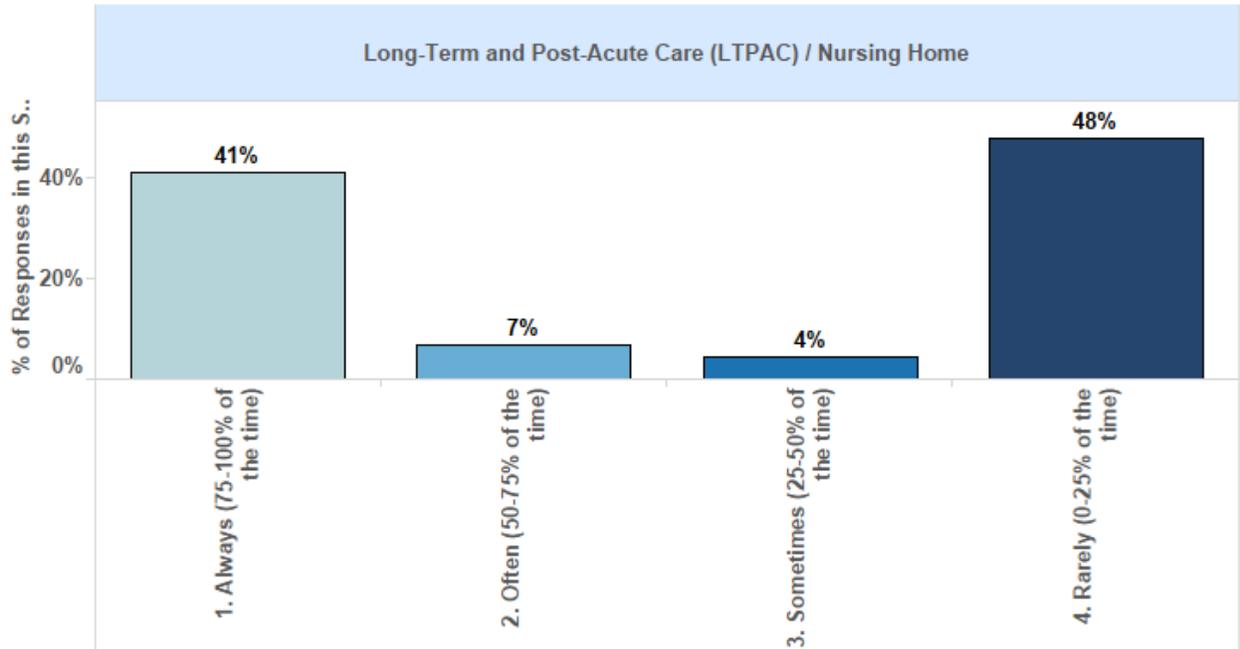


Figure 37: EHR Utilization – Patient View Information by LT and LTPAC/Nursing Home Facility Type

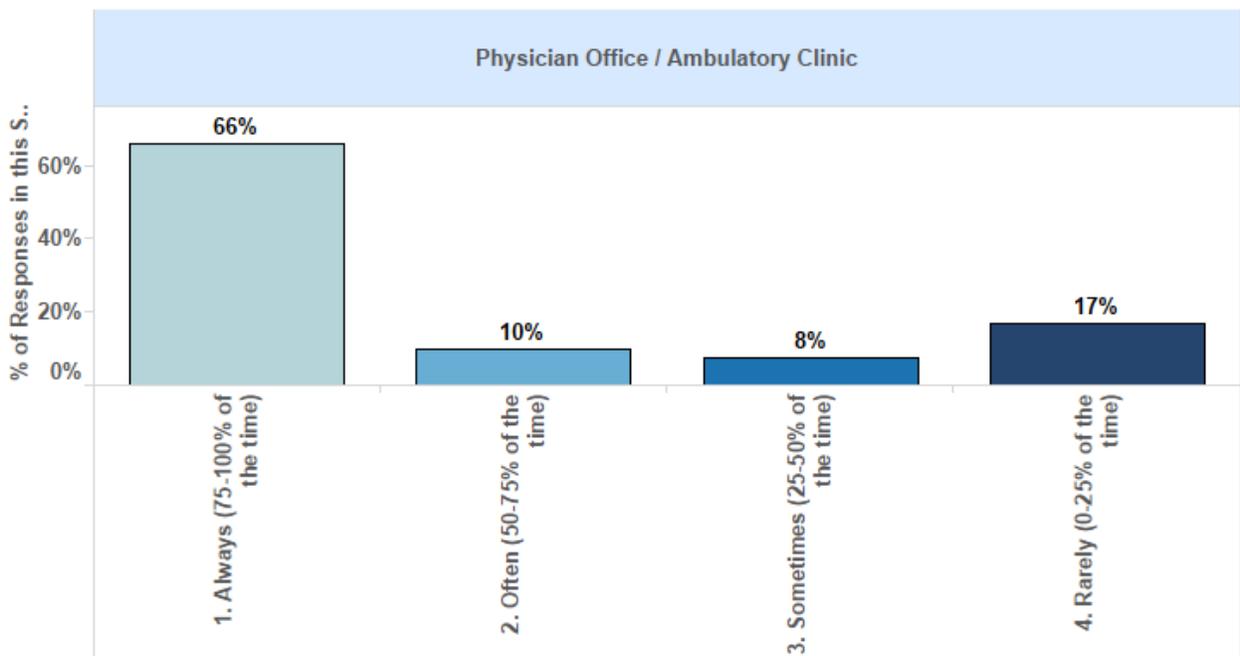


Figure 38: EHR Utilization – Patient View Information by Physician Office/Ambulatory Clinic Facility Type

4.18 Question 18

Which of the following reasons prevent you from using more functionalities of your EHR? (Select all that apply)

This question was a multi-select question with an 86% (1,276) unique response rate. As seen in Figure 39, only 31% (390) indicated that they use all of their EHR's functionalities.

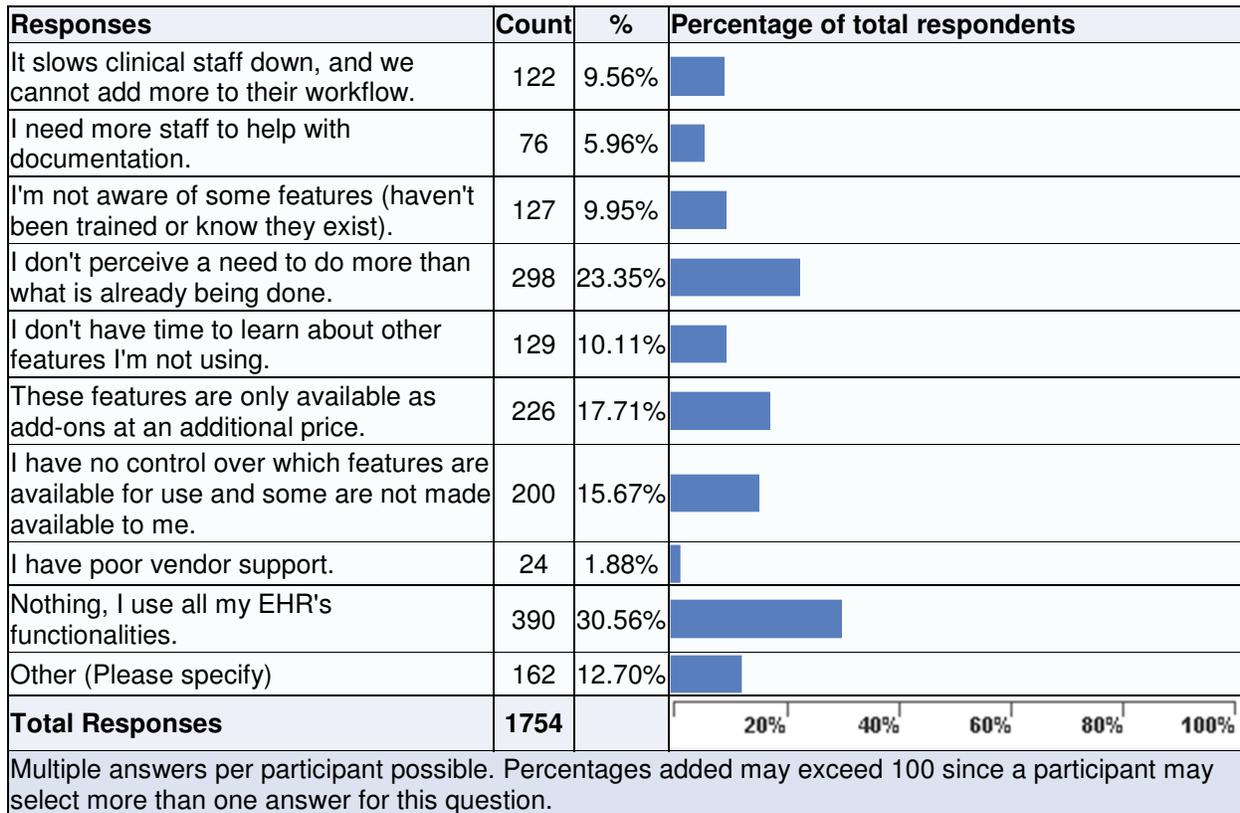


Figure 39: Question 18 Responses

4.19 Question 19

*Do you use your EHR to manage your patient panel for any of the following health conditions?
(Select all that apply)*

This question was a multi-select question with an 86% (1,276) unique response rate. As seen in Figure 40, 54% (693) of respondents indicated that they use their EHR for Diabetes management, 53% (680) use their EHR for Hypertension management, and 51% (647) use their EHR for wellness/prevention management.

Responses	Count	%	Percentage of total respondents
Diabetes	693	54.31%	
Hypertension	680	53.29%	
Obesity	623	48.82%	
Tobacco cessation	558	43.73%	
Wellness / prevention	647	50.71%	
Asthma	452	35.42%	
Mental / behavioral health	408	31.97%	
None	234	18.34%	
Other (Please specify)	216	16.93%	
Total Responses	4511		

Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

Figure 40: Question 19 Responses

Respondents were allowed to enter free text if “Other” was chosen. Figure 41 provides the results of analysis of these responses with “ADL/Anti-Psychotic/Falls/PU/Pain” (27%) and “Physical Therapy” (15%) being the most cited uses of the EHR for patient panel management.

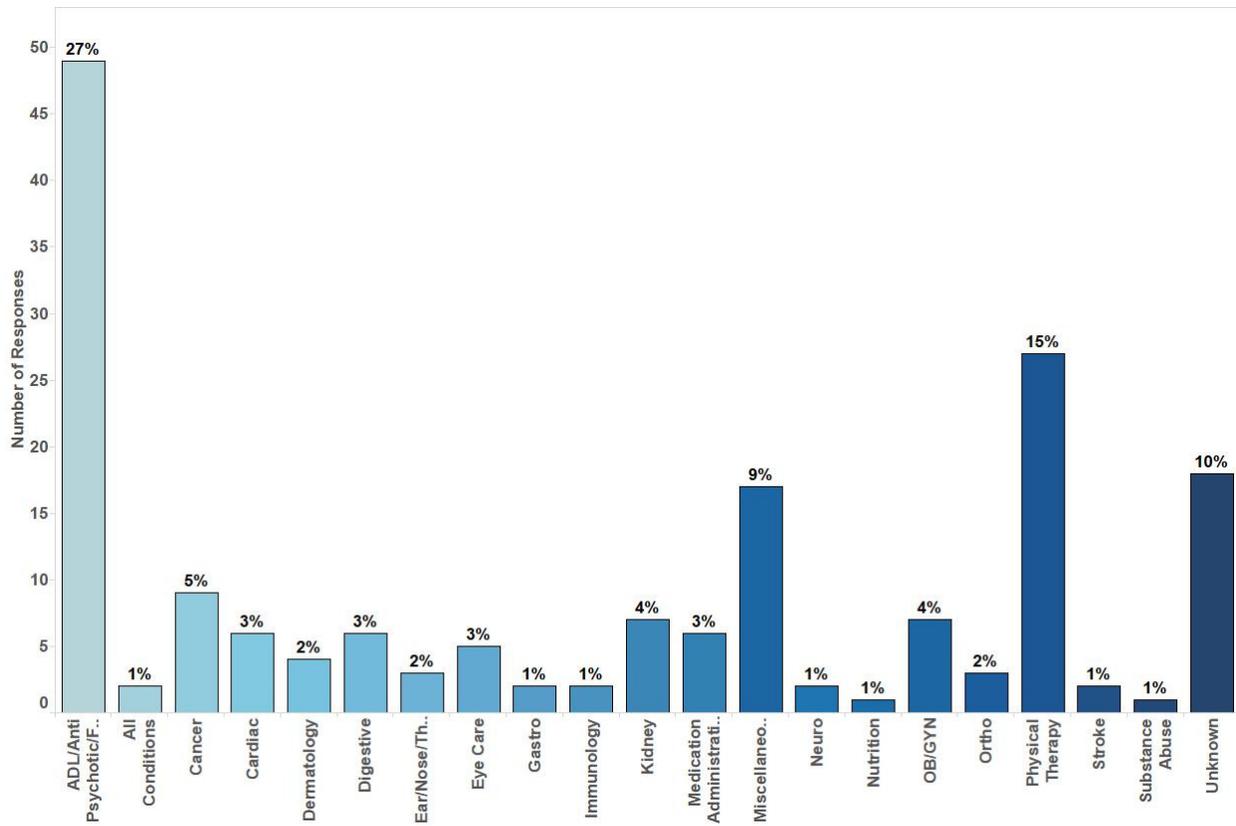


Figure 41: Distribution of Reasons for Patient Panel – Other Grouped

4.20 Question 20

In general how comfortable are you with the accuracy of your EHR reporting (e.g., pulling a list of all patients with a diagnosis/test/needed test, eQCMs/PQRS reports)?

As seen in Figure 42, an overwhelming proportion of respondents, at 90.5%, indicated that they are comfortable or very comfortable with their EHR reporting accuracy, while only 8.1% indicated that they were somewhat or not comfortable with their EHR reporting accuracy.

Responses	Count	%	Percentage of total respondents
Not comfortable	17	1.33%	
Somewhat comfortable	86	6.74%	
Comfortable	308	24.14%	
Very comfortable	847	66.38%	
I do not produce data/reports from EHR	18	1.41%	
Total Responses	1276		20% 40% 60% 80% 100%

Figure 42: Question 20 Responses

4.21 Question 21

Does [facility] have designated staff that coordinates the care of patients with complex conditions (e.g., Care Coordinator)?

As seen in Figure 43, the majority of respondents, at 72% (1070), indicated that they have designated staff that coordinates the care of patients with complex conditions. 22% (331) indicated that they did not designate staff for this purpose, and 6% (87) indicated that they do not know if they have staff designated.

Responses	Count	%	Percentage of total respondents
Yes	1070	71.91%	
No	331	22.24%	
Don't know	87	5.85%	
Total Responses	1488		

Figure 43: Question 21 Responses

As seen in Figure 44, stratifying results by Question 5 (Facility Designation) reveals that facilities that are part of an IPA (55%) are the most likely to not have staff designated to coordinate the care of complex conditions, following Federally Qualified Health Clinics at 48%. University/Teaching System (93%) and Indian Health Service Clinic (88%) are the most likely to have designated staff that coordinates the care of patients with complex conditions.

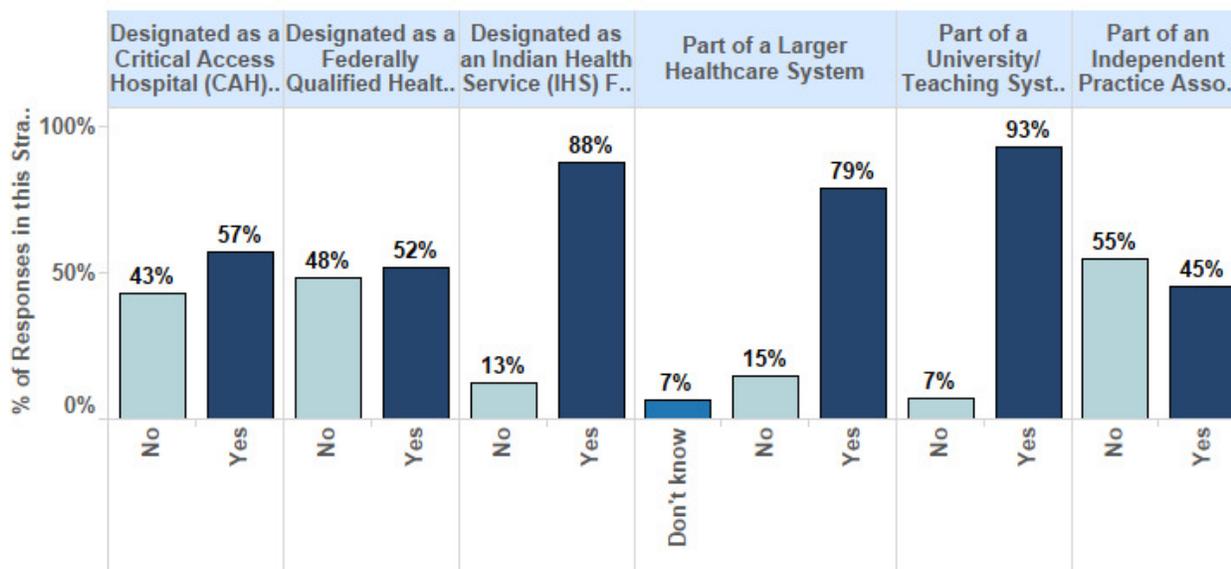


Figure 44: Designated Care Coordinator by Facility Designation *Responses with a frequency of 1 were not displayed

As seen in Figure 45, stratifying results by Question 11 (Staff Size) reveals that facilities with staff sizes of 6-10 (71%) and 11-20 (81%) are the most likely to have staff designated to coordinate the care of patients with complex conditions. Facilities that have staff sizes of one or less (44%) and 2-5 (66%) are the least likely to have designated care coordinators.

