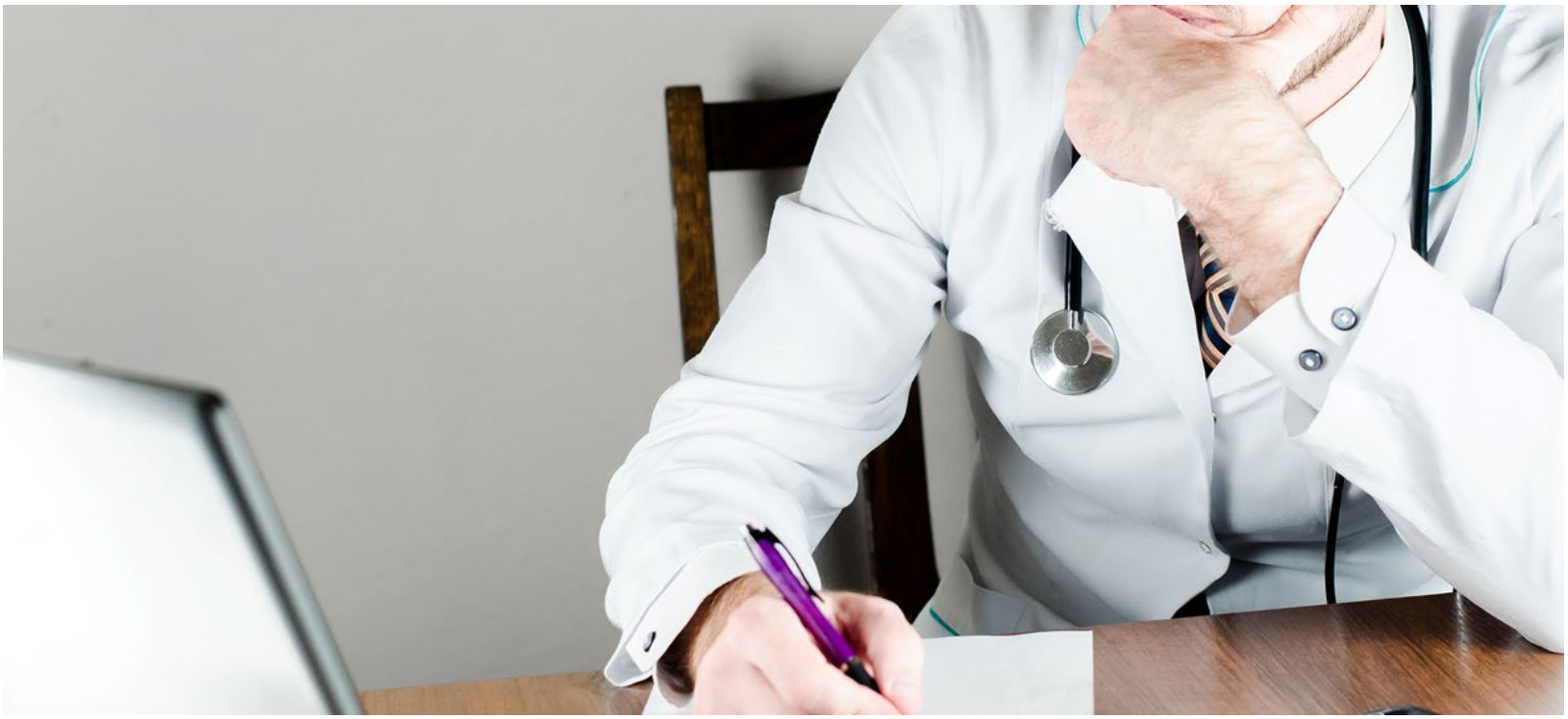

Electronic Health Record (EHR) Reporting Program

Voluntary User-Reported Criteria

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Contents

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Executive Summary

The 21st Century Cures Act, or Cures Act, directed the US Department of Health and Human Services to establish a new Electronic Health Record (EHR) Reporting Program. The Office of the National Coordinator for Health IT (ONC) has contracted with the Urban Institute and its subcontractor, HealthTech Solutions, to develop the program. The EHR Reporting Program will provide publicly available, comparative information on certified health IT products and improve the health IT marketplace. The program will reflect developers' and voluntary end users' reporting of comparative information on certified health IT. We are currently working to create draft developer-reported criteria in 2021 which will also be released for public feedback, and this report concludes work to develop the user criteria as an incremental step in establishing the EHR Reporting Program. This report includes:

- A summary of comments received during a 60-day period during the summer of 2020 when draft user criteria were posted on the Urban Institute website for public feedback;
- A description of revisions to the user criteria based on public feedback;
- Options for collecting information for user criteria; and
- The revised questionnaire for collecting information for those criteria.

ONC has not identified plans to conduct data collection for the voluntary user-reported criteria and has not been provided increased appropriations to support this Cures Act initiative. However, the criteria are available for adoption and use by the stakeholder community, including market and academic research entities, to improve transparency and quality in the health IT marketplace and better understand the interoperability, usability, and security of certified health IT.