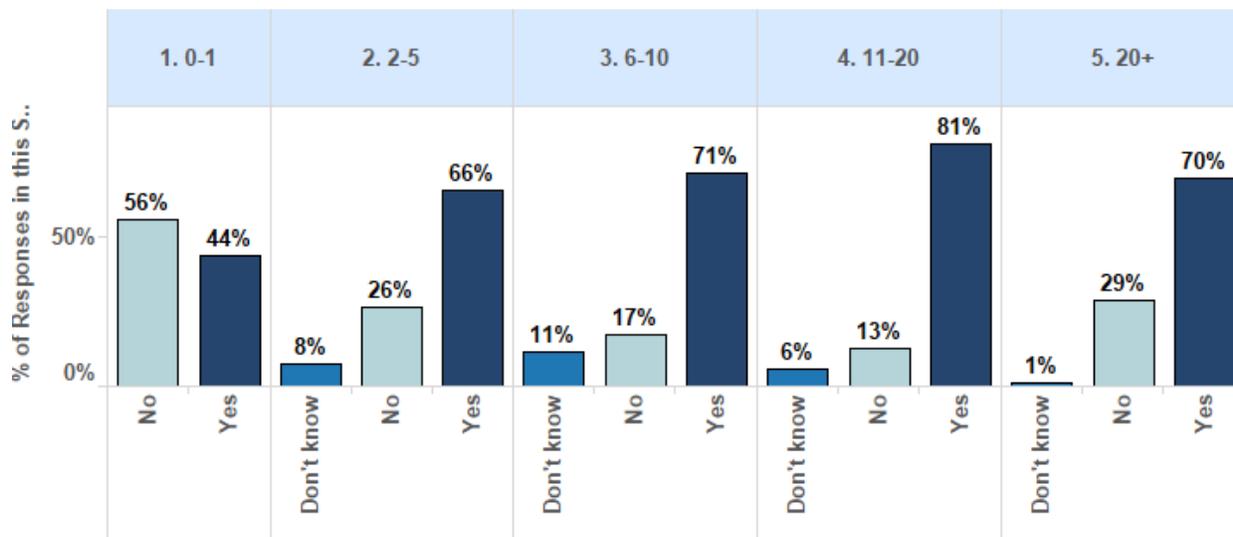


Figure 45: Designated Care Coordinator by Staff Size (Excluding Providers)

4.22 Question 22

What level of education do they possess? (Select all that apply)

This question was an optional multi-select question with a 31% (894) unique response rate. As seen in Figure 46, the majority of responses, at 52% (463), indicated that the care coordinator is an RN. 35% (313) indicated that the care coordinator is a Medical Assistant, and 34% (304) indicated that the care coordinator is an LPN. "Other" was selected by 40% (365) of respondents.

Responses	Count	%	Percentage of total respondents
RN	463	51.79%	<div style="width: 51.79%;"></div>
LPN	304	34.00%	<div style="width: 34.00%;"></div>
CNA	17	1.90%	<div style="width: 1.90%;"></div>
Medical assistant	313	35.01%	<div style="width: 35.01%;"></div>
Other (Please specify)	365	40.83%	<div style="width: 40.83%;"></div>
Total Responses	1462		<div style="width: 100%;"></div>

Multiple answers per participant possible. Percentages added may exceed 100 since a participant may select more than one answer for this question.

Figure 46: Question 22 Responses

Respondents were allowed to enter free text if “Other” was chosen. Figure 47 provides the results of the analysis of these responses with consistent responses noted. “Multiple Staff/Miscellaneous” (33%) and “Case Management” (31%) were the most cited responses.

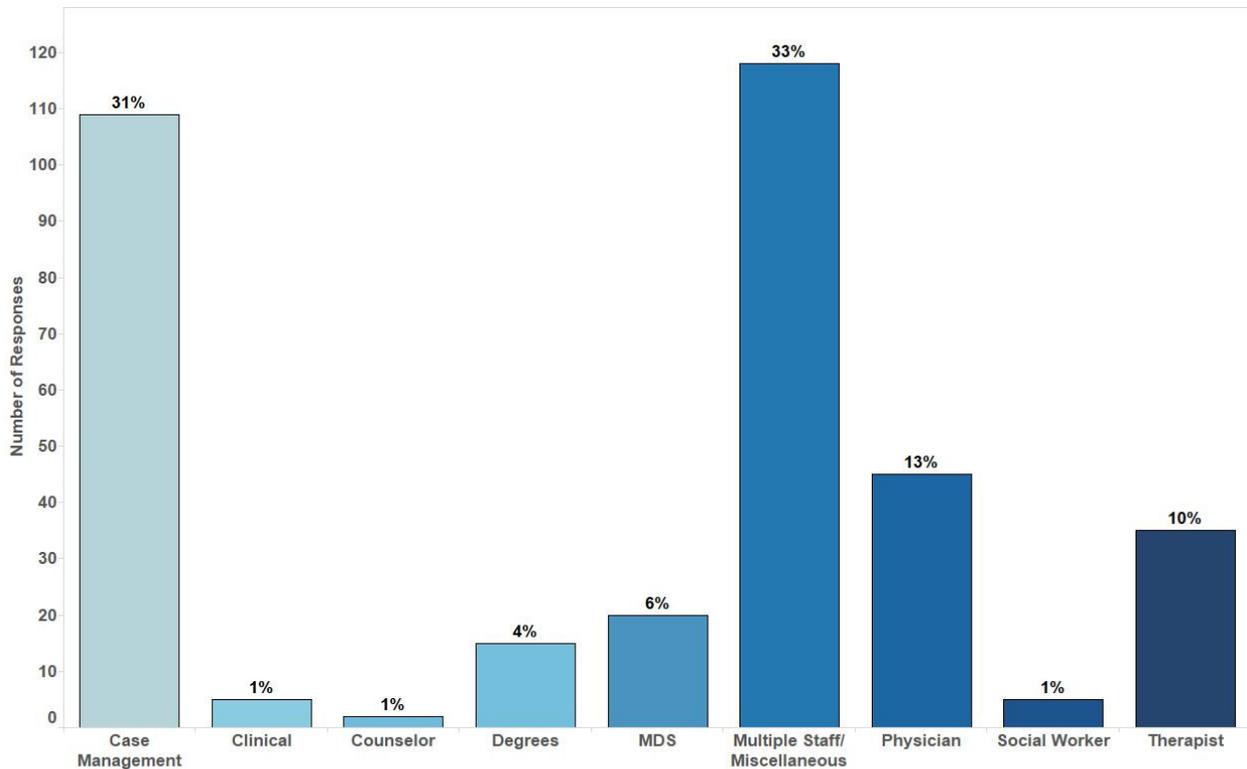


Figure 47: Distribution of Care Coordinator Education – Other Grouped

4.23 Question 23

Does [facility] have specialized staff responsible for entering, managing, or analyzing EHR information?

As seen in Figure 48, the majority of respondents, at 70% (777), indicated that they have specialized staff responsible for entering, managing, and analyzing EHR information, 19% (211) indicated that they did not, and 11% (125) indicated that they did not know.

Responses	Count	%	Percentage of total respondents
Yes	777	69.81%	
No	211	18.96%	
Don't know	125	11.23%	
Total Responses	1113		

Figure 48: Question 23 Responses

As seen in Figure 49, stratifying results by Question 3 (Facility Type) reveals that Hospitals (82%), Physician Office/Ambulatory Clinics (70%), and Long-Term and Post-Acute Care (LTPAC)/Nursing Home (70%) have the greatest percentage of specialized staff for EHR management and analysis. Behavioral/Mental Health had the lowest percentage of specialized staff for EHR management and analysis (63%).

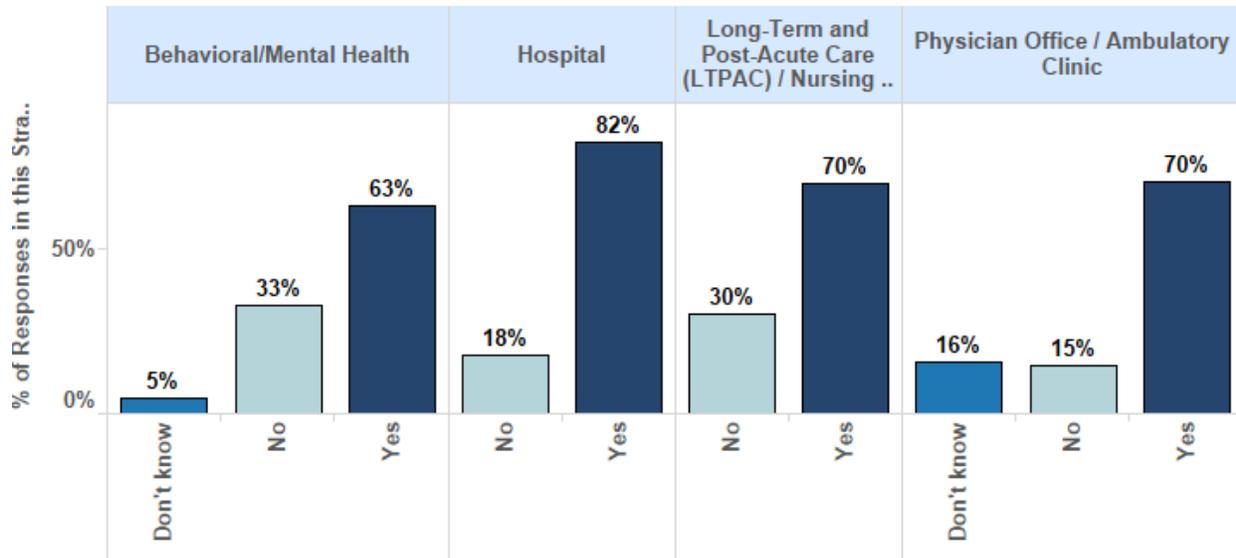


Figure 49: Specialized EHR Staff by Facility Type

Analysis by Staff Size was also performed as seen in Figure 50. Facilities that have staff sizes of one or less are the least likely to have a specialized staff member for entering, managing, and analyzing EHR information at 36%.

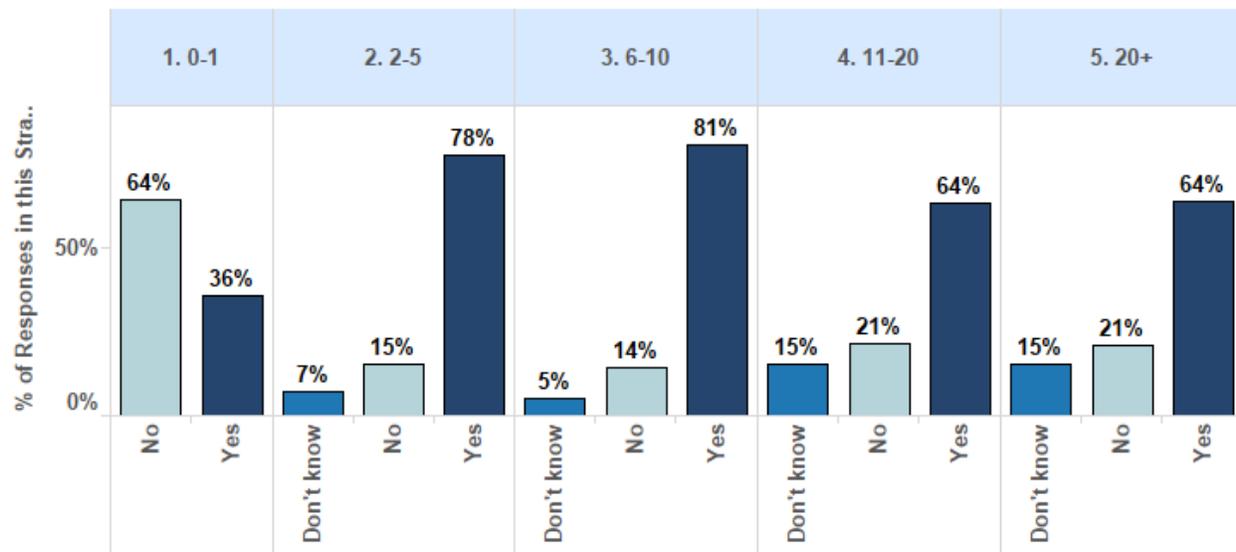


Figure 50: Specialized EHR Staff by Staff Size (Excluding Providers)

4.24 Question 24

What level of education or qualifications does this staff possess? (Select all that apply)

This question was an optional multi-select question with a 47% (692) unique response rate. As seen in Figure 51, the majority of responses, at 56% (389), indicated that the staff member had informal on the job training. 33% (231) of responses indicated the “Other” response, and 25% (176) indicated that the staff person was an LPN/RN.

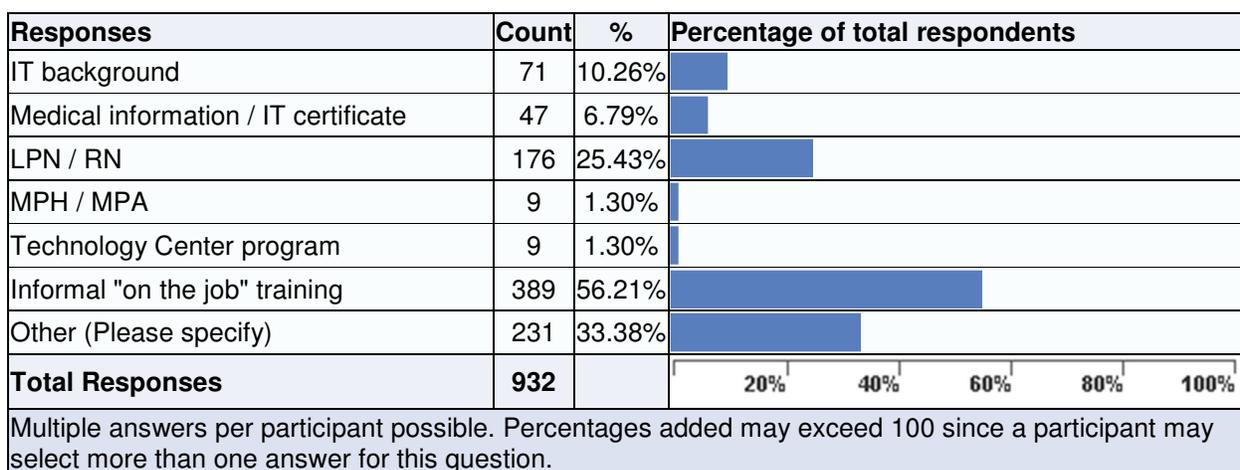


Figure 51: Question 24 Responses

4.25 Question 25

Does [facility] have plans to hire staff responsible for entering, managing, or analyzing EHR information?

As seen in Figure 52, the majority of respondents, at 51% (173), indicated that they “don’t know,” 46% (154) indicated “no,” and 3% (9) indicated “yes”. The high percentage of “don’t know” responses may indicate that the decision makers in the organization were not the individuals who responded to this survey.

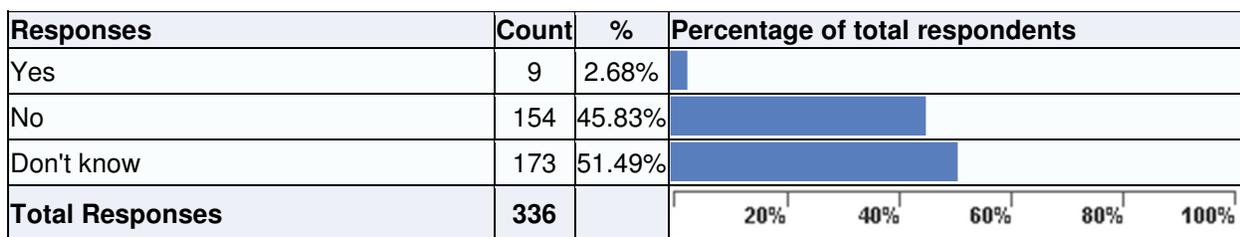


Figure 52: Question 25 Responses

Stratifying results by Question 3 (Facility Type) as seen in Figure 53 reveals that no Practice Point Type has plans to hire staff for this position (all “Yes” responses ≤4%).

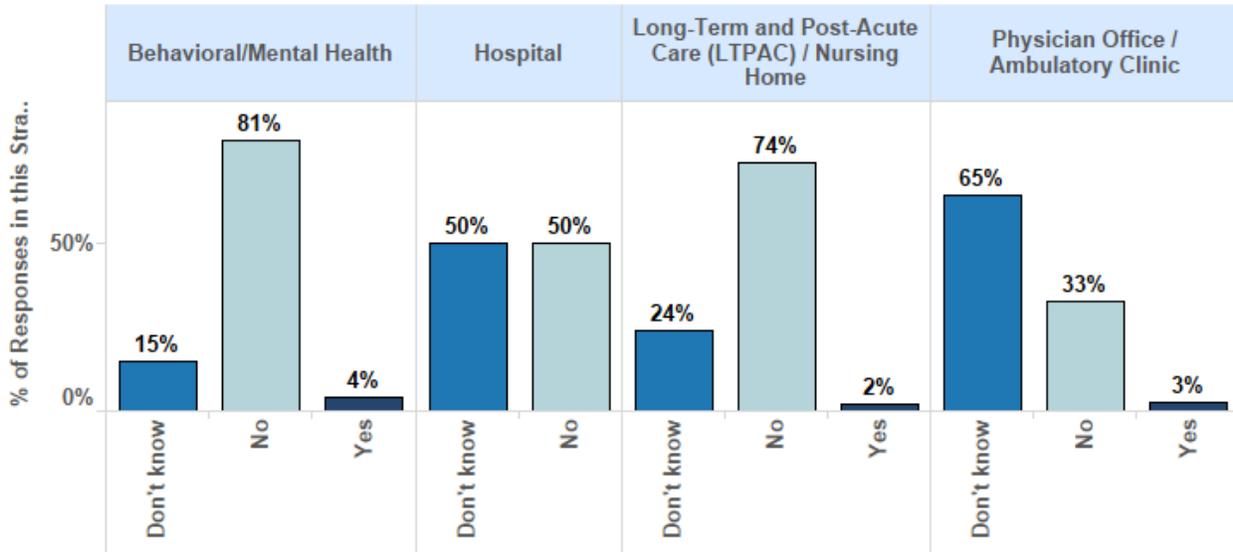


Figure 53: Plan to Hire EHR Staff by Facility Type

Stratifying results by Question 5 (Facility Designation) is shown in Figure 54.