Development of Voluntary User-Reported Criteria

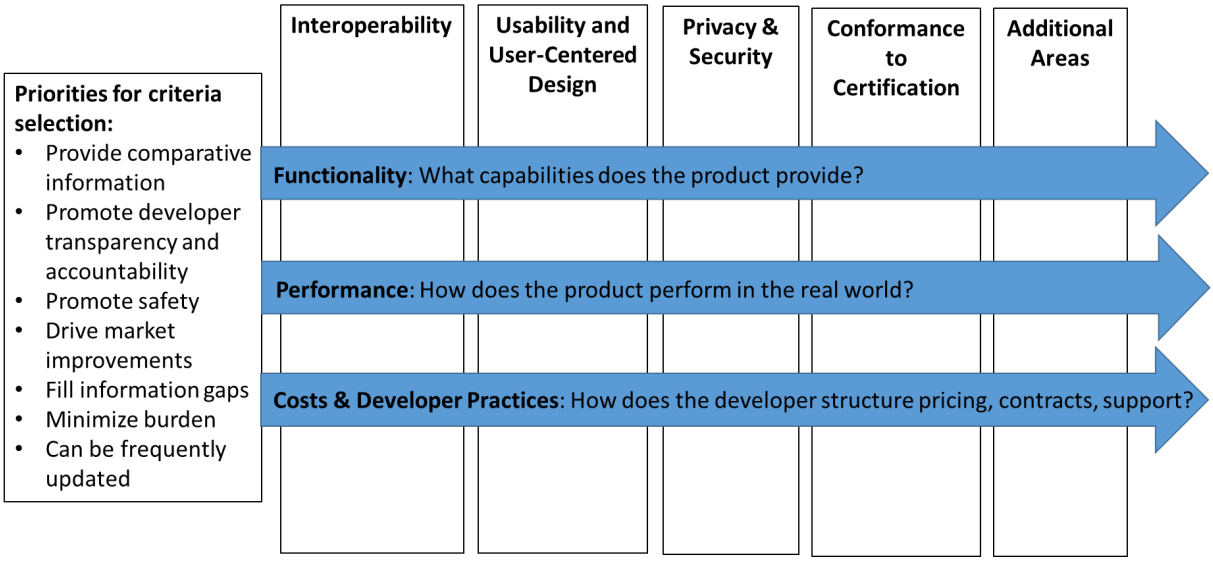
We developed voluntary user-reported criteria based on review of literature and existing EHR comparison tools, stakeholder priorities, cognitive and feasibility testing, expert review, and public feedback. The framework below (Figure 1) summarizes the initial stakeholder input received, which we describe in detail in a summary report. Draft user criteria were developed based on this framework.

The criteria draw language from questions used in existing data sources (e.g., national surveys) and information collected for other EHR assessments and existing EHR comparison tools. Major limitations of these comparison tools are that many are not publicly available, and they are limited in their ability to

provide comparable information or product-level details about the real-world performance of certified health IT. User criteria are intended to collect information that is not publicly available for a broad range of products in other sources, such as ONC's Certified Health IT Product List (CHPL).

Testing and expert review identified some priorities as too burdensome to collect (e.g., detailed cost information) and other information (e.g., click counts) as too dependent on local implementer's customization decisions to be useful. While developing the criteria, we found the usability information prioritized by stakeholders is best collected from users, whereas many stakeholder priorities from the other Cures Act categories are better collected from developers and existing data sources. Therefore, the voluntary user-reported criteria reflect stakeholder priorities that can be feasibly collected from users. In addition, we developed criteria to align with other components of the Cures Act, including reducing clinician burden and the Final Rule released by ONC to implement certain provisions of the Cures Act.

FIGURE 1. FRAMEWORK FOR DRAFT VOLUNTARY USER-REPORTED CRITERIA



Finally, a focus of the user criteria was to fill a need identified by a 2016 ONC Report to Congress and throughout our stakeholder and expert input process: to provide information for ambulatory care providers, particularly those in small or rural practices with fewer resources, to inform decisions to purchase or upgrade health IT products. While data collection will be open to all users of certified health IT products, we developed the questionnaire with this subset of users in mind and with the intention that data would be collected through a method that maximizes opportunity for participation and does not exclude those who use a product with a smaller number of users.

Summary of Public Feedback

Written public feedback on the draft user criteria was collected through an Urban Institute email inbox from June 9 through August 10, 2020. Draft criteria were posted on the Urban Institute website during this time period with the following key questions for input:

- Which draft criteria would you prioritize for inclusion in the EHR Reporting Program, and why?
- Which draft criteria should be rephrased, reworded, or removed?
- Should the voluntary user-reported criteria cover only the most recent version of a certified health IT product or all versions of the product?
- What certified health IT users are most likely able to report on the criteria (e.g., clinicians, administrators, IT specialists)?
- What could motivate end users to voluntarily report on certified health IT products?

In addition, we incorporated feedback obtained during the June 17, 2020 meeting of the Health IT Advisory Committee (HITAC).

Respondents

Overall, we received 31 written comments representing clinical providers, health care organizations, health IT organizations, health IT developers, and researchers. We also received comments from three individuals representing the perspectives of a patient, a physician, and someone who works in information systems. A breakdown of respondents by category is presented in Table 1.

TABLE 1. RESPONDENTS TO INVITATION FOR PUBLIC FEEDBACK ON USER CRITERIA (N=31)

Clinical Providers and Other Health Care (n=10)
American Association of Neurological Surgeons
American Academy of Neurology
American Academies of Nursing
American College of Osteopathic Family Physicians
American College of Physicians
Medical Group Management Association
American Medical Association
Premier Healthcare Alliance
National Association of Community Health Centers
The Joint Commission

Health IT Organizations (n=8)
Sequoia Project
American Health Information Management Association (AHIMA)
Chart Lux Consulting
Connected Health Initiative
EHR Standards Consulting
Federal Electronic Health Record Modernization (FEHRM)
Healthcare Information and Management Systems Society, Inc. (HIMSS)
New York eHealth Collaborative
Health IT Developers (n=6)
Allscripts
Cerner
HIMSS Electronic Health Record Association (EHRA)
EPIC
MEDITECH
RXNT
Researchers (n=4)
Dean Sittig (UT Houston)
ECRI
Julia Adler-Milstein (UCSF)
Pew/MedStar
Individuals (n=3)
Patient
Physician
Information systems staff

Comments reflected the perspectives of organizations with expertise and understanding of current technical, methodological, and policy issues. For example, a number of respondents referenced the discussion at the June 17, 2020 HITAC meeting in their feedback or echoed themes from that discussion. Comments also frequently mentioned work by the Pew Charitable Trust and Medstar Health on the potential for the EHR Reporting Program to address patient safety challenges related to poor EHR usability. There also appeared to be some coordination between commenters (use of identical language). In general, comments were more representative of national and larger organizations with less representation from the perspective of smaller developers or smaller/rural provider practices.

Feedback Themes and Resulting Revisions

We received a range of thoughtful, detailed, and helpful feedback in the submitted comments. There were several areas where we received consistent feedback and areas where there were more conflicting views. We aimed to be responsive to comments while continuing to consider the previous stakeholder priorities, the results of our cognitive and feasibility testing, the Cures Act mandate for the program, and the opportunity to address some concerns through the upcoming developer criteria.

Below, we summarize, at a high-level, where themes were consistent and inconsistent, and then describe in detail how we revised the user criteria in responses to specific feedback.

Consistent Themes

Overall, there was agreement among most commenters that there is great value to collecting user-reported criteria and that the EHR Reporting Program should be implemented as soon as possible. There was also agreement that interoperability, usability, and safety should be priority topics; that privacy and security should be separated into different questions and each receive more focus; and that additional criteria should be added to collect information on social determinants of health, objective measures of usability (e.g., click counts, time per task), and the patient experience.

In addition, a number of comments focused on survey and sampling design, particularly concerns over the time it would take to complete the questionnaire, whether questions would be targeted to the types of users best suited to answer them, the level of data collection (individual versus organization) and the accuracy and validity of the data based on who responds, potential bias, and sample size. Accordingly, there were consistent suggestions to collect more information on the user, such as experience with the product, and more details on what type of clinical or non-clinical user they represent.

Inconsistent Themes

While commenters were consistent about what topic areas should be prioritized, there were conflicting views on how topics should be measured. For example, for interoperability, while some suggested the focus be on the ease of use for interoperability features, others suggested more focus on adherence to standards, ability for the product to perform use cases, and connections with health information exchanges (HIEs) and prescription drug monitoring programs (PDMPs). There was also some variation in how commenters view safety (as a subset of usability, a standalone, or a cross-cutting issue) and conflicting views on how and whether to include questions on cost. Some developers also expressed concerns about including functionalities or technologies not specifically required for certification.

We heard several concerns regarding interoperability, usability, and experiences around upgrades and maintenance. These concerns were often regarding the inability to differentiate between what is developer-controlled and what varies due to implementation, an organization's change management strategy, state policies, mix of products used together, and customization. For example, despite being a

priority topic, there were also several concerns that product interoperability with PDMPs was more reflective of state policy than the product itself.

We also heard contradicting feedback about the appropriate length, level of technicality, and amount of detail for the criteria. Some commenters noted the criteria were too complex and too long while others thought the criteria were too general and do not collect adequately detailed information.

There was variety in comments on measuring "ease of use" as well, a concept raised during the HITAC meeting as too subjective. Some commenters did prioritize it, while others felt it may be appropriate for low but not high-risk functionalities. Others pushed for more objective measures.

Finally, there were not consistent views regarding whether to focus only on the most recent product version or on ambulatory settings. There were also a variety of views on the value of open-ended questions and high-level ratings (such as overall usability).

Revisions

We made substantial changes to the user-reported criteria in response to the HITAC and public comments. It should be noted these changes have not been through cognitive and feasibility testing. In addition, there were clear tradeoffs between burden and usefulness for users and between typical end user and expert feedback. Broadly, experts prioritized collecting detailed and potentially burdensome information, such as complete lists of HIE and HIO connections, counts of submitted reports, and time to complete use cases, while users prioritized less detailed and less burdensome measures such as overall satisfaction, usability, and whether the product meets the user's needs. We have aimed to strike a balance with the goal of only including criteria for which the answers will be useful to typical users, the criteria will be understandable by typical users, and for which completing the criteria will not be excessively burdensome. We have noted some HITAC members and other experts would like to see EHR Reporting Program criteria collect information that is useful to answer broader research and policy questions about the state of the industry and believe the developer criteria will help address those goals.

Below, we describe our approach to revisions to the user criteria in response to overarching feedback (Table 2) and then by specific topic.

TABLE 2. REVISIONS IN RESPONSE TO OVERARCHING FEEDBACK

Comment Topic	Approach to Revisions
Questionnaire length, level of technicality	Prioritized criteria that are understandable and useful for typical users and to minimize burden. When testing an earlier draft questionnaire with 25 questions using this approach, it took users 10-15 minutes to complete.
Question format	Based on feedback, separated "don't know" and "not applicable" response options, we added quantitative scales to the response options, and alphabetized response options, as appropriate. We received mixed feedback on the value of open-ended questions and have included an open-ended comment box to accompany each question to provide users an opportunity to qualify their responses.
Individual- vs. organizational-level data collection	Given participation is voluntary, the coordination required to collect information at the organizational-level would create additional burden that may not result in comparable data and may reduce participation. Therefore, criteria are currently designed to be collected at the individual level.
Customized questions by user type, skip patterns	During testing, we found variation in the range of questions that could be answered by users in the same role categories including clinical users who were very knowledgeable about the administrative and IT capabilities of their product. Therefore, rather than assume which questions can be answered by each user type, we have opted to make all questions available for each participant with the option to answer, "don't know." We have also added screening questions to allow users to choose to skip sections they are not knowledgeable about.
Suggestions for systematic, representative sampling	We evaluated this approach, as further described in the section of this report on sampling strategies. Ultimately, the questionnaire was designed to be collected through a method that maximizes voluntary participation and does not exclude those who use a product with a smaller number of users.
Requested details on users for verification of identity and product use	To protect the privacy of users, we have not added questions on user identity (such as NPI, name or CMS CEHRT ID) that could be easily used to identify users (such as ZIP code). We did, however, include more general questions on state and urban/rural location as part of the user characteristics section. If desired, more specific questions could be added to identify the identity of the user. This issue is discussed further in the Options for Collecting User Criteria section.
Concerns regarding ambulatory over inpatient focus	We broadened the language to be more inclusive, but note that we were directed to "evaluate, in particular, the information needs of health care providers in ambulatory and small practices when evaluating how certified health IT products perform in various settings."

Comment Topic	Approach to Revisions
Inclusion of functionalities not required by certification	We did not make changes to limit the criteria to those required for certification based on user feedback and the overall goals of the program, which are not limited to the capabilities required for certification. Further, we have intentionally avoided criteria that are redundant to the requirements of certification.
Suggestions to add criteria on patient perspective	We have included questions on clinician interaction with patients, ability to communicate and exchange information with patients, and patient-facing applications. However, we believe it would be too burdensome to ask users to directly collect patient perspectives as part of these criteria.
Using existing and/or validated measures	We have done so wherever we could, for example, drawing from the National Electronic Health Records Survey and use of the Net Promoter Score Scale. However, the focus on developing criteria that reflect the stakeholder priorities required development of new measures.

In addition to these overarching changes, we revised the questionnaire to collect information for user criteria as described below in response to specific feedback in each topic area.