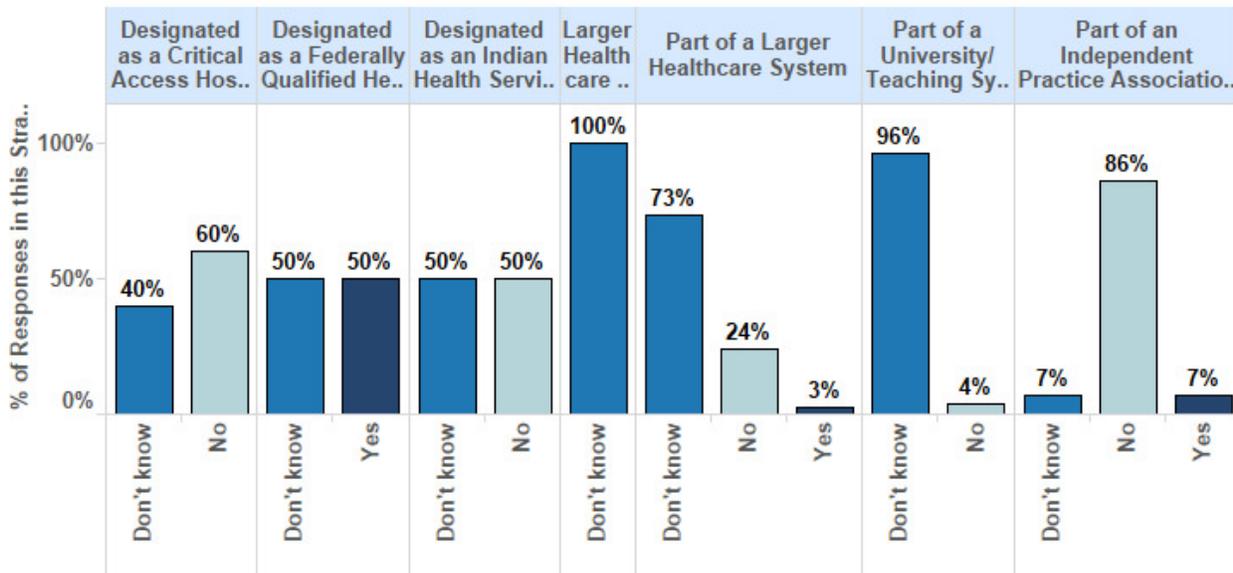


Figure 54: Plan to Hire EHR Staff by Facility Designation *Responses with a frequency of 1 were not displayed.

4.26 Question 26

Do you electronically access patient data not collected at [facility]? Note: “electronically access” does not include faxed information.

Figure 55 shows that the most frequent response, at 47% (700), indicated that facilities that completed the survey do not access patient data electronically. 43% (640) indicated that they do electronically access patient data, and 10% (148) indicated that they did not know if they electronically access patient data.

Responses	Count	%	Percentage of total respondents
Yes	640	43.01%	
No	700	47.04%	
Don't know	148	9.95%	
Total Responses	1488		

Figure 55: Question 26 Responses

Figure 56 shows results stratified by Question 3 (Facility Type) and reveal that Behavioral/Mental Health (14%) and Long-Term and Post-Acute Care (LTPAC)/Nursing Homes (30%) are the least likely to electronically access patient data. Physician Offices/Ambulatory Clinics are the most likely with 55% stating they do electronically access patient data.

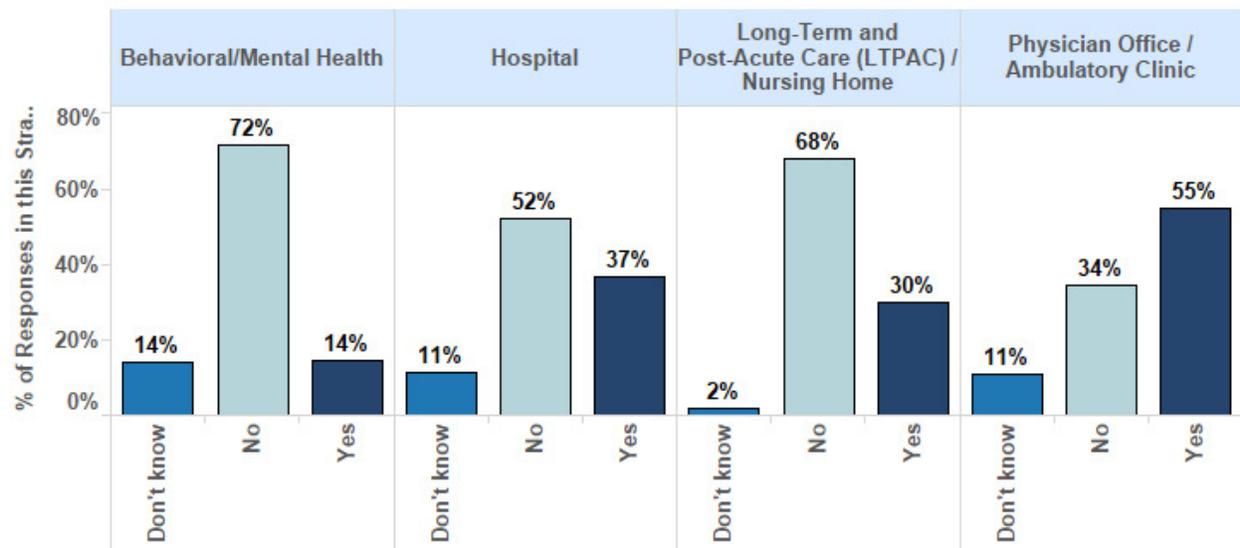


Figure 56: Electronically Access Patient Data by Facility Type

Figure 57 shows results stratified by Question 5 (Facility Designation) and reveals that facilities that are part of a Larger Healthcare System (57%), part of a University/Teaching System (96%), or part of IHS (75%) had the highest rates of electronically accessing patient data not collected in the facility. Facilities that were identified as a Critical Access Hospital (21%), an IPA (27%), or a Federally Quality Health Center (28%) had the lowest rates of electronically accessing patient data not collected at their facility.

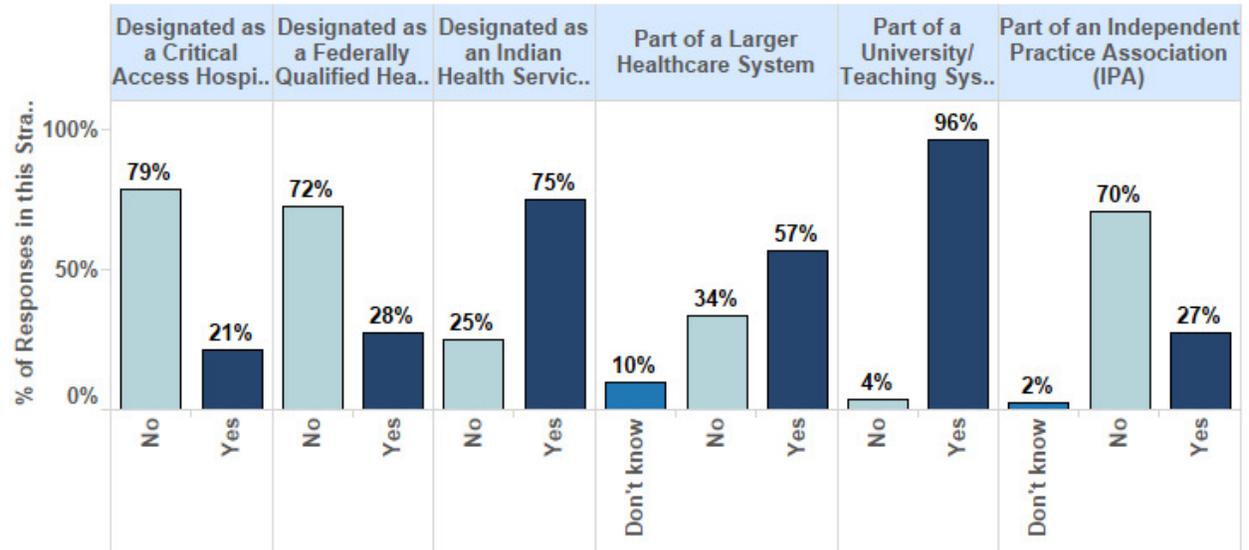


Figure 57: Electronically Access Patient Data by Facility Designation *Responses with a frequency of 1 were not displayed.

4.27 Question 27

Does [facility] participate in a HIE?

As seen in Figure 58 the most frequent response, at 46% (683), indicated participation in an HIE. 39% (578) indicated that they did not participate, and 15% (227) indicated that they did not know if they participated.

Responses	Count	%	Percentage of total respondents
Yes	683	45.90%	
No	578	38.84%	
Don't know	227	15.26%	
Total Responses	1488		

Figure 58: Question 27 Responses

Figure 59 provides a map of responses indicating HIE participation by county.

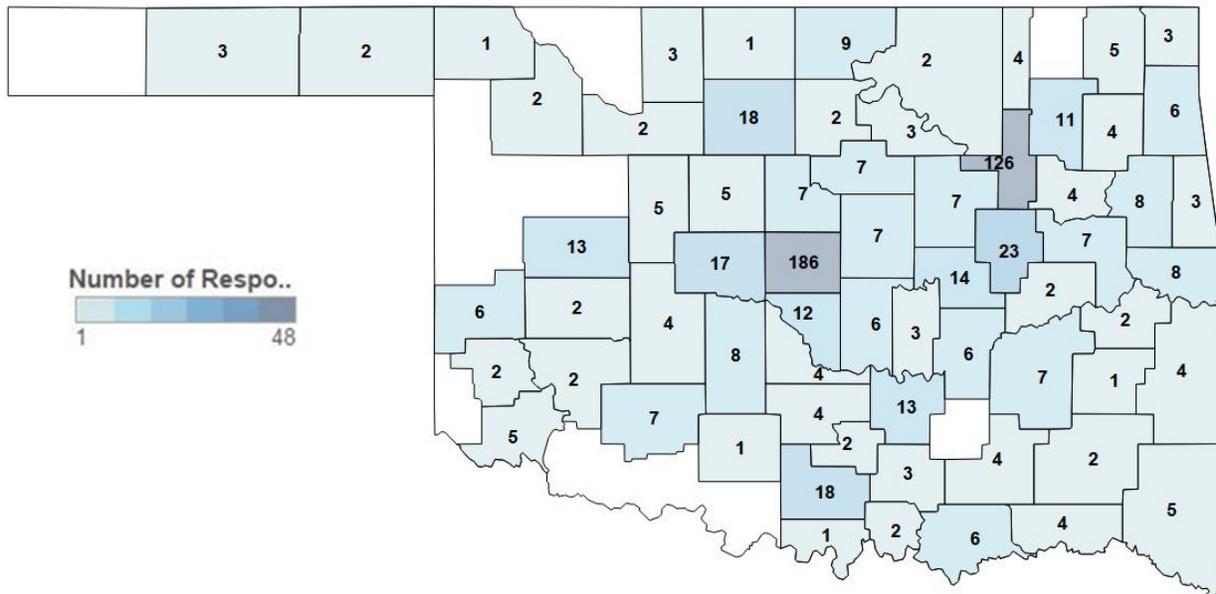


Figure 59: HIE Participation Response Rates by County

Stratifying results by Question 3 (Facility Type) as seen in Figure 60 reveals that Hospitals (52%) and Physician Office/Ambulatory Clinics, at 55%, have the greatest percentage of HIE participation. Behavioral/Mental Health (21%) and Long-Term and Post-Acute Care (LTPAC)/Nursing Homes (34%) have the lowest rate of usage.

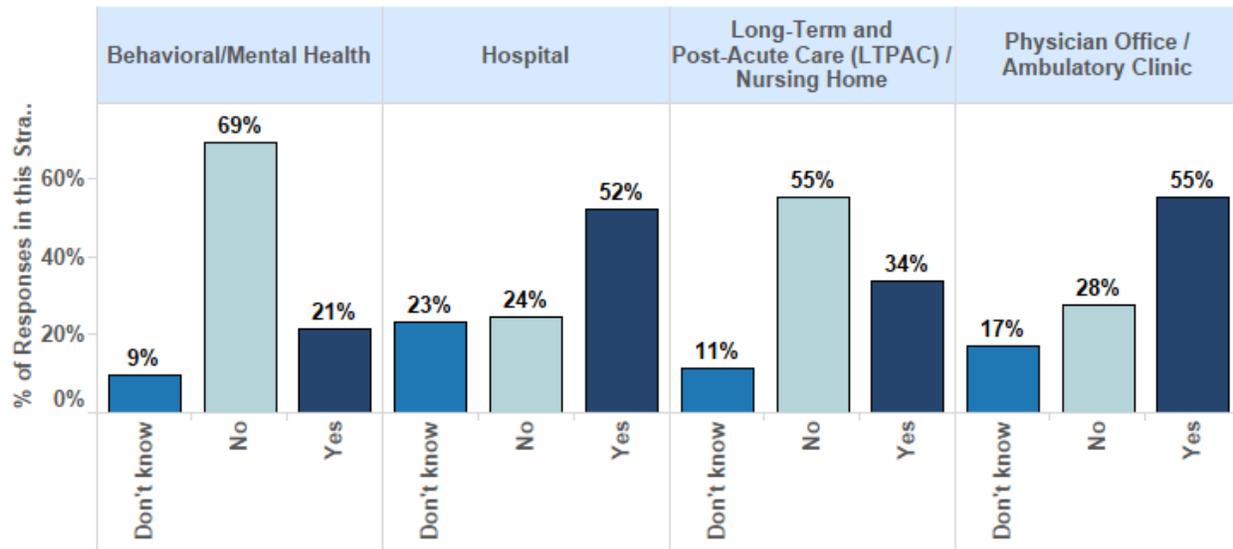


Figure 60: HIE Participation by Facility Type

Stratifying results by Question 5 (Facility Designation) as seen in Figure 61 reveals that facilities that are part of a Larger Healthcare System (65%), part of a University/Teaching System (95%), or part of IHS (50%) had the highest HIE participation rates. Facilities that were identified as a Federally Qualified Health Center (34%) or part of an IPA (18%) had the lowest HIE participation rates.

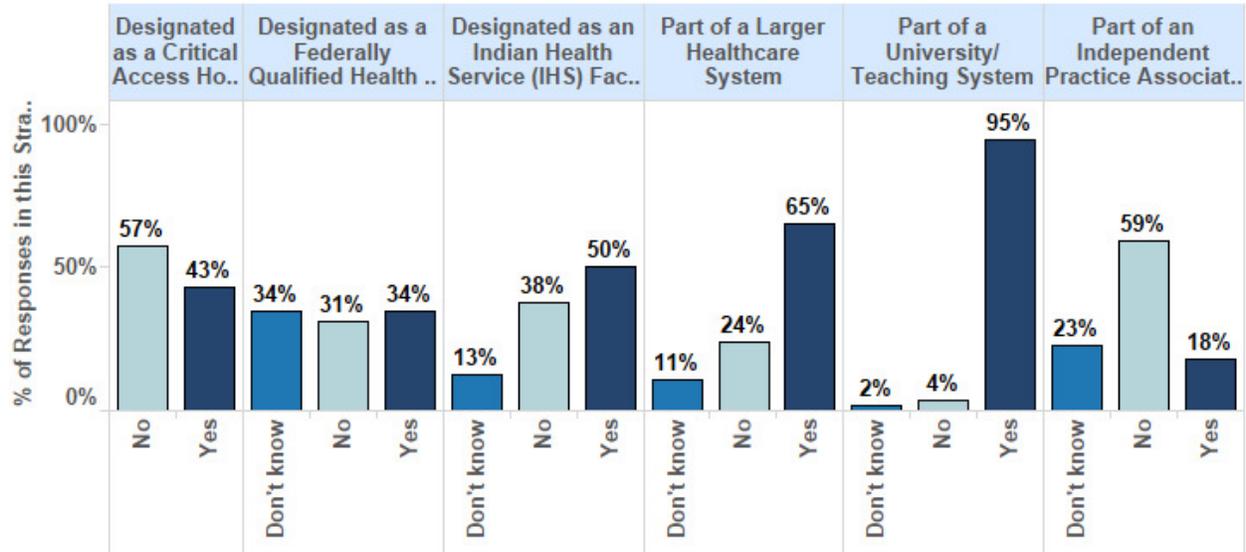


Figure 61: HIE Participation by Facility Designation *Responses with a frequency of 1 were not displayed.

Stratifying results by Question 11 (Staff Size) as seen in Figure 62 reveals that facilities with staff sizes of 6-10 (48%) and 11-20 (69%) have the highest HIE participation rates. Facilities that have staff sizes of one or less (19%) and 2-5 (21%) have the lowest HIE participation rates.

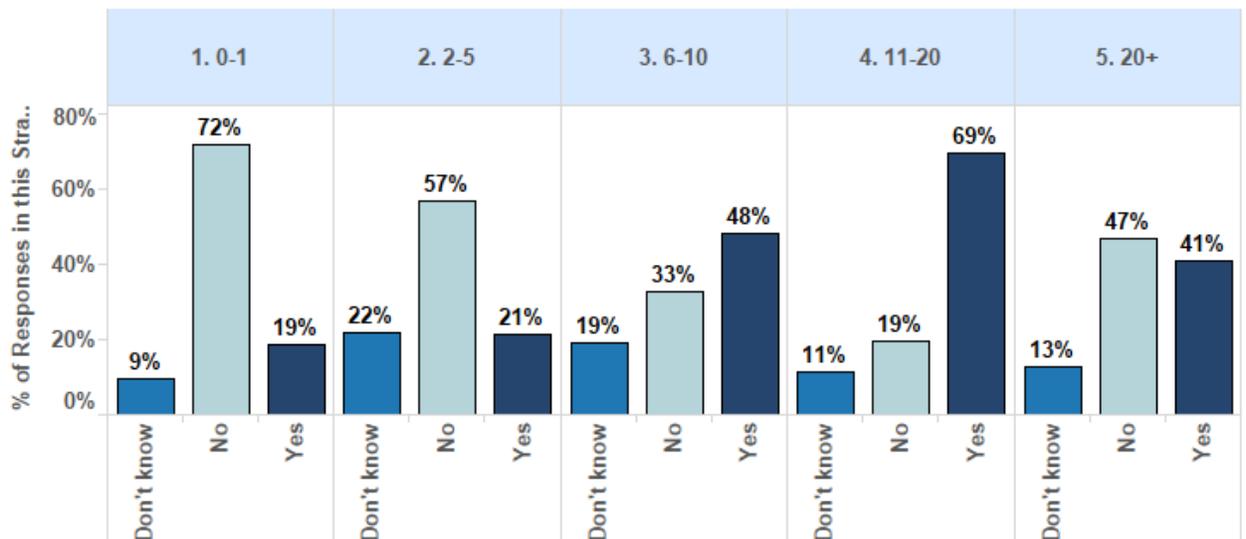


Figure 62: HIE Participation by Staff Size (Excluding Providers)

4.28 Question 28

When do you plan on connecting to a HIE?