PRODUCT

- Added option to report CHPL ID which could be validated using the CHPL Open API if the questionnaire is fielded online.
- Added that either the developer/product name or CHPL ID are required to proceed with the questionnaire. We have left version information as optional given users may not know this information and that the focus of the program is at the product level.
- Removed question about add-on products given questions are specific to the primary product, and it is not feasible to sort or otherwise differentiate by additional products. We also heard feedback that users may not be able to accurately identify add-on products particularly when integrated with their primary product.

INTEROPERABILITY

- Revised question from ease of exchange to satisfaction with overall interoperability including accessing and using data.
- Received comments asking for more technical detail (such as on standards, specific use cases and connections), but did not add due to concerns about burden and ability to answer.

- Deleted sub-questions specific to exchange with trading partners using a different product from the respondent, because users are unlikely to know this information.
- Did not add quantitative/objective measures such as adherences to standards, connections to HIEs, or exchange volume (too burdensome, likely unknown to users, and will likely be a focus of developer criteria).
- Removed PDMP based on feedback suggesting it does not reflect the product performance.
- Moved questions on producing reports from the interoperability to the usability section.

USABILITY

- Received multiple comments requesting objective measures of usability (time to complete task, etc.). Although too burdensome to collect from users, we will explore collecting this information from developers.
- Satisfaction with aspects of the product question was originally adapted from the National Electronic Health Records Survey. We have heavily revised our adapted question in response to feedback to remove relative/comparative language, vague concepts, some specific functionalities, changed to agree/disagree, and added new sub-questions.
- Changed "ease of use" for features/functionalities to "satisfaction with," changed accessibility to capability, and added new sub-questions.
- Added some requested functionalities such as collecting, integrating, and using social determinants of health data.

IMPLEMENTATION, SUPPORT, UPGRADES

- Added a few questions and clarifying language in attempt to focus on issues that are the vendor's responsibility (as opposed to the organization's).

PRIVACY AND SECURITY

- Heavily revised question to include sub-questions specific to aspects of privacy and security, explanation of concepts, patient privacy preferences, and consent.

COST

- Recognize feedback that costs and pricing models vary by specific quote, but we heard consistently that any information, even if inconsistent, will be helpful.

- Added questions on how final cost compared to what was quoted.

CONTRACTUAL INFORMATION

- Brought back question on gag clauses (had been removed in earlier revisions due to some expert feedback that it would no longer apply given final interoperability rule), which was requested by many commenters to track compliance with new info-blocking rules.

SAFETY

- Created new safety criterion based on suggestions from the HITAC and other commenters.

USER CHARACTERISTICS

- Moved question on user role to this section, changed "best describes you" to "your role."
- Updated role categories, specialties, and examples of "clinicians."
- Changed payer mix question to have respondents self-report whether they are a safety net provider instead.
- Added number of months or years using product.

Options for Collecting User Criteria

In this section, we present options for collection of user criteria informed by our earlier background research, stakeholder and expert feedback process, cognitive and feasibility testing, and HITAC and public feedback. While the earlier stakeholder and expert feedback process heavily favored a non-systematic sampling or crowdsourcing approach to maximize opportunity for participation and collection of more real-time data, HITAC and public feedback favored a systematic sampling survey design to aim for more representative responses. Ultimately, we determined a non-systematic or crowdsourcing approach to be more consistent with the goals of the program and more feasible particularly for user reported criteria given the voluntary nature.

Below, we describe potential incentives to promote user participation and methods to ensure data quality followed by the methodological details and the trade-offs associated with each approach and key considerations. We conclude by describing the additional option of relying on existing surveys and EHR comparison tools to provide information for the user criteria suggested in the public feedback.

TABLE 3. EXAMPLE TRADEOFFS BETWEEN APPROACHES

	Systematic Sampling	Crowdsourcing
Aim	Representative sample for each product	Maximum participation, including for products with a small sample of users
Outreach	Targeted at individuals in the sample, with specific follow-up with non-responders	Open outreach not targeted at a defined sample but at users in general
Data quality	More rigorous data quality checks to ensure representative responses	Less rigorous, higher level quality checks to ensure overall validity
Approach to reduce bias	Sampling and analytic techniques (random sampling, weighting, post-stratification)	Reliance on contextual information about users (e.g., years of product use) to facilitate interpretation of reviews
Timeline	Longer timeline to allow for sampling and analytic adjustments	More real-time data collection/reporting
Mode	Multiple modes	Internet

Incentives to Participate

Regardless of the sampling strategy, experts and stakeholders emphasized the need for robust outreach and incentives to motivate participation. Given user-reporting is voluntary, both approaches run the same risk of low response rates and biased responses. Stakeholders suggested several other ways to increase the user survey responses including with financial incentives. In addition, it was commonly recommended the survey team engage professional association groups (such as the AMA, nurse practitioner groups, other provider specialty groups, and the CIGNA provider group and other insurers), promote participation among both the physician and office manager, and carefully word the description of the EHR Reporting Program to describing how these data would benefit end users.

ONC could also help promote participation by publicizing the survey through its website, email lists, and events. In addition, several stakeholders and commenters suggested giving clinical end users a bonus or credit to help them meet requirements under Medicare's Promoting Interoperability Program for hospitals and its MIPS program for clinicians. A few individuals also suggested incorporating data collected from clinicians for the EHR Reporting Program into these existing Medicare programs' reporting requirements to streamline provider requests. Some stakeholders also recommended pushing an immediate online survey or questionnaire to providers when they attest as part of an incentive program such as MIPS. This questionnaire could be voluntarily submitted by users of certified health IT as dictated by the Cures Act. But some stakeholders did recommend that these surveys should be mandatory.

Ensuring Data Quality

Whichever sampling approach is used, the survey implementation team should carry out extensive testing of the questionnaire before fielding it. Particularly if skip patterns are added, implementers should ensure all scenarios are following proper pathways through the survey. They could also run cases of random data through the survey and carefully review the data output as another check on the accuracy of the survey logic. Prior to going in the field, the survey team should write a separate cleaning program to verify the accuracy of the data, both randomly generated and as it is being collected. Moreover, on an on-going basis, the implementer should monitor marginal response frequencies of the still-compiling data set.

There are several methods to check data quality including a data cleaning procedure in which data processors recreate CATI variables and an independent checking of all variables to confirm they were

created correctly, have the correct number of cases, and were coded according to specifications. The implementation team will also need to assess item non-response and missing values in the dataset.

Survey Design with Systematic Sampling

This approach would involve designing a sampling strategy to collect the information reflected in the final user-reported criteria that aims to collect representative responses requiring a minimum sample size per product to report the information. It could also apply statistical methods to the data after it is collected to make it more representative.

Sampling Design

As an example, to collect assessments from clinical end users, the survey implementer could construct separate nationally representative samples of ambulatory practices that use each certified EHR technology, and within those practices, identify individuals most appropriate to respond to questions on the identified criteria (e.g., individuals who make EHR purchasing decisions or are best informed about the roles of various health IT products in their organization). Sampling will require prior knowledge of which health IT product the practice is using, which is available through participant lists from the Promoting Interoperability Program or IQVIA's (formerly SK&A) annual phone survey. IQVIA's list of approximately 300,000 ambulatory practices captures a comprehensive set of practice characteristics including EHR brand and product used and name of the EHR purchasing decision-maker in the practice. This database includes information for 99% of the health care organizations that purchase pharmaceutical products – suggesting their dataset captures nearly the full universe of health care providers in the US, has been found to provide more accurate information than the AMA Masterfile, and comparable accuracy and more detail than the National Provider and Plan Enumeration System (NPPES).[1]

A critical methodological consideration is sample size and the representativeness of users. Based on IQVIA's data, approximately 240 unique EHR products are currently being used by ambulatory health care providers in the US, which are, in turn, sold by 200 vendors. For each EHR product, up to 1,000 practices could be surveyed (which would include or exceed the full universe of ambulatory providers

[1] DesRoches CM, Barrett KA, Harvey BE, Kogan R, Reschovsky JD, Landon BE, Casalino LP, Shortell SM, Rich EC. "The Results Are Only as Good as the Sample: Assessing Three National Physician Sampling Frames." Journal of General Internal Medicine. 2015; 30(Suppl 3):S595-601.

using some lesser-used products). IQVIA assumes a 5% response rate, resulting in a sample of 10,000-12,000 ambulatory practices, consistent with industry trends. However, the survey implementer would need to establish a minimum sample size for each EHR product for inclusion when determining which estimates to publicly release. They would also need to ensure enough sample size within each sampling strata. These strata could be defined based on a combination of characteristics on the IQVIA data including EHR vendor-product, practice size, geography, or specialty.

Outreach and Follow-up

Given the limitations to who can respond based on sampling, it would be more important with this approach to invest in substantial outreach and follow-up as described above to obtain adequate response rates that exceed the minimum sample sizes required for public release of information. However, given the likely response rate and number of products, it is unlikely many products will meet this minimum sample threshold.

A combination of letters, emails, and phone calls could be used to administer the online questionnaire and improve response rates. For example, the survey implementer could send invitations to users within IQVIA practices, by name, using color printing. Letters would briefly describe the need for the survey, provide the necessary web link and password, and include a financial pre-incentive (cash or gift card) to combat higher rates of nonresponse among all or certain types of respondents (e.g., those in small practices or rural areas). In addition, the implementation team could send several follow-up emails (e.g., up to 4) and a reminder letter to all-non-responders to increase participation.

If resources are available, the survey team could also conduct full telephone interviews and/or administer hardcopy questionnaires to target non-responders. Interviewers should undergo a full training session on the study and have significant experience with conducting provider surveys. The survey team could also develop a hardcopy questionnaire, sent to all non-responders via 1st class, and potentially include another financial pre-incentive.

Post Survey Data Processing

The survey implementor can apply a variety of statistical techniques to further improve the representativeness of the responses once the data is collected. For example, after completing the data quality checks, described above, that can be applied for both approaches, for responders that have missing responses on select questions, the team can impute values and generate an imputation flag.

Potential imputation techniques include hot deck, nearest neighbor, and predictive mean matching. Beyond missing data, the implementation team may need to impute responses for logically inconsistent responses or extreme outliers.

If necessary, an analytical weight might need to be developed to reduce potential bias due to unequal selection probabilities, nonresponse, and frame coverage issues. Also consistent with best practices, the weight would need to be a composite of several steps including a base weight to correct for disproportionate probabilities of selection, a design weight to account for non-response, and post-stratification.

Trade-offs and Other Considerations

There are several trade-offs associated with clinician surveys to consider. On the one hand, surveys provide an opportunity to collect nationally representative information from providers overall and by various characteristics. On the other hand, undergoing the required steps can be costly and take considerable time. Stakeholders/commenters raised concerns regarding the burden of surveys to providers and the potential for low response rates that could ultimately undermine the quality and utility of the data collected. In addition, some thought simple and short surveys (e.g., five to eight minutes long) would maximize response rates but provide less useful and concrete information relative to longer surveys. Though some stakeholders previously fielded successful clinician surveys, others cited failed attempts because of low response rates. Finally, there are concerns that providers who choose to participate in a survey, even if sampled randomly, may not represent all providers. In the case of satisfaction, some stakeholders were concerned that only extremely satisfied or extremely dissatisfied providers would choose to complete the survey—a concern that would not be alleviated by sampling design. There is also the problem with being able to verify that respondents are actual users of the health IT product they reviewed. However, both selection bias and ability to verify users are even larger concerns for crowdsourcing, as further discussed below.

Non-systematic Sampling/Crowdsourcing

The alternative to systematic sampling would be to accept questionnaire responses from any user submitted to the EHR Reporting Program through crowdsourcing or “a process of collecting

information which would otherwise be difficult to access from a large, relatively open, and often rapidly evolving group of Internet users."[2]

The major advantage of this approach is that it would not involve the additional time and costs associated with sampling and statistical adjustments and that it would not exclude users of less commonly used products that may not meet the sample size minimum. Findings could be continuously updated as new and existing users submit reviews.

Outreach and Follow-up

Given a crowdsourcing approach does not target a specific sample of users, the product does not need to be known ahead of time. Therefore, while the same data sources could be used as for systematic sampling (such as the IQVIA database), this approach could also distribute the questionnaire through other channels such as professional association membership lists. Follow-up would also be non-targeted given there would be no defined sample or tracking on non-responders.

Post Survey Data Processing

While crowdsourced data could be updated in relative real time, the implementation team should also continually monitor for data quality such as apparent duplicate responses, responses with a large amount of missing data, logically inconsistent answers, or that appear to be extreme outliers.