As seen in Figure 63 the majority of respondents, at 55% (262), indicated it would be more than 24 months before connecting to an HIE.

Responses	Count	%	Percentage of total respondents
Less than 6 Months	11	2.31%	
Within 6 - 12 months	44	9.22%	
Within 12 - 24 months	92	19.29%	
More than 24 months	262	54.93%	
Never	68	14.26%	
Total Responses	477		

Figure 63: Question 28 Responses

Figure 64 shows results stratified by Question 3 (Facility Type) and reveals that hospitals (41%) most commonly plan to connect to an HIE within 12-24 months. Physician Office/Ambulatory Clinics (56%), Behavioral/Mental Health (55%) and Long-Term and Post-Acute Care (LTPAC)/Nursing Home (59%) all most commonly indicated that they would connect to an HIE in more than 24 months.

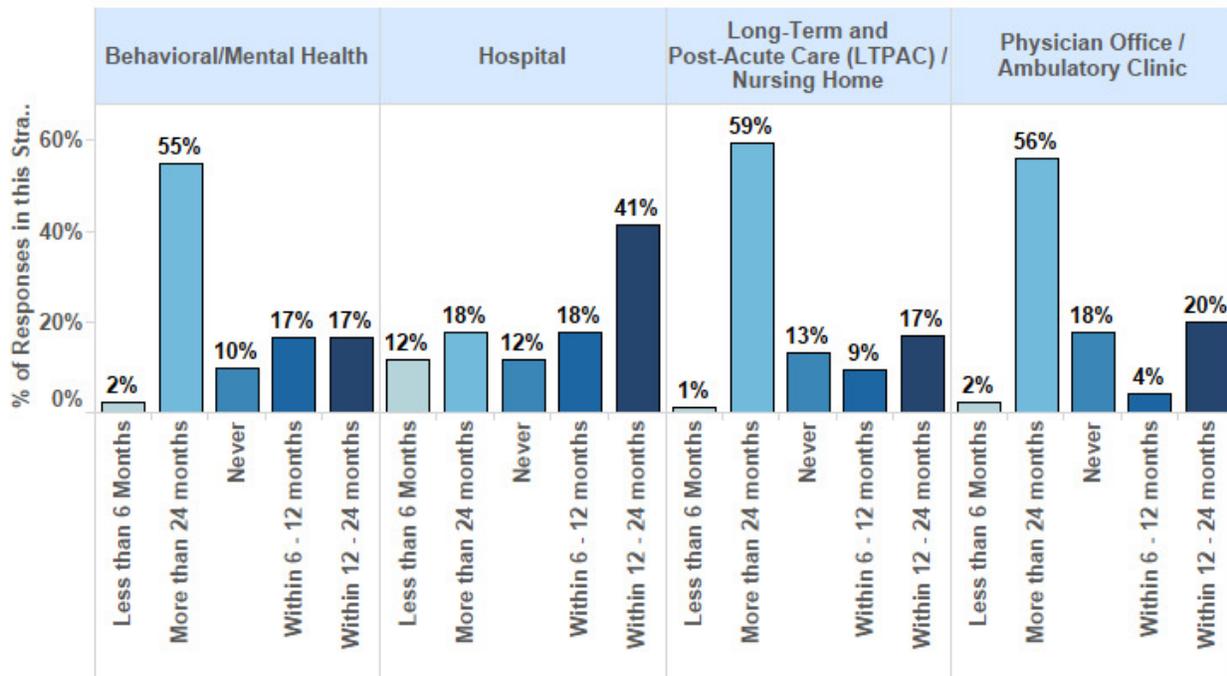


Figure 64: HIE Implementation Target Date by Facility Type

Figure 65 shows results stratified by Question 12 (EHR Implemented). 24% of Practice Points that have not adopted an EHR never plan to implement an HIE.

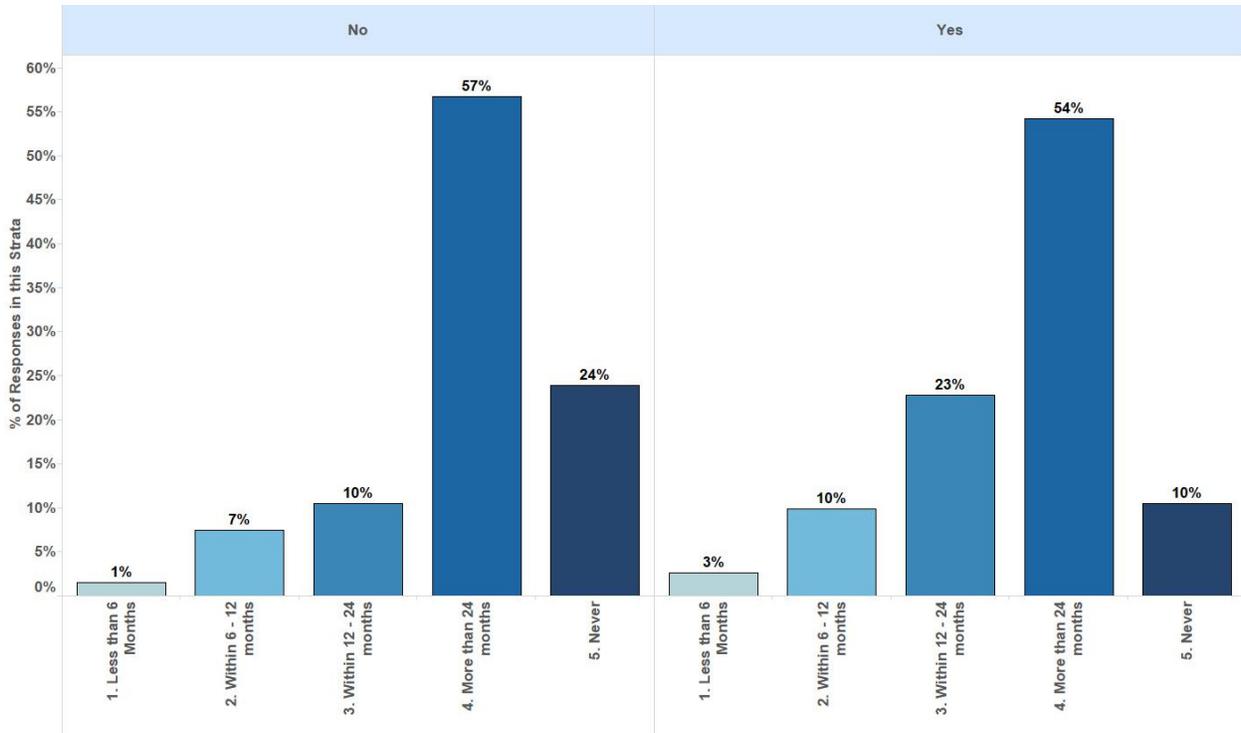


Figure 65: HIE Implementation Target Date by EHR Implemented

4.29 Question 29

Would you participate in an incentivized voucher program to provide financial assistance to connect to a HIE?

As seen in Figure 66 the majority of respondents, 81% (372), indicated that they would participate in an incentivized voucher program while 19% (85) indicated that they would not participate.

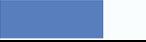
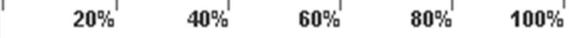
Responses	Count	%	Percentage of total respondents
Yes	372	81.40%	
No	85	18.60%	
Total Responses	457		

Figure 66: Question 29 Responses

Figure 67 shows results stratified by Question 28 (HIE Implementation Target Date). Of interest is that 27% of respondents indicating that they would never implement an HIE would be willing to participate in an incentivized voucher program. Conversely, 73% of respondents that stated they would never implement an HIE were not motivated by an incentivized voucher program.

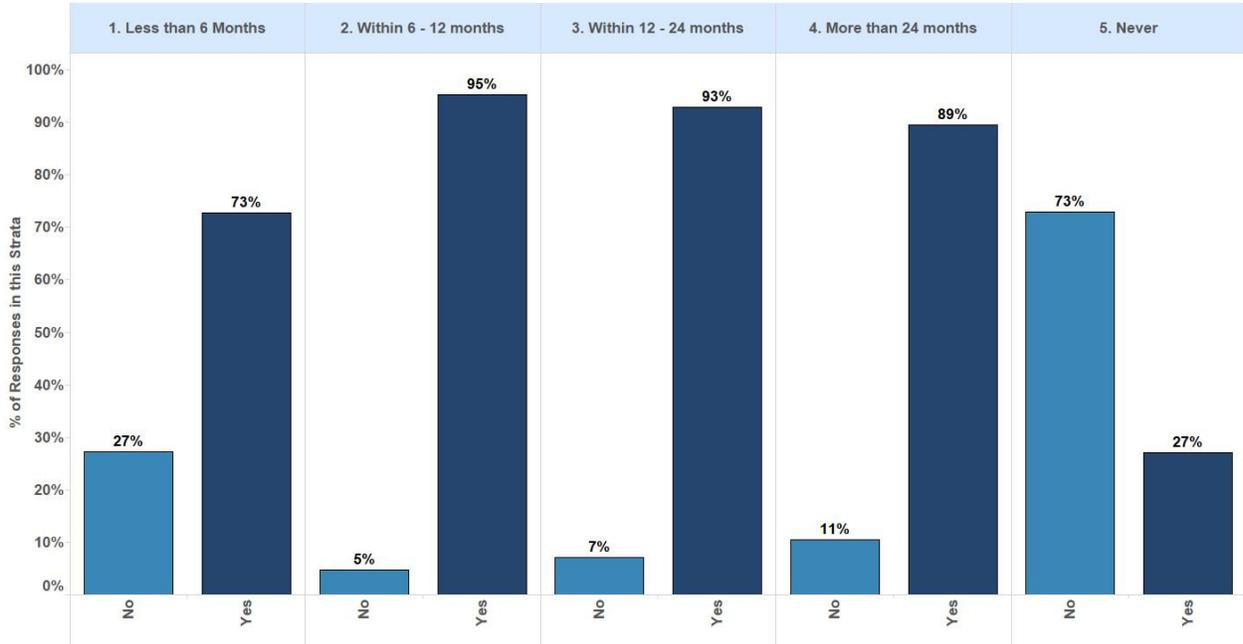


Figure 67: Voucher Program Participation Interest by HIE Implementation Target Date

4.30 Question 30

Which of the following reasons prevent you from connecting to a HIE (Select All that apply)?

This question was an optional multi-select question with a 17% (250) unique response rate. As seen in Figure 69, the responses revealed that Cost at 35% (88), Technical challenges/need more education at 26% (65), and Other at 38% (96) were the most commonly identified reasons for not adopting an HIE. The Lack of valuable data, at 4% (11), was the lowest identified reason for not adopting an HIE.

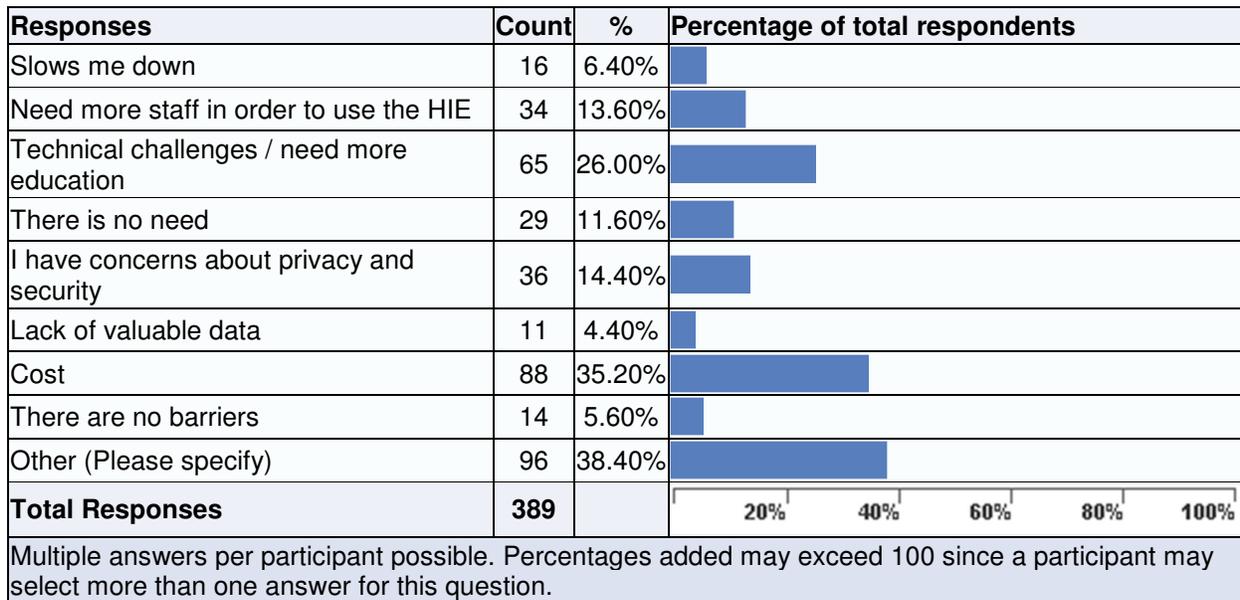


Figure 68: Question 30 Responses

Figure 69 shows results stratified by Question 3 (Facility Type). The percentage in each cell represents the row percentage, or the percentage of a specific response received by each facility type.

Responses	Long-Term and Post-Acute Care (LTPAC) / Nursing Home	Behavioral / Mental Health	Physician Office/Ambulatory Clinics	Hospital
Slows me down	19%	6%	75%	0%
Need more staff in order to use the HIE	35%	12%	53%	0%
Technical challenges/need more education	31%	12%	46%	11%
There is no need	31%	10%	55%	3%
I have concerns about privacy and security	31%	25%	39%	6%
Lack of valuable data	36%	0%	64%	0%
Cost	40%	7%	44%	9%
There are no barriers	0%	50%	50%	0%
Other (Please specify)	56%	15%	27%	1%

Figure 69: Question 30 Responses by Facility Type

Respondents were allowed to enter free text if “Other” was chosen. Figure 70 provides the results of the analysis of these responses showing consistencies among the responses. “Corporate Decisions” (22%) and “No EHR” (25%) were the most cited reasons preventing the connectivity to an HIE.

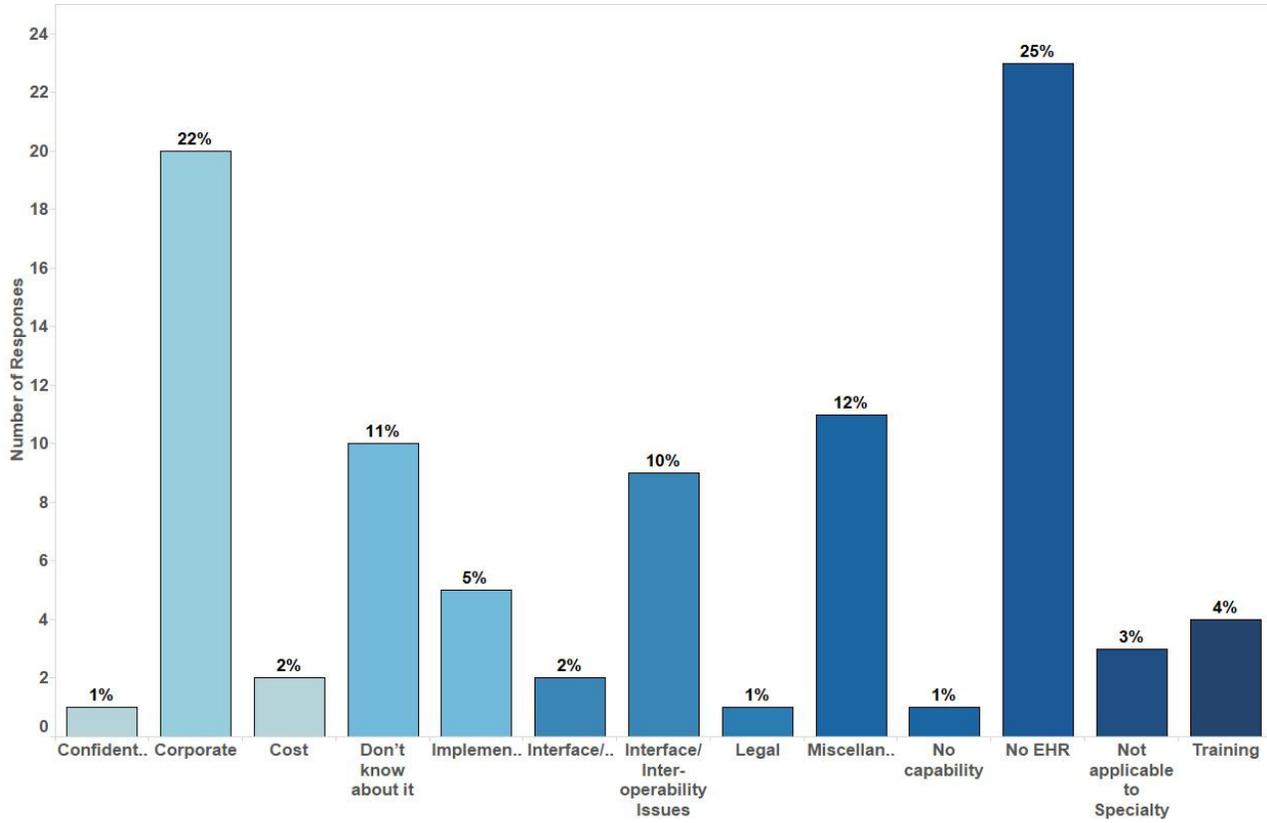


Figure 70: Distribution of Responses for HIE Connection Barriers – Other Grouped

4.31 Question 31

Does your facility send to a HIE?

Figure 71 shows that the majority of respondents, at 92% (553), that participate in an HIE send data to the HIE.

Responses	Count	%	Percentage of total respondents
Yes	553	92.17%	
No	32	5.33%	
Don't know	15	2.50%	
Total Responses	600		

Figure 71: Question 31 Responses

Figure 72 shows results stratified by Question 3 (Facility Type) and reveals that all Practice Point Types that are participating in an HIE are also sending data to the HIE.