LIMITATIONS AND POTENTIAL SOLUTIONS

The major challenge with crowdsourcing is that responses are likely to be biased—perhaps more so than survey responses; they likely come from those at the tail end of the distribution—boosters (i.e., developers' references who are enthralled with the EHR system) and those with poor experiences—whereas the greatest number of users (i.e., those in the middle) typically do not submit online reviews. To encourage more individuals to submit unbiased reviews, many stakeholders and RFI commenters recommended offering end users some sort of incentive similar to those that could be used for surveys.

Many commenters and stakeholders also acknowledged the risk of false reviews but felt appropriate validation methods could be established to verify reviewers' identities and/or health IT product use

[2] Adler-Milstein J and Thao C. "Why real-world health information technology performance transparency is challenging, even when everyone (claims to) want it." Journal of the American Medical Informatics Association, 0(0), 2020, 1–4. doi: 10.1093/jamia/ocaa147

such as by including a question to collect reviewers' National Provider Identifier to verify they are clinicians or registered users of a health IT product (according to existing reporting programs or health IT developers' customer lists). Reviewers could also confidentially identify their employer, job title, and contact information so that the survey implementers could contact the user to verify their identity.

As described earlier, the current criteria do not collect identifiable information, such as NPI, name, or CMS CEHRT ID, to protect the privacy of users. However, identifiable information could be added to the data collection process to facilitate verification of users' identities. We note, however, that additional privacy and security consideration, such as safe data storage and access procedures to protect personally identifiable information, would need to be adopted if such information is collected. Further, NPI alone will not be adequate to verify that a respondent is truly a user of the specified product. Finally, given reporting is voluntary, there is potential that asking for this type of information may reduce response rates.

Though few commenters suggested that reviewers' identities be revealed publicly, many stakeholders requested that contextual information (e.g., practice size, urban/rural location, specialty type, and years of product use) about users accompany their reviews. We have included questions collecting such information in the questionnaire. Displaying this information would allow those seeking information about a health IT product to assess or filter user reviews by reviewers' characteristics. For example, an ophthalmologist may wish to filter health IT product reviews to only see those submitted by other ophthalmologists, and a primary care provider in a rural area may give more weight to reviews submitted by primary care providers also practicing in rural areas. Those shopping for a new EHR could also be interested in filtering reviews by various characteristics (e.g., geographic region, similar system, specialty, size) and would value the ability to connect with providers or practices like themselves.

LESSONS LEARNED FROM INTEROPSELECT

Findings from InteropSelect, a public website that allows crowdsourced ratings of interoperability service purchases, highlight some significant barriers associated with the crowdsourcing approach. These barriers include high levels of customization and variation associated with EHR products and trouble identifying the end user with the appropriate knowledge to complete a review and convincing them to spend their limited time completing a rating. [3]

[3] Adler-Milstein J and Thao C. "Why real-world health information technology performance transparency is challenging, even when everyone (claims to) want it." Journal of the American Medical Informatics Association, 0(0), 2020, 1–4. doi: 10.1093/jamia/ocaa147

The developers of InteropSelect also proposed several essential design features that can improve the collection of real-time data through crowdsourcing.[4] First, a simple, gestalt assessment of the EHR product or vendor is preferable to selecting individual products and structuring reviews to capture multiple dimensions. The more detailed the questionnaire or the assessment, the more the burden to end users and the more challenging it is to identify the right respondent to provide feedback (e.g., an administrator might know more about costs whereas a clinician might know more about usability). Second, relying on "voluntary reporting without a strong outreach and awareness campaign will almost certainly fail", a recommendation which is consistent with the feedback we received from stakeholders. Without mandating that users provide feedback, the authors recommend that CMS and ONC promote engagement with voluntary ratings, for example, by making it a part of the attestation process. Finally, in a related recommendation, the developers of InteropSelect encourage ONC to develop strong partnerships with organizations that support hospital IT purchasing and encourage these organizations to include crowdsourced ratings in their communications or business models. This process would help engage vendors and improve general awareness of the EHR Reporting Program for those who are making a purchasing decision. High-visibility organizations that can promote the questionnaire and the visibility of the EHR Reporting Program include professional association groups, Healthcare Information and Management Systems Society (HIMSS), KLAS, and the College of Healthcare Information Management Executives.

Existing Data Sources

To avoid duplicative efforts and reduce costs, several stakeholders also recommended using data for user criteria from existing surveys. These data could come from market research organizations such as KLAS, Leading Age, and Gartner. For example, the KLAS Arch Collaborative is a set of common end-user surveys of approximately 200 organizations (100,000 clinician respondents) that focuses on EHR, training, and governance to improve the EHR experience through measurement data.[5] Though these data can provide valuable information on individual measures related to the EHR experience,[6] KLAS does not report out responses by EHR developer. Existing data could also come from surveys conducted by private-sector groups (e.g., MGMA, IQVIA, and AHA) and the federal government. However, these surveys typically lack information on the health IT developer's product used in a given setting and, even

[4] Ibid

[5] https://klasresearch.com/arch-collaborative

[6] The EHR Experience survey instrument can be found here: https://klasresearch.com/files/assets/pages/usability-studies/base-emr-experience-survey.pdf

if they include this information, the data are not nuanced enough (e.g., version, implementation specifics) to include in the EHR Reporting Program. Additional research is needed to understand the cost and availability and the number and comparability of specialty- or care setting–specific surveys.

Some stakeholders also recommended using data collected from clinicians by Medicare and state Medicaid agencies through what were formerly known as the EHR Incentive Programs (now MIPS, Promoting Interoperability). But many commenters recommended against using these data, because they felt these data do not reflect a health IT product's capability nor whether a health IT product helps a provider accomplish a given task.

Finally, some commenters recommended consolidating existing health IT comparison resources into a free (or low-cost), user-friendly format. Integrating existing data sources directly into a single website, rather than directing users to external links, would more effectively present comparison data and require less user effort to navigate. Conversely, others cautioned against aggregating existing comparison tools and felt that compiling comparative data from existing resources alone would be insufficient to provide the information needed for the EHR Reporting Program. Existing comparison tools suffer from various limitations (as described in previous reports), and users may not know how these other data were collected and therefore be unable to verify it.