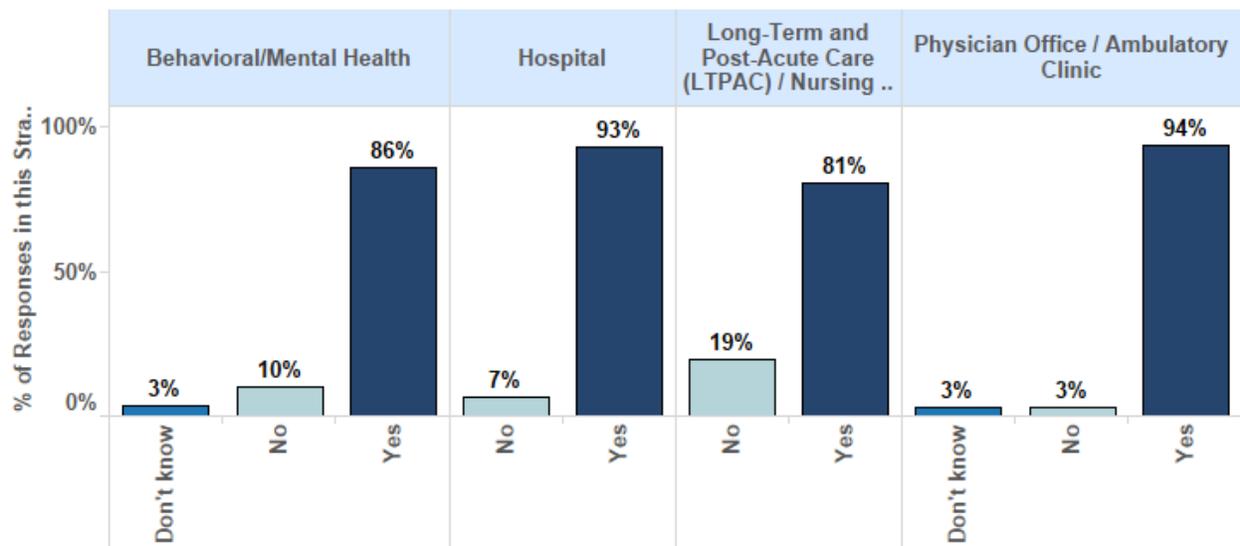


Figure 72: HIE Data Submission by Facility Type

4.32 Question 32

What HIE features do you use?

This question was an optional multi-select question with a 28% (416) unique response rate. As seen in Figure 73, 79% (329) of responses indicated that they View patient summaries/patient level data, 78% (324) indicated that they View clinical data, and 67% (280) indicated that they view labs. The least frequently used features indicated were the HIE-based Patient portal at 21% (88), the Data analytics/dashboard at 21% (89), and the EHR discharge summaries at 29% (120).

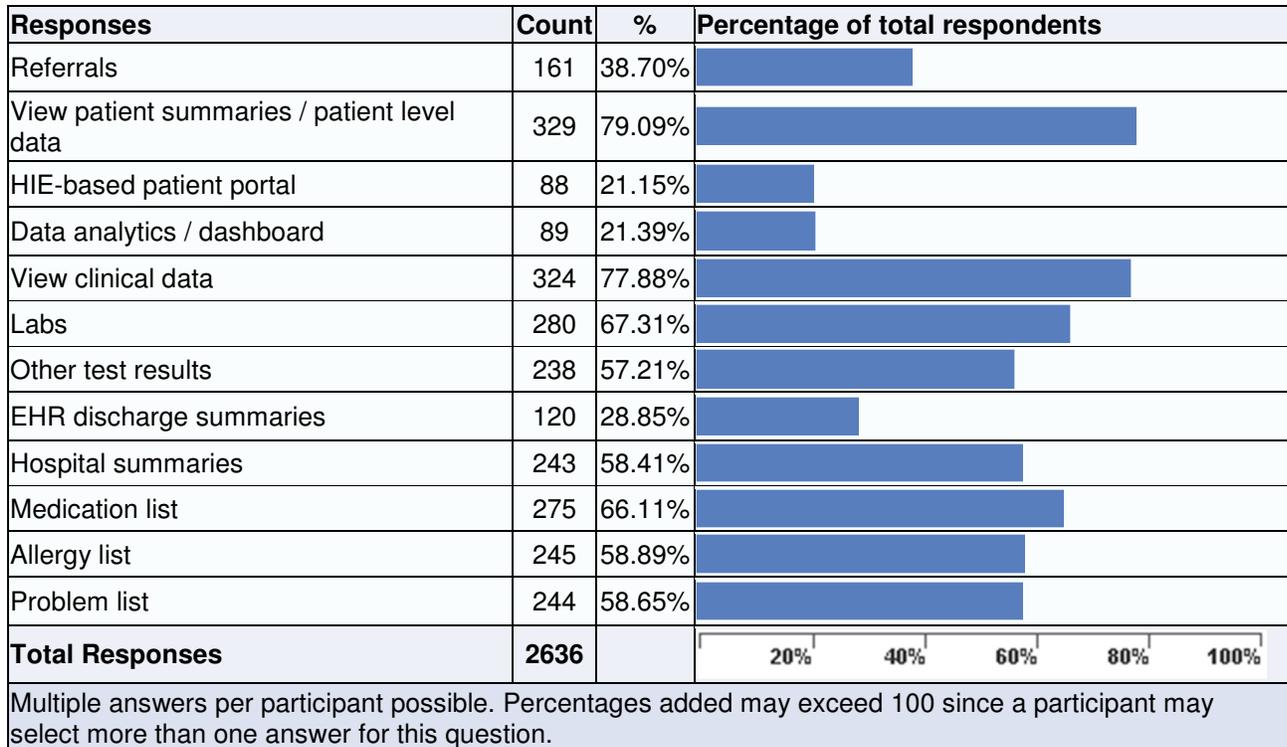


Figure 73: Question 32 Responses

Figure 74 presents results stratified by Question 3 (Facility Type) revealed the following HIE features most utilized. The percentage in each cell represents the row percentage, or the percentage of a specific response received by each facility type.

Responses	Long-Term and Post-Acute Care (LTPAC) / Nursing Home	Behavioral / Mental Health	Physician Office/Ambulatory Clinics	Hospital
Referrals	43%	12%	43%	2%
View patient summaries/patient level data	9%	6%	74%	10%
HIE-based patient portal	16%	25%	56%	3%
Data analytics/dashboard	20%	21%	56%	2%
View clinical data	16%	6%	72%	6%
Labs	18%	7%	62%	13%
Other test results	8%	8%	70%	14%
EHR discharge summaries	24%	23%	51%	3%
Hospital summaries	21%	8%	63%	8%
Medication list	19%	7%	62%	12%
Allergy list	10%	8%	68%	14%
Problem list	10%	8%	68%	13%

Figure 74: Question 32 Responses by Facility Type

4.33 Question 33

Do you have a system/process in place to utilize the information from the HIE?

As seen in Figure 75, the majority of respondents, at 90% (493), indicated that they have a system/process in place to utilize information from an HIE.

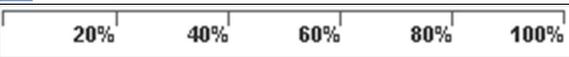
Responses	Count	%	Percentage of total respondents
Yes	493	89.96%	
No	23	4.20%	
Don't know	32	5.84%	
Total Responses	548		

Figure 75: Question 33 Responses

Figure 76 shows results stratified by Question 5 (Facility Designation) and reveals that facilities that were identified as a Critical Access Hospital (40%) or part of an IPA (38%) were the least likely to have a system/process in place for utilizing HIE information.

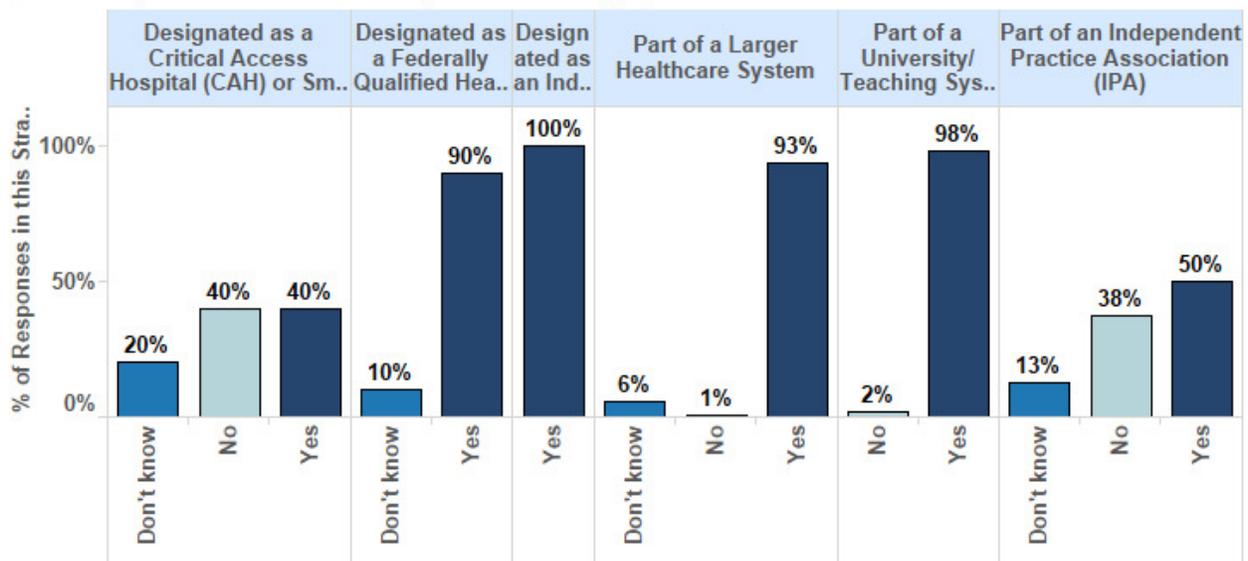


Figure 76: HIE System/Process by Facility Designation

4.34 Question 34

Which of the following reasons prevent you from using the HIE more?

This question was an optional multi-select question with a 20% (303) unique response rate. Figure 77 shows that responses indicated that 35% (105) surveyed had no barriers, 32% (98) selected having Technical challenges/need more education, and 31% selected Other. Lack of valuable HIE data 4% (11), There is no need 4% (12), and I have concerns about privacy and security 5% (14) were the least cited reasons for not utilizing an HIE more.

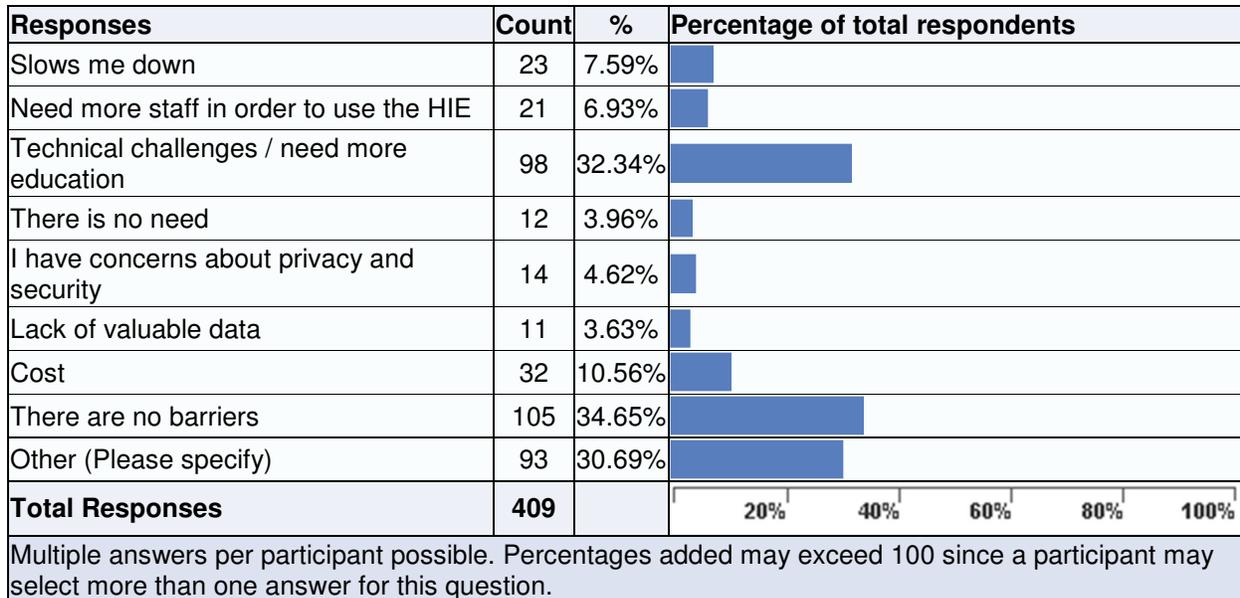


Figure 77: Question 34 Responses

Respondents were allowed to enter free text if “Other” was chosen. Figure 78 provides the results of the analysis of these responses showing consistencies among the responses. The highest reason in the Other category cited was “Interface/Connectivity” issues at 60%.

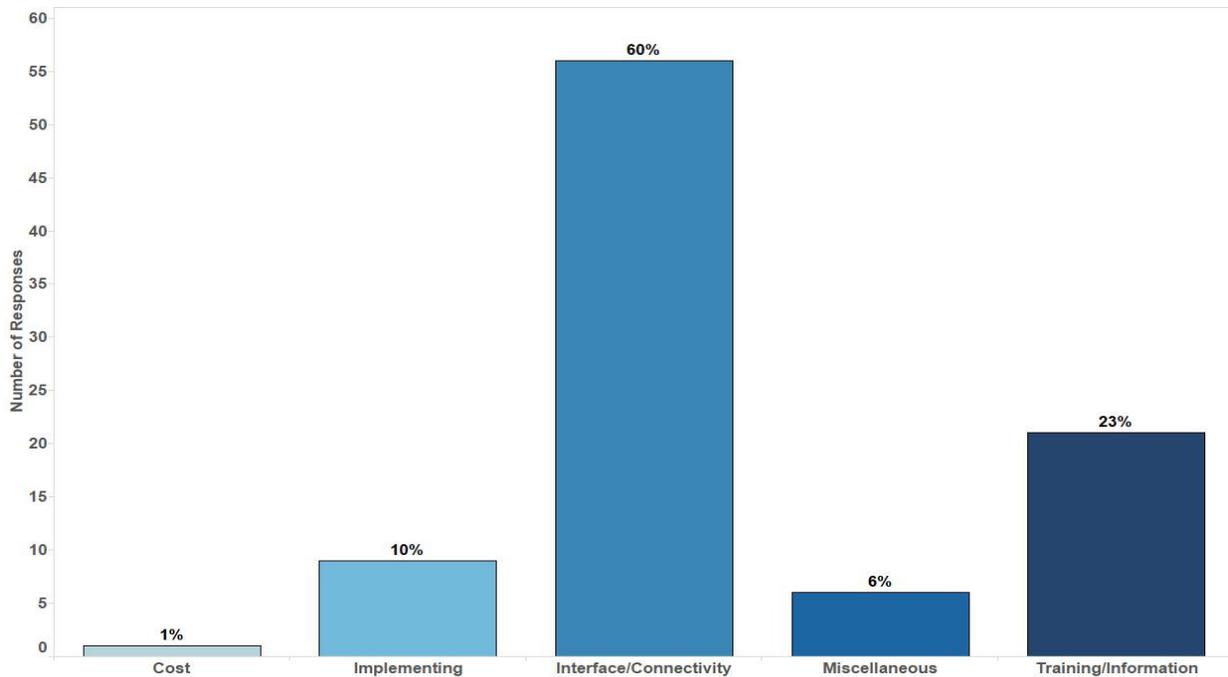


Figure 78: Distribution of HIE Barriers – Other Grouped

4.35 Question 35

Do you believe HIE data improves the ability of [facility] to manage the care of its patients?

Figure 79 shows that the majority of respondents, at 91% (496), indicated that they believed the HIE improves their ability to manage the care of patients. 3% (14) indicated that they did not believe that HIE data improves their ability to manage the care of patients, and 7% (36) indicated that they didn’t know.

Responses	Count	%	Percentage of total respondents
Yes	496	90.84%	
No	14	2.56%	
Don't know	36	6.59%	
Total Responses	546		

Figure 79: Question 35 Responses

Figure 80 shows results stratified by Question 3 (Facility Type).

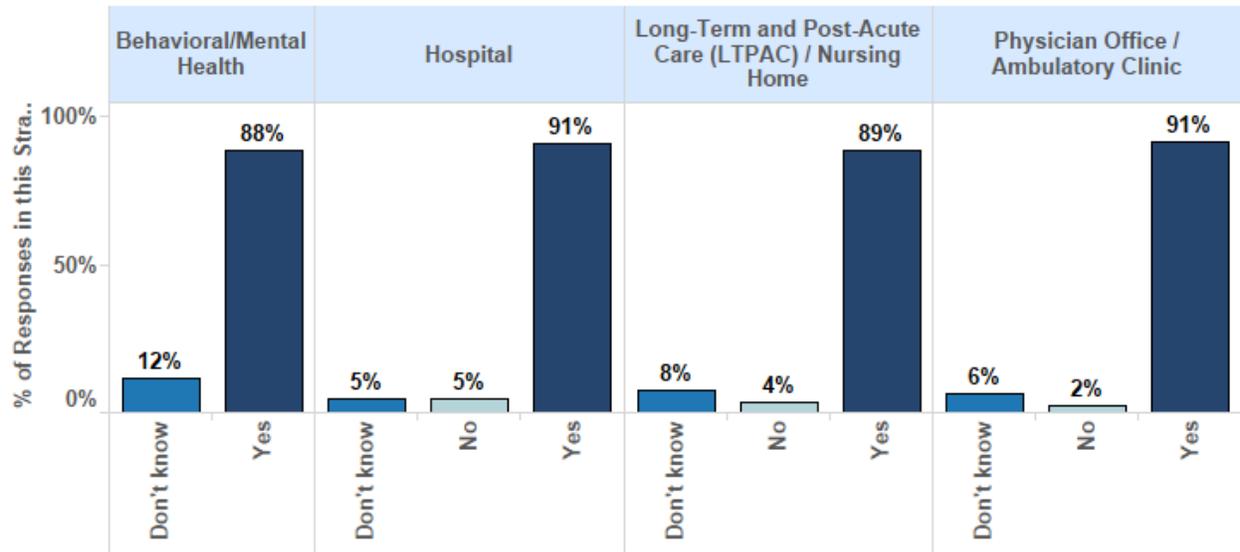


Figure 80: HIE Improves Managed Care by Facility Type

5 Barriers

Four questions in the survey were related to barriers to HIT adoption. These were:

- Question 14: What are the reasons you have not implemented or do not plan to implement an EHR?
- Question 18: Which of the following reasons prevent you from using more functionalities of your EHR? (Select all that apply)
- Question 30: Which of the following reasons prevent you from connecting to an HIE (Select All that apply)?
- Question 34: Which of the following reasons prevent you from using the HIE more?

We were able to categorize these barriers into the following broad categories:

- Knowledge
- Workforce or Workflow
- Financial
- Infrastructure
- Other

A summary of Primary and Secondary barriers identified by Practice Point Type are provided in the table below:

Practice Point Type	Barrier Priority	EHR Adoption	EHR Utilization	HIE Adoption	HIE Utilization
Physician Office/Ambulatory Clinic	Primary	Financial	Knowledge	Knowledge	Knowledge
	Secondary	Infrastructure	Workforce/Workflow	Financial	Other (Interface/Connectivity)
Behavioral/Mental Health	Primary	Financial	Knowledge	Infrastructure	Knowledge
	Secondary	Workforce/Workflow	Infrastructure	Knowledge	Other (Implementing HIE)
Hospital	Primary	Financial	Knowledge	Financial	Knowledge
	Secondary	Financial	Workforce/Workflow	Knowledge	Workforce/Workflow
Long-Term and Post-Acute Care (LTPAC) / Nursing Home	Primary	Financial	Knowledge	Financial	Knowledge
	Secondary	Other (Corporate Decision)	Workforce/Workflow	Knowledge	Financial

Figure 81 Primary and Secondary Barriers by Practice Point Type

Discussion

5.1.1 EHR Adoption (Question 14)

14% (211) of Practice Points indicated that they had not implemented an EHR. These respondents were asked to identify specific barriers related to non-adoption, and the results of their responses were provided in section 4.14. For all four Practice Point Types, prohibitive cost was the most frequently cited

reason for not adopting an EHR. The second most frequently cited reason was different for each Practice Point Type. For Long-Term and Post-Acute Care (LTPAC)/Nursing Home facilities, the “Other” response of “Corporate Decision” was the second most frequently identified barrier. Workforce barriers were the second most common among Behavioral/Mental Health facilities, and infrastructure barriers were the second most common among Physician Office/Ambulatory Clinic. Regional Extension Centers were created to support hospitals and primary care clinics in their EHR adoption and meaningful use journey. There has been no national initiative or funding to assist long-term care and behavioral health with this process. This combined with a lack of reporting incentives or penalties might explain the lower adoption rates for both Long-Term and Post-Acute Care (LTPAC)/Nursing Home and Behavioral/Mental Health facilities. This is supported by the survey findings from section 4.12. The following table provides a summary of these findings.

Category	Responses	Count by Practice Point Type*			
		LTC	BH	PO	HO
Knowledge	Unable to find training	6	1	1	0
Workforce/ Workflow	Lack of IT or technical staff to support implementation needs	8	7	5	0
	Disrupts workflow	7	3	5	0
Financial	Cost is prohibitive (no return on investment)	29	17	13	1
Infrastructure	Unable to find the right EHR to meet our/my needs	9	2	8	0
	Lack of IT infrastructure to support implementation (e.g., internet access, computers)	7	1	3	0
Other	Nothing specified	37	17	17	0
	Business closing/business selling/retiring soon	1	0	3	0
	Total Responses (multiple responses allowed)	104	48	55	1

Figure 82: EHR Adoption Question 14

*LTC=Long-Term and Post-Acute Care (LTPAC)/Nursing Home; BH=Behavioral/Mental Health; PO=Physician Office/Ambulatory Clinic; HO=Hospital

5.1.2 EHR Utilization (Question 18)

86% (1277) of Practice Point respondents indicated that they utilize an EHR. However, not all respondents utilize their EHRs to the fullest extent. Respondents were asked to identify specific barriers that prevent them from utilizing more EHR functionality and the results of their responses were provided in section 4.18. Knowledge and workforce/workflow barriers were the two most commonly identified barriers within Long-Term and Post-Acute Care (LTPAC)/Nursing Home, Physician Office/Ambulatory Clinic, and Hospital facilities. Behavioral/Mental Health facilities also selected knowledge barriers most frequently, but this was followed by infrastructure barriers. The following table provides a summary of these findings.

Barrier Type	Responses	Count By Practice Point Type*			
		LTC	BH	PO	HO
Knowledge	I don't perceive a need to do more than what is already being done.	8	71	185	34
	I'm not aware of some features (haven't been trained or know they exist).	63	6	47	11
Workforce/ Workflow	I don't have time to learn about other features I'm not using.	37	1	89	2
	It slows clinical staff down, and we cannot add more to their workflow.	29	1	77	15
	I need more staff to help with documentation.	25	1	44	6
Infrastructure	I have no control over which features are available for use and some are not made available to me.	38	6	149	6
	I have poor vendor support.	4	1	16	3
Financial	These features are only available as add-ons at an additional price.	20	3	197	5
Other	Nothing specified	45	40	68	9
	Total Responses (multiple responses allowed)	312	198	1131	111

Figure 83: EHR Utilization Question 18

*LTC=Long-Term and Post-Acute Care (LTPAC)/Nursing Home; BH=Behavioral/Mental Health; PO=Physician Office/Ambulatory Clinic; HO=Hospital

A need for more knowledge was the most cited reason for underutilizing an EHR. These responses are most likely attributed to training only occurring during EHR implementation. While 10% of all respondents were “not aware of some features,” this percentage was almost four times higher among IPA facilities (38%). Most training is provided at initial implementation which is a time when providers focus on knowledge related to workflows they use most often so that they can get their daily tasks accomplished. If additional information was provided at training, they often forget about the additional functionalities that could be utilized, or they were never trained on advanced functionality. Of 162 respondents citing “other (please specify)” the most common reason provided was a need for more training (54). This is another indication that not receiving adequate training is a barrier to full EHR implementation. Workforce- and Workflow-related issues were the second most cited barrier category for full EHR utilization, and this was true regardless of Practice Point size.

390 respondents indicated that they use all their EHR's functionalities. However, in conflict with this response, 38% of these respondents indicated that they did not use the patient panel feature of their EHR, which is an indication that they do not use all their EHR functionalities. This implies that there are differing opinions as to what constitutes full EHR utilization.

Overall, financial barriers were the least impactful for underutilizing an EHR. However, of those selecting this barrier, 88% (197) were from the Physician Office/Ambulatory Clinic setting, and this was one of the most frequently cited barriers to more full EHR utilization in this Practice Point Type. Financial barriers could be related to training and workforce issues as both require funding to procure.

5.1.3 HIE Adoption (Question 30)

39% (578) of Practice Point respondents indicated that they did not participate in an HIE, and 15% (227) indicated they did not know if they were participating in an HIE. Respondents were asked to identify specific barriers related to non-participation and the results of their responses are provided in Section 4.30. Barriers to HIE adoption varied slightly by facility type. For Long-Term and Post-Acute Care (LTPAC)/Nursing Home and Hospitals, financial and knowledge barriers were the two most frequently selected barriers, respectively. Physician Office/Ambulatory Clinics also reported these two barriers, but knowledge barriers were more commonly reported than financial barriers. Behavioral/Mental Health facilities reported infrastructure barriers most commonly, followed by knowledge barriers. The following table provides a summary of these findings.

Category	Responses	Count By Practice Point Type*			
		LTC	BH	PO	HO
Knowledge	Technical challenges / need more education	20	8	30	7
	There is no need	9	3	16	1
Workforce / Workflow	Need more staff in order to use the HIE	12	4	18	0
	Slows me down	3	1	12	0
Financial	Cost	35	6	39	8
Infrastructure	I have concerns about privacy and security	11	9	14	2
	Lack of valuable data	4	0	7	0
Other	Nothing specified	54	14	26	1
	Total Responses	148	52	169	19

Figure 84: HIE Adoption Question 30

*LTC=Long-Term and Post-Acute Care (LTPAC)/Nursing Home; BH=Behavioral/Mental Health; PO=Physician Office/Ambulatory Clinic; HO=Hospital

That 11.6% (29) HIE adoption barrier responses were related to a perception that “There is no need” speaks to a need for more education regarding the value of an HIE. 19% (30) of respondents with an EHR were more likely to cite privacy/security concerns as a barrier compared to those without an EHR. This may be due to EHR users having a better understanding due to Meaningful Use requirements associated with HIPAA and the need for performing a risk assessment as well as the Meaningful Use requirements for having a secure network environment for electronic personal health information. This also speaks to a need for more education. Of the “Other” responses, 24% (22) indicated that not having an EHR was why they did not participate in an HIE.

5.1.4 HIE Utilization (Question 34)

46% (683) of Practice Point respondents indicated that they utilize an HIE, while 15% (227) were not aware if they utilize an HIE. Of those Practice Points that utilize an HIE, 83% (400) are part of a Larger System and only 2% (8) are part of an IPA. For Practice Point Types that had implemented but were not fully utilizing an HIE, respondents were asked to identify specific barriers that prevent them from utilizing their HIE more, and the results of their responses are provided in Section 4.34. Lack of

knowledge was the most commonly cited barrier among all Practice Point Types. The following table provides a summary of these findings.

Barrier Type	Responses	Count By Practice Point Type*			
		LTC	BH	PO	HO
Knowledge	Technical challenges / need more education	29	1	63	5
	There is no need	1	0	11	0
Workforce / Workflow	Slows me down	3	0	17	3
	Need more staff in order to use the HIE	10	0	10	1
Financial	Cost	29	1	2	0
Infrastructure	I have concerns about privacy and security	5	3	6	0
	Lack of valuable data	1	2	6	2
Other	Other (Please specify)	12	27	51	3
	Total Responses	112	35	226	36

Figure 85: HIE Utilization Question 34

*LTC=Long-Term and Post-Acute Care (LTPAC)/Nursing Home; BH=Behavioral/Mental Health; PO=Physician Office/Ambulatory Clinic; HO=Hospital

As with other questions, the perception that “There is no need” to more fully utilize an HIE speaks to the need for more education as to the value and importance of utilizing an HIE. Of those responding that “Technical challenges/need more education” was a barrier, 64% (63) were Physician Office/Ambulatory Clinic and 30% (29) were Long-Term and Post-Acute Care (LTPAC)/Nursing Homes. 50 of the 63 Physician Office/Ambulatory Clinic Practice Points with this response were part of a University/Teaching System.

Workforce/Workflow issues as barriers could be attributed to poor integration of new processes or utilization of staff appropriately and/or a need for more education. Financial Issues, the third most cited barrier, might speak to a need for a voucher program. Although Infrastructure issues were the least cited barrier these also speak to a need for more education about the need for secure systems to meet Meaningful Use requirements and the value of an HIE. Responses were small related to the perception that there was a “Lack of valuable data.”

5.2 Additional Analyses

Additional analyses were performed on these four barrier questions to determine if there were statistically significant differences for Urban versus Rural settings. Counties were designated as “Urban”, “Rural”, or “Mixed” based on the classification available through the OSU Center for Rural Health¹. We also looked at barriers by responses to Question 5 which provided responses to indicate being part of some larger system. For those respondents selecting being part of a “Larger Healthcare System”, part of an IPA, part of a “University/Teaching System”, or part of an IHS system, we placed them into a category called “Supported”. For all other respondents, including those not answering Question 5, we placed them into a category called “Unsupported.” Our hypothesis was those rural settings, and those Practice Points that did not have the resources available to Supported systems, might reveal more barriers. The following table presents the findings of these analyses:

Question	Finding	Significance
Q14 EHR Adoption	Unsupported more likely to cite financial barriers (49% vs 21%)	p=0.0013
	Unsupported more likely to cite infrastructure barriers (25% vs 11%)	p=0.0497
Q18 EHR Utilization	Urban more likely to cite workforce barriers specifically ‘need more staff to help with documentation’ (21% vs 15%)	p=0.0096
	Unsupported more likely to cite knowledge barriers compared to supported facilities (78% vs 49%)	p<.0001
	Unsupported <u>less</u> likely to report infrastructure barriers (lack of control over features) (8% vs 23%)	p<0.0001
	Unsupported <u>less</u> likely to report financial barrier (features only available as add-ons) (5% vs 29%)	p<0.0001
Q30 HIE Adoption	Unsupported more likely to report financial barrier (cost) (45% vs 15%)	p<0.0001
	Unsupported more likely to report infrastructure barriers (20% vs 10%)	p=0.0367
Q34 HIE Utilization	Urban more likely to cite knowledge barriers (49% vs 24%)	p<.0001
	Rural more likely to cite infrastructure barriers (12% vs 5%)	p=0.0481
	Rural more likely to cite workforce barriers (20% vs 9%)	p=0.0077
	Unsupported more likely to report knowledge barrier (49% vs 31%)	p=0.0043
	Unsupported more likely to report infrastructure barrier (16% vs 5%)	p=0.0007
	Unsupported more likely to report financial (cost) barrier (36% vs 0.5%)	p<0.0001

Figure 86 Additional Analyses

¹ <http://www.healthsciences.okstate.edu/ruralhealth/documents/OKCountRUM11.pdf>

For unsupported facilities, these results validate the hypothesis of additional barriers. Unsupported facilities were significantly more likely to report financial and infrastructure barriers to both EHR and HIE

adoption. Unsupported facilities were significantly more likely to report a multitude of barriers to EHR and HIE utilization as well. The only barriers that were more commonly reported in supported facilities revealed limitations of being part of a larger system, such as lack of control over features.

The relationship between rural setting and additional barriers was not as strong as for support status. Rural location showed no statistical association with EHR or HIE adoption barriers. As for EHR and HIE utilization barriers, these results suggest that facilities in rural settings don't necessarily have *more* utilization barriers than urban facilities as much as they have *different* barriers.

5.3 Study Limitations

While this survey was designed to assess EHR and HIE activities throughout the state, some limitations emerged during analysis of the survey responses. First, the survey targeted the entire population of providers within four Practice Point Types. The advantage of this approach was that it maximized the potential number of respondents and did not impose a limitation on which providers would have the opportunity to provide input. The limitation in this approach is that because a sampling scheme was not utilized to target specific facility characteristics, response rates were allowed to vary naturally. It is possible that this introduced bias, as specific characteristics that would influence response rates would also be related to EHR and HIE activities. For example, it is possible that facilities without an EHR in place were less likely to respond to the survey. This could inflate the apparent EHR adoption rate.

Another observed limitation was that survey items were either confusing to respondents, or the specific respondent was not equipped to address certain items. For example, Question 5 sought information regarding the Practice Point's designation (whether they were part of a Larger Healthcare System, Independent Practice Association, University/Teaching System, etc.). However, almost half of the respondents (713/1488, 48%) did not respond to any of the supplied designations. Either these respondents did not understand the survey item, did not have the knowledge of their facility to confidently answer, or did not feel their facility fit into one of the supplied categories, leaving us to assume they did not fit any of the categories and were, therefore, not part of any of those systems. Had the answer been required by all respondents, and an option of "None of the above" been included, this would have removed the confusion. Additionally, it is possible that the response options themselves were not well-defined or understood identically by respondents. For example, it is possible that single-physician practices that were not part of a larger system considered themselves to be "independent" and indicated they were part of an Independent Practice Association (IPA). However, only 6% of respondents to Question 5 identified as part of an IPA so they either did not respond to the survey at representative rates or they didn't feel their facility was part of an IPA.

Similar to the previous limitation, response inconsistencies were also observed during analysis. A respondent may have stated that they attested for Meaningful Use but also cited cost as a reason for not attesting. It was also common to observe "Other" responses that should have been chosen from the supplied response categories. For example "Cost" was given as a response option, but some respondents typed "it is too expensive" into the "Other" response category.

There were several responses to open-ended response types where it was obvious a typographical error was made. For this analysis, such responses were not modified because OFMQ did not want to introduce its own bias into response results.

Lastly, respondents were not required to complete every survey item in order to complete the survey. This approach allowed the maximum number of responses to be collected and analyzed. The limitation with this approach is that each survey item must be interpreted based on the number of respondents that addressed that specific survey item. As one example, each respondent that indicated that no EHR had been adopted at the facility (Question 12) did not necessarily supply a specific barrier to EHR adoption (Question 14). Therefore the responses to Question 14 had to be interpreted based on the total number of respondents to Question 14, not to the total number that indicated not having adopted an EHR.

6 Recommendations

Overall our findings support the fact that there is a need to increase EHR and HIE adoption and utilization across the state and to enhance interoperability leading to a more connected healthcare environment for Oklahomans. Sharing data, reducing costs, and utilizing software to its fullest potential are the focus of healthcare in Oklahoma over the next several years. The table below provides a high-level view of recommendations for addressing the barriers noted on survey results.

Barrier (Category)	Recommendations
Education	<ul style="list-style-type: none"> • Provide education through virtual (webex) or regional meetings • Create a resource center • Provide on-site support to assist with implementation • Provide on-site support to train staff in full utilization
Workforce or workflow Issues	<ul style="list-style-type: none"> • Perform workflow analyses to include staffing/workforce utilization and make recommendations for best practices
Financial Constraints	<ul style="list-style-type: none"> • Implement incentive programs for LTC and BH • Implement a voucher program
Inadequate Infrastructure	<ul style="list-style-type: none"> • Implement incentive programs for LTC and BH • Voucher program to allow for HIE implementation
Other	<ul style="list-style-type: none"> • Mandate HIE usage

Figure 87 Recommendations

6.1 Discussion

6.1.1 Educational Programs

6.1.1.1 Workgroups/task force

Providers in rural settings and many specialists are among those that have yet to adopt an EHR. Creating a workgroup/task force to address the particular needs of these Practice Points might be beneficial. The idea is to educate this population regarding the programs that may already exist and to provide as much value to them as possible through workgroup/task force collaboration and communications with providers.