Revised Voluntary User-Reported Criteria

The criteria below have incorporated public feedback as described above. Please note:

- Criteria are designed to be voluntarily collected from users through a data collection process in which all users of certified health IT will be able to provide feedback, if desired. At times referred to as "crowdsourcing," as described in the previous section, these methods are not based on a sampling frame. Rather, participation is publicly solicited, with targeted outreach to promote responses from a wide range of users. Responses are not intended to be representative of all users for analytic purposes, but rather to maximize the collection of information that will be useful to other users of certified health IT.
- Criteria are designed to be collected from individual users rather than organizations.
- As noted in the earlier section, we do not recommend implementing a formal skip pattern that limits criteria based on a user's role. While testers clearly indicated a preference of seeing all questions with the option to indicate "don't know" if they are unable to answer, we also recognize the benefit of allowing users to skip questions to minimize burden. Therefore, we have added screening questions to allow users to choose to skip sections they are not knowledgeable about.
- Based on testing and feedback, we anticipate that some users may seek assistance from others in their organization when responding to these criteria. Therefore, the user characteristic questions allow for multiple responses to capture all individuals who collaborated on the response.

In addition, final decisions about fielding these user criteria will be necessary during implementation. For example, an earlier version of these criteria that included 25 questions took testers approximately 10 to 15 minutes to complete, but the time required for this version with 28 questions has not been tested. Given the increased length, it will likely take a little bit longer. During testing, we observed that time required was longest for individuals who chose to respond to all open-ended comment boxes. If length is a concern, removing these boxes could reduce the time needed to complete. Implementation should include pilot testing of the questionnaire to support final design options such as order of criteria in the instrument, use of autofill or filtering for responses, availability of and character limits for free text response options, addition of definitions or examples, instrument length, and instrument interface.

Also, work remains to determine the best way to summarize and present information in a digestible way for users. We envision that aggregate data at the product level would be summarized with average Likert scale rating and/or statistics such as percent of respondents who reported being very satisfied and could be further filtered by user type. We expect that this aggregated information would be more accessible and helpful to users compared with access to individual user responses to the complete questionnaire.

Revised Voluntary User-Reported Criteria Questionnaire

Example instructions for user (based on crowdsourcing approach – would need to be adjusted if systematic sampling and or/skip patterns are added, and based on testing):

The questions below are designed for clinical and non-clinical users of ONC-certified health IT products such as electronic health records (EHRs). The questionnaire is voluntary and should take approximately XX-YY minutes to complete. You will need to know either your vendor and product name or the Certified Health IT Product List (CHPL) ID to participate. For all other questions about the product, you will have the option to respond "don't know." Your individual answers will be combined with other users of the same product and with similar characteristics (such as practice setting or specialty) to show average responses when presented publicly except in the case of open-ended comments, which may be made public verbatim. Therefore, do not enter any information in these comments that could be used to identify you.

Certified Health IT Product

1. What ONC-certified health IT product do you use? *Please select the vendor name, product name, and version used or enter the Certified Health IT Product List (CHPL) ID for the primary certified health IT product you use such as your electronic health record (EHR) system. Please provide as much information as possible.*
   (Either vendor/product name or CHPL ID are required to proceed with the questionnaire).

   Primary certified health IT product:
   Select [Vendor name]
   Select [Product name]
   Select [Version]

   Or

   Enter [CHPL ID]

For all questions in this survey, please consider only [autofill product name based on Q1 response].

Overall Satisfaction

2. How would you rate your overall satisfaction with [autofill product name based on Q1]?

   Response Options (1-5 from very dissatisfied to very satisfied):
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied

4. Satisfied
5. Very satisfied

2.1 Optional: Please share any comments related to your rating of overall satisfaction.
[add box to collect optional free text/unstructured responses that can also be left blank]

3. How likely is it that you would recommend [autofill product name based on Q1] to a colleague in a setting similar to yours?

   Response Options:
   [Net Promotor Score Scale: 0–10 horizontal scale left to right, with 0 (not at all likely) and 10 (extremely likely)]

Screening question: The following section asks about interoperability: the ability to access, exchange, and use electronic health information. If this does not apply to your use of [autofill product name based on Q1], you can skip this section by selecting "skip interoperability." Otherwise, please select "continue" to begin this section, where you will be able to answer "don't know" to individual questions.

Interoperability

4. Indicate your satisfaction with the ability to access, exchange, and use electronic health information with the following exchange partners using [autofill product name based on Q1].

   Response Options (1-5 from very dissatisfied to very satisfied):
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied
   6. Don't know
   7. Not applicable (e.g., do not use this function)
   8. Product does not have this function

4.1 Electronically accessing, exchanging, and using health information from or within my organization
4.2 Electronically accessing, exchanging, and using health information from or with care settings outside of my organization
4.3 Electronically accessing, exchanging, and using health information from or with health information organizations (HIOs) or health information exchanges (HIEs)
4.4 Electronically accessing, exchanging, and using health information from or with payers (e.g., Medicare, Medicaid, private payers)
4.5 Electronically accessing, exchanging, and using health information from or with clinical registries (e.g., cancer registries) or state registries, including public health (e.g., state immunization information systems, syndromic surveillance, etc.)
4.6 Electronically accessing, exchanging, and using health information from or with other health products (e.g., medical devices, wearable devices)
4.7 Optional: Please share any comments related to your responses.
[add box to collect optional free text/unstructured responses that can also be left blank]

Screening question: The following sections ask about usability and safety of clinical and administrative features and functionalities: or how the product's design affects the ability to use it efficiently, effectively, and safely. If this does not apply to your use of [autofill product name based on Q1], you can skip this section by selecting

"skip usability and safety." Otherwise, please select "continue" to begin this section, where you will be able to answer "don't know" to individual questions.

Usability

5. How would you rate the overall usability of [autofill product name based on Q1]?

   Response Options (1-5 from very dissatisfied to very satisfied):
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied

   5.1 Optional: Please share any comments related to your rating of overall usability.
   [add box to collect optional free text/unstructured responses that can also be left blank]

6. How would you rate your agreement with the following statements about [autofill product name based on Q1]?

   Response Options (1-5 from strongly disagree to strongly agree):
   1. Strongly disagree
   2. Disagree
   3. Neither agree nor disagree
   4. Agree
   5. Strongly agree
   6. Don't know
   7. Not applicable (e.g., does not apply to me)

   [autofill product name based on Q1]

   6.1 Integrates with practice workflow
   6.2 Allows users to document patient care efficiently
   6.3 Enables clinicians to efficiently deliver high-quality care
   6.4 Supports clinician interaction with patients
   6.5 Protects patient information confidentiality effectively
   6.6 Saves users time, overall
   6.7 Has advantages that outweigh its disadvantages, overall
   6.8 Optional: Please share any comments related to your responses.
   [add box to collect optional free text/unstructured responses that can also be left blank]

7. Indicate your satisfaction with each of the following features and functionalities in [autofill product name based on Q1].