Workgroups/task forces provide a mechanism for communication and relationship building for healthcare workers to build a support community. Providing a source for these providers to go to for answers may be all they need to overcome a hurdle. Hot topics and issues could be determined which could identify further educational needs. These educational gaps could be addressed through methods such as vendor trainings, webinars, or utilization meetings. Additionally, members of these workgroups could be assigned to mentoring partnerships with other providers and/or health systems to work together to develop solutions to barriers.

6.1.1.2 Vendor Trainings

Providers in the state would greatly benefit from EHR Training programs that focus on underutilized components of their EHR that assist in the management of chronic conditions. Current vendor training programs often focus on new features or add-on components that do not necessarily appeal the enhanced utilization of current feature sets. By providing and facilitating vendor trainings for the top 5 EHR vendors by setting within the state, EHR utilization could be increased and the ROI of EHR implementations could be realized. Furthermore, this training would aid in facilitating training programs that may otherwise be cost prohibitive for provider settings without a dedicated training budget.

6.1.1.3 Webinars

Provide educational webinars to educate all Practice Points. Webinars should be conducted based on Practice Point Type to enhance and provide the most relevant training possible. Webinars should be conducted on a quarterly basis and be made available for download. Additionally, webinars could be a means of offering continuing education credit.

6.1.1.4 Quarterly Utilization Workgroup Meetings

It is recommended that an EHR/HIE utilization workgroup be developed that focuses on sharing ideas, concepts and best practices for getting the most usage out of the EHR/HIE. These workgroups would meet quarterly and provide a forum for capturing challenges and addressing issues related to EHR/HIE utilization. Within these meetings, experts who could provide insight on addressing specific challenges to utilization would be invited participants to ensuring that value and expertise were brought to the workgroup. Special focus would be placed on how to integrate EHR and HIE functionalities into daily workflow to reduce inefficiencies and overall satisfaction.

6.1.1.5 Success Story campaign

Creating and publishing success stories in relation to EHR/HIE adoption and utilization can serve as a peer-motivation technique. Success stories published in video format are especially motivating. Ideas for story lines include successes concerning meaningful use, PQRS, HIE interoperability, ACO, CIO, ICD-10, value based care, etc. Sharing others' successes enable providers in similar scenarios to see that is possible. Stories focusing on rural providers would be especially influential for similar rural providers as these Practice Points often do not have the financial or technical resources to which larger health systems have access, and are unable to provide the time and talent needed for video or story production.

6.1.2 Resource Center

Developing a state-wide resource center for all HIT needs would be a valuable resource to reinforce education and continue to increase knowledge. This would be an educational hub where workgroup collaboration would take place, events/meetings would be posted, and quality improvement tools would be made available. The resource center could provide a social network of sorts for open discussion, resource sharing, and Q&A. Additionally, the resource center could provide a means to input ongoing data in order for the state to have valuable information needed for statewide reporting.

Publication of a state-wide healthcare report would data captured within the HIEs and various quality reports available from EHRs and incentive programs as well as data submitted to the resource center. Publishing a statewide status report on the progress Oklahoma healthcare providers make toward certain quality initiatives would allow providers to gauge their progress and improvements in real-time comparison to other providers. This could be a program similar to Hospital Compare, Nursing Home Compare, or Physician Compare, etc. but at the state level and directly tied to Oklahoma quality initiatives across all care settings.

6.1.3 Onsite Technical Assistance

Onsite technical assistance is needed for a gamut of items ranging from EHR vendor selection consultation, EHR configuration, workflow retooling, go-live support, post go-live assessment/utilization support, and much more.

An often overlooked component of technical support is project management. Typically there is a need for a project manager when implementing change of this magnitude. Project managers carry a heavy load. Staff members in rural areas for practice types do not have access to the resources that are provided in larger systems, and to take on this responsibility in addition to their current workload could have a negative impact on the EHR adoption.

EHR patient panel management for a chronically ill patient population has the most potential for showing a Return on Investment from the payer's point of view. Patients who are proactively managed are less likely to end up with more complicated and expensive outcomes, such as hospitalizations. Providing onsite technical support to healthcare settings to aid in the implementation and utilization of quality improvement tools in their EHR would lead to improvements in patient quality metrics derived from the EHR. This is supported by the national success of the Regional Extension Centers and the direct onsite technical assistance they provided to hospitals and providers for meaningful use adoption.

Care coordination is a focus in all settings of care and is becoming a topic of interest through meaningful use and payment reform. Having staff designated to tend to the coordination of patients with complex conditions may lead to better population management of patients with chronic conditions. Having onsite support to educate staff regarding full EHR and HIE functionality and benefits can help facilitate this process. Often times organizations cannot afford to hire another employee to do the care coordination; therefore, having onsite technical assistance to help implement care coordination through improved workflows might help Practice Points to better understand the benefit and opportunities for quality improvement without increasing current staffing.

6.1.4 Incentives for LTC and BH

EHR adoption has proven to take hold of the majority of healthcare providers across the state, especially when you examine Hospitals and Physician Offices/Ambulatory Centers. This adoption for these Practice Point Types is most likely attributed to the impact of reimbursement related to the MU incentive programs and the focus of Regional Extension Centers (REC) to provide onsite technical support to hospitals and primary care clinics with their EHR adoption and their meaningful use journey. These incentives helped supplement the cost of EHR adoption lessening the financial burden on these Practice Points. To date, there has been no national initiative or funding to assist LTC or BH in this journey. This combined with a lack of reporting incentives and penalties for these Practice Points might explain the lower adoption rates seen in both LTC and BH. Survey results show that hospitals and physician office/ambulatory clinics were the early adopters while long-term care and behavioral health were late adopters. Assuming prior trends hold for LTC and BH, one would assume that providing financial support in the terms of off-setting implementation cost, and providing direct onsite technical assistance would lead to higher adoption rates and increased utilization for these Practice Points as well.

Our first recommendation would be to create a financial incentive program for LTC and BH similar to the Meaningful Use program. This program would provide reimbursement to these Practice Points for EHR adoption successes and milestone completions. This program would need to be tailored to these Practice Points, focusing on their particular care metrics. Examples for LTC might include reducing readmissions, reduction of falls, or restraint usage. Examples for BH could include capture of clinical documentation, performing patient assessments, reporting and e-prescribing. This program could be set up similar to the Office of the National Coordinator Meaningful Use Incentive Program, creating a standard of criteria these Practice Points would need to meet after going live with their EHR. Once these criteria have been met the organization can attest to meeting these criteria and they would be eligible for a financial incentive payment. These payments could be used to supplement the cost of an array of expenses ranging from IT equipment, IT vendor support, training, annual EHR support fees and so on.

The purpose of these programs would be to increase adoption in the LTC and BH settings leading to a more interoperable healthcare environment for Oklahoma.

6.1.5 Voucher Program (Reimbursement to Provider)

Incentives, from e-prescribing to PQRS to meaningful use, have been used by Medicare for several years now. They have proven to help boost the adoption and utilization of HIT, and, some would claim, have led to improved compliance rates. Developing a voucher program for healthcare Practice Points would help remove financial barriers for smaller rural providers. A recommendation for a difference between this new voucher program and what has been previously done is that the financial incentive would be paid directly to the provider not the HIE, similar to the explained programs above (e-prescribing, PQRS, and meaningful use). The voucher program would off-set the expense of the interface that is needed to send patient data to the HIE. The voucher program should augment the cost of the interface fees from the HIE and EHR vendor. It is not to be used for the monthly/annual fees. Along with the implementation and development of the HIE connection to the EHR, providing onsite technical assistance is needed to aid in workflow integration, automatic report production, and training in HIE utilization.

6.1.6 Mandate HIE Usage

Providing a state mandate for HIE usage would ensure the adoption and utilization of an HIE. In order for this to be widely accepted, this mandate would need to be tied to an incentive program that rewards providers for usage. Additionally, the HIEs within the state would need to be interconnected ensuring that all available patient data is accessible regardless of the HIE utilized. With interconnectivity, the state could effectively promote HIE adoption without sponsoring a specific vendor.

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7 Appendices

7.1 Survey Questions

C1 The purpose of this survey is a collaborative effort of the Oklahoma State Department of Health (OSDH) and the Oklahoma Foundation for Medical Quality (OFMQ) to evaluate Electronic Health Record (EHR) adoption rates and Health Information Exchange (HIE) connectivity in Oklahoma for improved patient care. The survey will take approximately 10 minutes to complete. Thank you for your willingness to share feedback about your healthcare facility. Participants who complete the survey will be offered an opportunity to enter a drawing for a \$50 Visa giftcard at the end of the survey. Five lucky participants will be selected and notified in August 2015. Privacy Policy: Data collected by OSDH and OFMQ will be used for research purposes. Responses are confidential and will not be transferred or sold to any third party.

C2 Demographics: The following questions pertain to information about your healthcare facility.



Q.1 What is the name of your healthcare facility?

Characters Remaining: 85



Q.2 Complete your business information below:

* Street 1

Street 2

* City * County * State

* Zip



Q.3 Which of the following best describes your healthcare facility? (select one)

- Hospital
- Physician Office / Ambulatory Clinic
- Long-Term and Post-Acute Care (LTPAC) / Nursing Home
- Behavioral/Mental Health



Q.4 Which best describes your physician office/ambulatory clinic? (select one)

- Primary Care
- Specialty Care
- Multi-Specialty Care



Q.5 Which of the following applies to your healthcare facility: (select all that apply)

- Part of a Larger Healthcare System
- Part of an Independent Practice Association (IPA)
- Part of a University/Teaching System
- Designated as an Indian Health Service (IHS) Facility or Clinic
- Designated as a Federally Qualified Health Center (FQHC) or Community Health Center
- Designated as a Critical Access Hospital (CAH) or Small Rural Hospital



Q.6 Please identify which larger healthcare system your healthcare facility is a part of:

Characters Remaining: 100



Q.7 Please identify which IPA your healthcare facility is a part of:

Characters Remaining: 100



Q.8 Please identify which University/Teaching System your healthcare facility is a part of:

Characters Remaining: 100



Q.9 Does your facility utilize any of the following innovative payment model categories? (check all that apply)

- Accountable Care Organization (ACO)
- Bundled Payments for Care Improvement (BPCI)
- Comprehensive Primary Care Initiative (CPCI)
- Health Homes
- Health Access Networks (HAN)
- Patient Centered Medical Home (PCMH)
- None
- Other (Please specify)

  **Q.10** Number of providers at this location: (NOTE: A provider is defined as anyone on staff at your healthcare location who bills for services, such as MD, DO, NP, PA, etc.)

 (a) Doctor (DO, MD)

 (b) Mid-Level Provider (PA, NP, CNS)

  **Q.11** For your reported location, what's the total number of staff NOT including the providers mentioned above?

0-1 2-5 6-10 11-20 20+

C3 Electronic Health Record (EHR) Adoption: The following questions pertain to the selection and implementation of EHRs.

  **Q.12** Have you implemented an EHR?

Yes No

 **Q.13** When do you plan on implementing an EHR?

In the process

Within 6 - 12 months

Within 12 - 24 months

In more than 24 months

Never

 **Q.14** What are the reasons you have not implemented or do not plan to implement an EHR? (select all that apply)

Business closing / business selling / retiring soon

Cost is prohibitive (no return on investment)

Disrupts workflow

Lack of IT or technical staff to support implementation needs

Unable to find the right EHR to meet our / my needs

Lack of IT infrastructure to support implementation (e.g., internet access, computers)

Unable to find training

Other (Please specify)



Q.15 What year did you first implement your current EHR?



Q.16 If you have adopted an EHR but not attested to Meaningful Use, why not? (select all that apply)

- I have attested to Meaningful Use
- Do not meet required patient thresholds
- Too time consuming
- Not an eligible provider
- Not worth the money
- Other (Please specify)

C4 Electronic Health Record (EHR) Utilization: The following questions pertain to how ¹⁷[[Q.1]] uses its EHR.



Q How often do you utilize your EHR in the following ways?

	17. Frequency			
	Always (75-100% of the time)	Often (50-75% of the time)	Sometimes (25-50% of the time)	Rarely (0-25% of the time)
(a) Identify patients due for preventative or follow-up care	* <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(b) Generate lists of patients with particular health conditions	* <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(c) Create reports on clinical care measures for patients with specific chronic conditions (e.g., HbA1c for diabetics)	* <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(d) Providing patients the ability to view their medical information	* <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(e) Electronically (not fax) SEND clinical information to other providers	* <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(f) Electronically (not fax) RECEIVE clinical information from other providers (e.g., hospital discharge summaries)	* <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.18 Which of the following reasons prevent you from using more functionalities of your EHR? (select all that apply)

- It slows clinical staff down, and we cannot add more to their workflow.
- I need more staff to help with documentation.
- I'm not aware of some features (haven't been trained or know they exist).
- I don't perceive a need to do more than what is already being done.
- I don't have time to learn about other features I'm not using.
- These features are only available as add-ons at an additional price.
- I have no control over which features are available for use and some are not made available to me.
- I have poor vendor support.
- Nothing, I use all my EHR's functionalities.
- Other (Please specify)



Q.19 Do you use your EHR to manage your patient panel for any of the following health conditions? (select all that apply)

- Diabetes
- Hypertension
- Obesity
- Tobacco cessation
- Wellness / prevention
- Asthma
- Mental / behavioral health
- None
- Other (Please specify)



Q.20 In general, how comfortable are you with the ACCURACY of your EHR reporting (e.g., pulling a list of all patients with a diagnosis/test/needed test, eQMs/PQRS reports)?

- Not comfortable
- Somewhat comfortable
- Comfortable
- Very comfortable
- I do not produce data / reports from EHR

C5 Staffing: The following questions pertain to your workforce.



Q.21 Does [[Q.1]] have designated staff that coordinates the care of patients with complex conditions (e.g., Care Coordinator)?

- Yes
- No
- Don't know



Q.22 What level of education do they possess? (select all that apply)

- RN
- LPN
- CNA
- Medical assistant
- Other (Please specify)



Q.23 Does [[Q.1]] have specialized staff responsible for entering, managing, or analyzing EHR information?

- Yes
- No
- Don't know



Q.24 What level of education or qualifications does this staff possess? (select all that apply)

- IT background
- Medical information / IT certificate
- LPN / RN
- MPH / MPA
- Technology Center program
- Informal "on the job" training
- Other (Please specify)



Q.25 Does [[Q.1]] have plans to hire staff responsible for entering, managing, or analyzing EHR information?

- Yes
- No
- Don't know

C6 Health Information Exchange (HIE): The following questions pertain to [[Q.1]]'s ability to connect to other healthcare organizations and provide enhanced patient care coordination.



Q.26 Do you electronically access patient data not collected at [[Q.1]]? NOTE: "electronically access" does not include faxed information.

- Yes
- No
- Don't know



Q.27 Does [[Q.1]] participate in an HIE?

- Yes
- No
- Don't know



Q.28 When do you plan on connecting to an HIE?

- Less than 6 Months
- Within 6 - 12 months
- Within 12 - 24 months
- More than 24 months
- Never



Q.29 Would you participate in an incentivized voucher program to provide financial assistance to connect to an HIE?

Yes No



Q.30 Which of the following reasons prevent you from connecting to an HIE? (select all that apply)

- Slows me down
- Need more staff in order to use the HIE
- Technical challenges / need more education
- There is no need
- I have concerns about privacy and security
- Lack of valuable data
- Cost
- There are no barriers
- Other (Please specify)



Q.31 Does your facility send data to an HIE?

Yes No Don't know



Q.32 What HIE features do you use? (select all that apply)

- Referrals
- View patient summaries / patient level data
- HIE-based patient portal
- Data analytics / dashboard

- View clinical data
- Labs
- Other test results
- EHR discharge summaries
- Hospital summaries
- Medication list
- Allergy list
- Problem list



Q.33 Do you have a system/process in place to utilize the information from an HIE?

- Yes
- No
- Don't know



Q.34 Which of the following reasons prevent you from using the HIE more? (select all that apply)

- Slows me down
- Need more staff in order to use the HIE
- Technical challenges / need more education
- There is no need
- I have concerns about privacy and security
- Lack of valuable data
- Cost
- There are no barriers
- Other (Please specify)



Q.35 Do you believe HIE data improves the ability of ¹[[Q.1]] to manage the care of its patients?

Yes No Don't know



Q.36 If you would like to be entered into the drawing for a \$50 Visa giftcard, please include the following:

Full Name

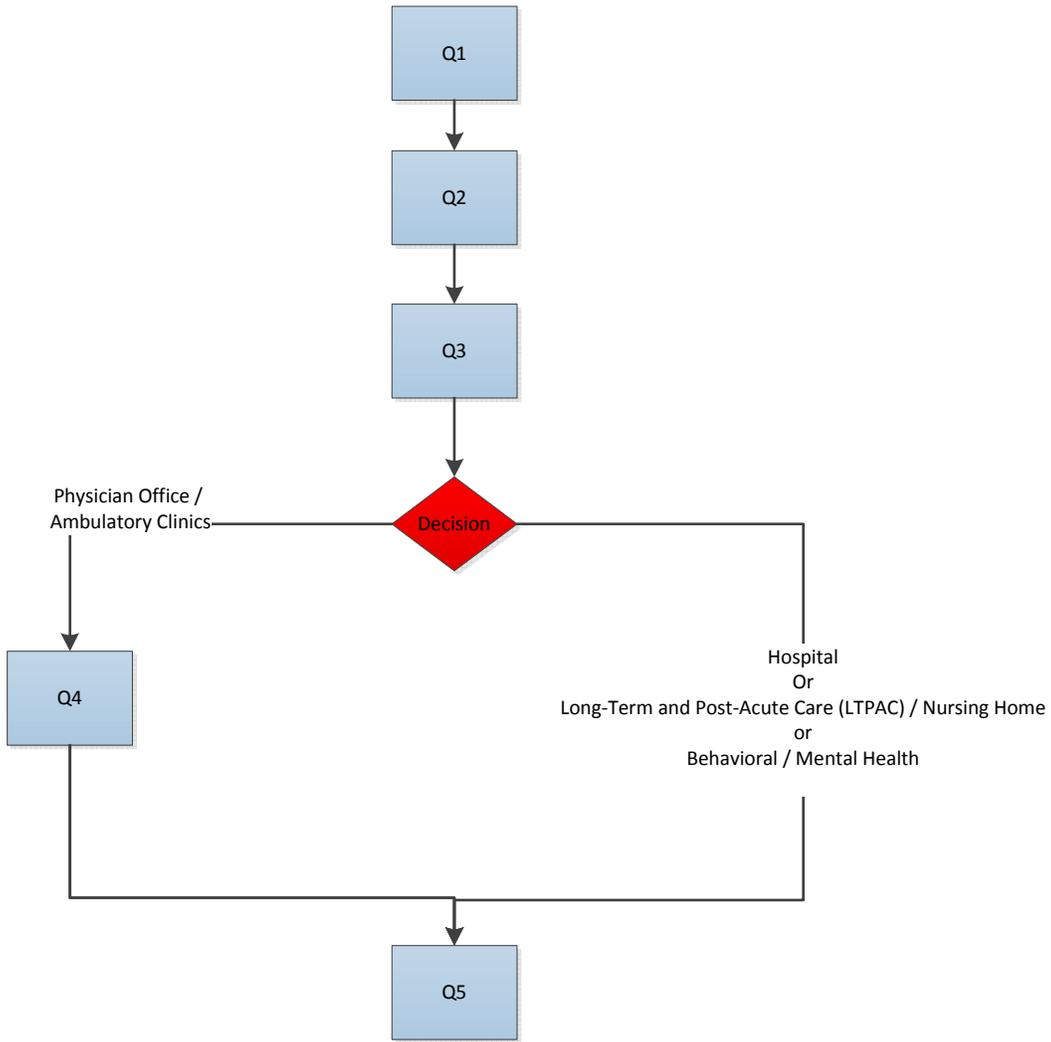
Telephone

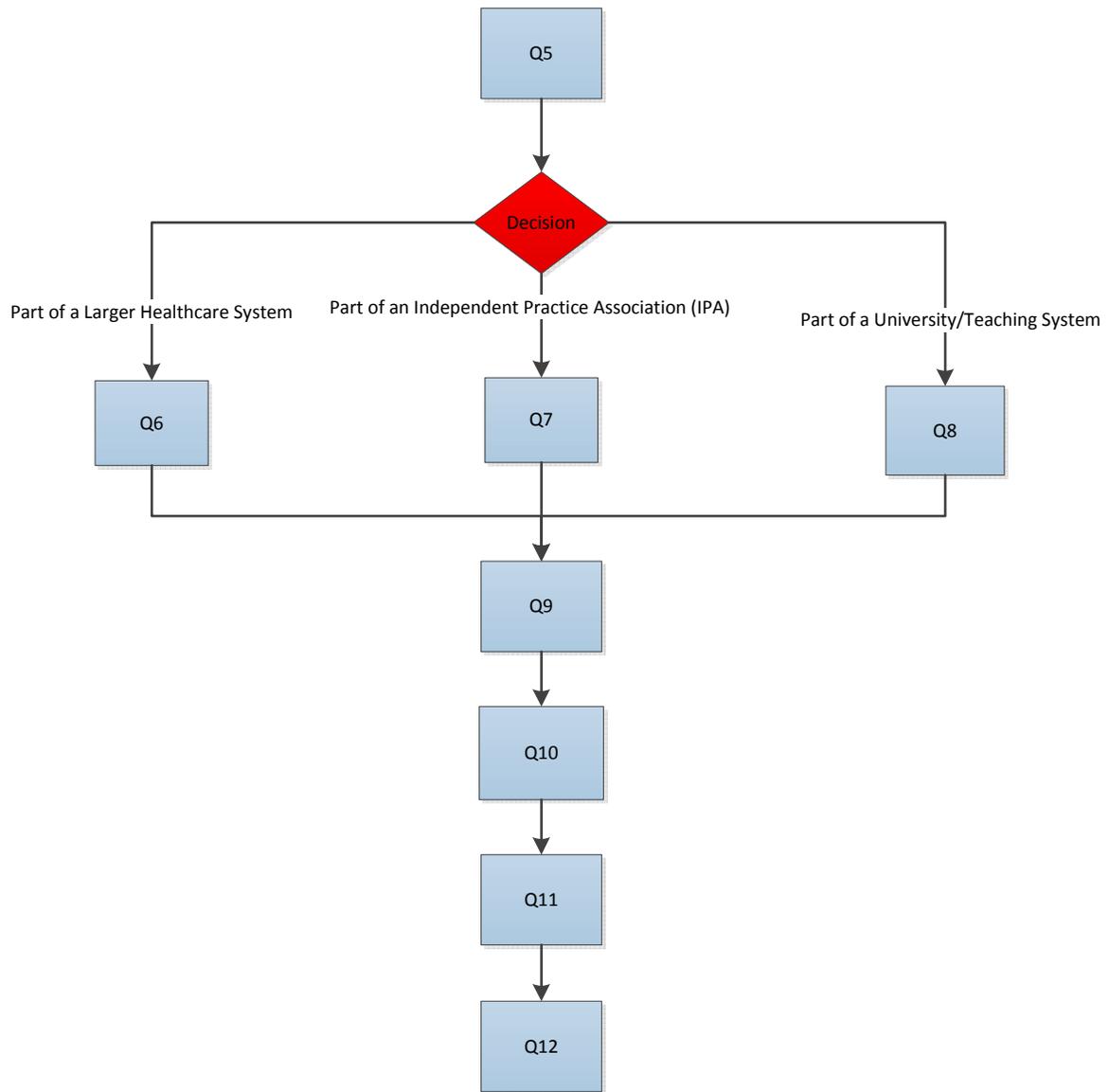
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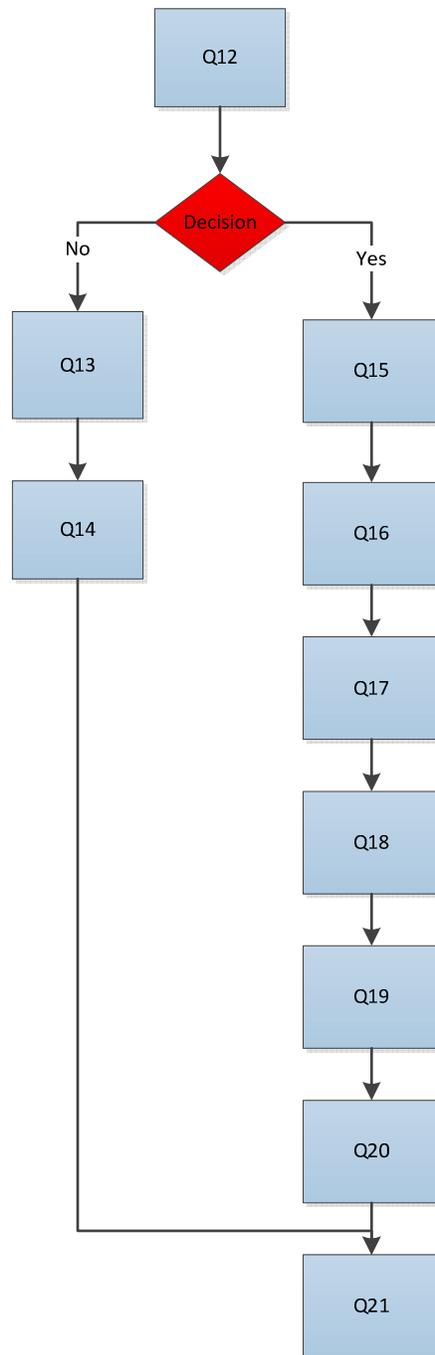
Email Address

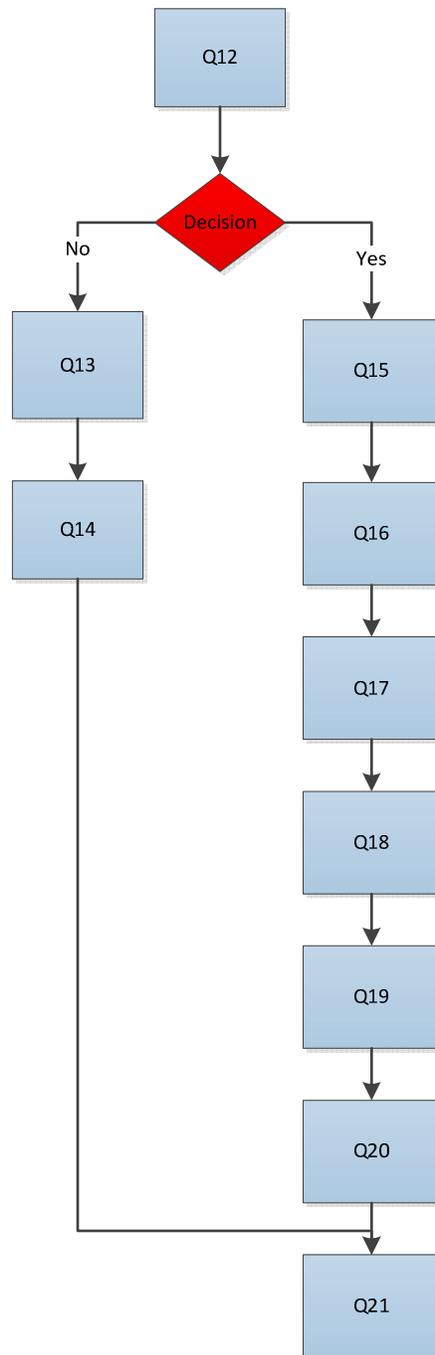
*** Indicates required response**

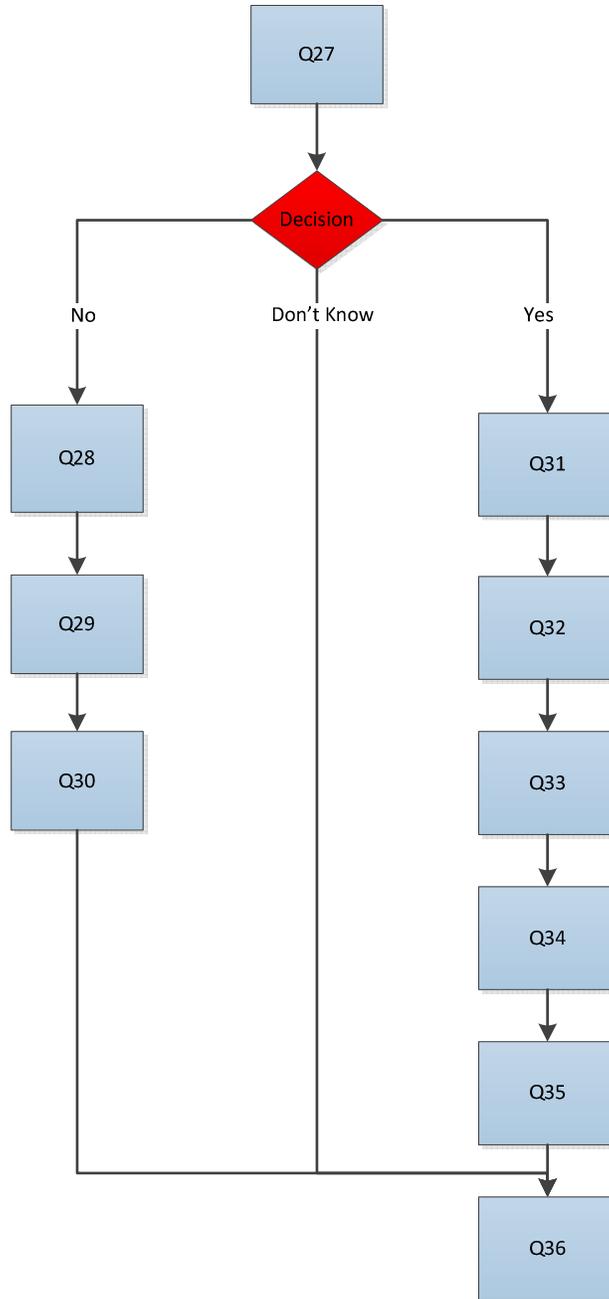
7.2 Survey Skip Logic











7.3 Stakeholder Letter



Dear Healthcare Partner:

Under the Oklahoma State Innovation Model (OSIM) grant, the Oklahoma State Department of Health (OSDH) and the Oklahoma Foundation for Medical Quality (OFMQ) are conducting a statewide EHR/HIE utilization survey. The grant's purpose is to develop healthcare solutions to improve population health, provide better care and reduce healthcare expenditures for more than 1.2 million Oklahomans through broad stakeholder engagement and innovative value-based payment models. The grant has multiple phases of work, however, for this phase **we need your assistance in distributing the survey to members of your association to develop a roadmap for healthcare transformation in Oklahoma.**

A high volume of feedback is crucial in providing accurate, valuable information to conduct a detailed analysis. Specifically, the survey will measure the adoption rate of electronic health records (EHRs) and evaluate connectivity within a health information exchange (HIE) system for improved patient care and patient care coordination. The target audience for survey participation includes hospitals, physician offices/ambulatory clinics, long-term and post-acute care/nursing homes, and behavioral/mental health facilities. Participating healthcare facilities do not have to be on an EHR or HIE in order to complete the survey.

The digital link to the survey is <https://www.sogosurvey.com/k/SsSXUXWsSsPsPsP> and the survey will take approximately 10 minutes to complete. Participation is strictly voluntary and survey responses will be kept confidential. The closing date for completion of the survey is June 17, 2015.

As a valued partner in healthcare, we encourage you to forward the survey link to your membership and colleagues at other organizations. Your help in distributing this survey greatly appreciated. Thank you!

Sincerely,

7.4 Electronic Survey Email Text

We want to hear from you...

You're invited to participate in [a statewide survey](#) focusing on electronic health record (EHR) and Health Information Exchange (HIE) adoption and utilization. **Your feedback is crucial because it will be used to secure necessary funding and identify strategies that will improve healthcare for Oklahomans.** Your information will be kept confidential and you will in no way be solicited for alternative purposes.

Oklahoma was recently awarded a State Innovation Model (OSIM) grant to provide state-based solutions to Oklahoma's healthcare challenges. The OSIM grant's purpose is to develop healthcare solutions that provide better care, reduce healthcare costs, and improve the health of Oklahoma's population.

Working through the Oklahoma Health Improvement Plan (OHIP) Coalition, a public-private partnership consisting of a broad spectrum of stakeholders across the state, the OSIM team will design a comprehensive model for healthcare transformation in Oklahoma. This model will focus on the improvement of statewide health outcomes by developing Oklahoma-specific tools that will enable our state to successfully transition to new care delivery and payment models.

To participate in the survey, click here: <https://www.sogosurvey.com/k/SsSXUXWsSsPsPsP>.

Sincerely,



7.5 Telephonic Script



Call Script for OSIM Survey

Step #1: Introduce Yourself

Hi. This is *(your name)* with Oklahoma Foundation for Medical Quality.
May I speak to *(name of person on your list)*?

If the person on your list isn't available...

Oh, I see. Then, can I speak to someone who works closely with your electronic health records (EHR) vendor (i.e. office manager, nurse, physician assistant, etc.)?

Step #2: Explain Why You're Calling

I'm calling in regards to a statewide effort to transform Oklahoma's healthcare.

Under the Oklahoma State Innovation Model grant, the Oklahoma State Department of Health and the Oklahoma Foundation for Medical Quality are conducting a statewide survey focusing on electronic health record (EHR) and health information exchange (HIE) adoption and utilization. Your feedback is crucial because it will be used to secure necessary funding and identify strategies that will improve healthcare for Oklahomans.

This is a great opportunity to share your feedback about Oklahoma's healthcare transformation by participating in a brief survey. It only takes 5 minutes to complete and your information is kept confidential. Are you ready to begin the survey by phone?

If they want to participate...

Great! Let's get you started:

1. (Go to survey link: <https://www.sogosurvey.com/k/SsSXUXWsSsPsPsP>.)
2. (Read intro disclaimer to the participant and start the survey)
3. (At the end of the survey) This concludes the survey. Thank you for participating. We appreciate your time!

If they DO NOT want to participate...

Can I send you the survey link, instead, so you can participate at a time that works better for you? What's your email address? We hope you participate in this important cause. Your feedback enables us to develop Oklahoma-specific tools that will help our state to successfully transition to new care delivery and payment models. Thank you for your time and have a good day!

If "NO" all together...

Well, I'm sorry to hear you won't be able to participate in the survey. I do understand you are busy and want to thank you for your time today.

Step #3: Benefits of Participating in the Survey

- It's a chance for your voice to be heard.
- With the information, we'll develop Oklahoma-specific tools that will enable our state to successfully transition to new care delivery and payment models.
- Optional: You can be entered into a drawing for a \$50 Visa gift card.

7.6 OFMQ

Since 1972, OFMQ (Oklahoma Foundation for Medical Quality, Inc.) has played an integral role in improving quality and healthcare outcomes. OFMQ is a consulting services company contracting primarily with government agencies that focus on healthcare initiatives. OFMQ's consulting service lines include data analytics, health information technology, quality improvement, evidence-based practice development and healthcare review. For four decades, OFMQ has been a leader in national and state level quality improvement initiatives. OFMQ has helped healthcare providers in Oklahoma to work toward a health care system where every person receives the right care every time, and where providers have the knowledge, tools and resources to deliver that care. OFMQ's statewide work with Oklahoma hospitals, nursing homes, physicians, home health agencies and pharmacists on quality improvement initiatives has evolved beyond the state into national projects such as the development of national quality measures, national support center work and a leading expert in the health information technology (HIT) marketplace.

OFMQ is the Office of the National Coordinator's recognized Regional Extension Center (REC) for the state of Oklahoma. Through this work, as well as through multiple state-based contracts, OFMQ has worked with over 2,000 Oklahoma physicians and hospitals to implement and more meaningfully use Electronic Health Records (EHR), connect to HIEs, and improve patient outcomes through quality improvement projects. OFMQ also serves as an integral contributor to Oklahoma's Health Information Exchange (HIE) efforts and is a member of the OSIM Coalition. Several of OFMQ's Health Information Technology (HIT) staff have been invited speakers at state and national HIT-related conferences and sit on statewide and national advisory groups. Additionally, OFMQ's analytic team comprised of respected health analytic professionals who hold masters and/or doctoral degrees in biostatistics, epidemiology, or related disciplines, has experience with statewide to national-level quantitative and qualitative program evaluation. OFMQ's analytic work covers decades of experience with descriptive, inferential, multivariate, and multi-level analysis. OFMQ has extensive experience with implementation in all aspects of qualitative methodology, including survey design, implementation, administration, analysis. OFMQ's program evaluation experience ranges in scope from EHR implementation in small rural provider groups to impacting national CMS programs such as Hospital Value-Based Purchasing.