   Response Options (1-5 from very dissatisfied to very satisfied):
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied
   6. Don't know

7. Not applicable (e.g., product has this function, but I do not use it)
8. Product does not have this function

7.1 Ability to communicate and exchange information with patients
(e.g., secure messaging, accessing patient-generated data, sharing educational materials)
7.2 Attestation requirements for existing HHS programs such as Merit-Based Incentive Programs (MIPS), Promoting Interoperability (PI), Medicaid Quality Measures, and the Hospital Inpatient Quality Reporting (IQR) Program
7.3 Clinical decision support
(e.g., alerts and reminders, clinical guidelines, diagnostic support)
7.4 Clinical summaries
(e.g., discharge paperwork, notes)
7.5 Data analytics
(e.g., produce feedback reports, identify high-risk patients, create data visualizations)
7.6 E-prescribing
(e.g., using e-prescribing, medication order specifics, routine laboratory draw times, default values for common orders)
7.7 E-prescribing of controlled substances
(e.g., using e-prescribing for Schedule II–V controlled substances)
7.8 Image receipt, access, and review
(e.g., x-rays, CTs, and MRIs)
7.9 Integrated chronic care management tools
(e.g., care plans, care transitions, coordination with home- and community-based services)
7.10 Lab receipt, access, and review
(e.g., blood test results, urine test results)
7.11 Mobile capabilities
(e.g., mobile-friendly web interfaces, ease of use on smartphone)
7.12 Navigability
(e.g., number of clicks to complete a task)
7.13 Optical character recognition
(e.g., ability to encode scanned text and integrate into the product's data fields)
7.14 Order sets and charting templates
(e.g., prepopulated order sets and charts)
7.15 Patient reminders
(e.g., ability to send through patient portal, automated reminder calls)
7.16 Physician and patient-facing application (app) support
(e.g., SMART APIs and smartphone apps)
7.17 Quality reports that are required for my setting or practice type
7.18 Remote capabilities
(e.g., access from home computers and tablets)
7.19 Social determinants of health
(e.g., collecting, integrating, and using social determinants of health data)
7.20 Structured templates
(e.g., prepopulation of templates with patient or clinician information)
7.21 Telemedicine capabilities
(e.g., virtual visits, video, and/or data collection within health IT product)
7.22 User customization or personalization specific to an individual or role
(e.g., user-level configuration of screen views, tabs, charts, reports, templates, alerts)
7.23 Voice recognition/voice-to-text capabilities

(e.g., voice-activated recording, natural language processing)

7.24 Optional: Please share any comments related to your responses.
[add box to collect optional free text/unstructured responses that can also be left blank]

Safety

8. How would you rate your agreement with the following statements about [autofill product name based on Q1]?

   Response Options (1-5 from strongly disagree to strongly agree):
   1. Strongly disagree
   2. Disagree
   3. Neither agree nor disagree
   4. Agree
   5. Strongly agree
   6. Don't know
   7. Not applicable (e.g., does not apply to me)

   8.1 Enables simple and intuitive entry of patient information
   8.2 Provides organized pick lists for placing medication orders
   8.3 Provides intuitive visual displays that enhance safety
   8.4 Integrates safety protocols and clinical processes to promote patient safety
   8.5 Includes system alerts that help prevent care delivery error
   8.6 Optional: Please share any comments related to your responses.
   [add box to collect optional free text/unstructured responses that can also be left blank]

Screening question: The following section asks about the implementation of [autofill product name based on Q1]. This section may be best suited for IT staff or administrative users. If you were not involved in the implementation of your product, you can skip this section by selecting "skip implementation." Otherwise, please select "continue" to begin this section, where you will be able to answer "don't know" to individual questions.

Implementation

9. How would you rate your overall satisfaction with the implementation of [autofill product name based on Q1]? Please consider the explanation of the implementation process before it began, training and support for implementation, and whether the process met what was promised. If you were not involved in the implementation, mark "don't know or not applicable."

   Response Options (1-5 from very dissatisfied to very satisfied):
   1. Very dissatisfied
   2. Dissatisfied
   3. Neither satisfied nor dissatisfied
   4. Satisfied
   5. Very satisfied
   6. Don't know
   7. Not applicable (e.g., was not involved in implementation)

   9.1 Optional: Please share any comments related to your rating of overall satisfaction with implementation.
   [add box to collect optional free text/unstructured responses that can also be left blank]

Health IT Product Support

10. Indicate whether each of the following types of ongoing product support are available for [autofill product name based on Q1]. *Do not consider support for implementation.*

    Response Options:
    a. Available at no additional cost
    b. Available for additional cost
    c. Not available
    d. Don't know

    10.1 24/7 help desk support from vendor (e.g., front line support)
    10.2 Dedicated client support (e.g., same staff for every contact)
    10.3 In-person support
    10.4 Real-time online support
    10.5 Online user guides and/or video tutorials
    10.6 Live and/or recorded webinars and/or educational sessions
    10.7 Optional: Please share any comments related to your responses.
    [add box to collect optional free text/unstructured responses that can also be left blank]

11. How would you rate the available vendor-offered support for [autofill product name based on Q1]? *Support includes vendor-offered assistance such as responsiveness to service requests, help desk support, online support, user guides, and webinars. Do not consider support offered by your own organization or practice, such as support from local IT staff.*

    Response Options (1-5 from very dissatisfied to very satisfied:
    1. Very dissatisfied
    2. Dissatisfied
    3. Neither satisfied nor dissatisfied
    4. Satisfied
    5. Very satisfied
    6. Don't know
    7. Not applicable (e.g., have not used available support)

    11.1 Optional: Please share any comments related to your rating of available support.
    [add box to collect optional free text/unstructured responses that can also be left blank]

Screening question: The following section asks about upgrades for [autofill product name based on Q1]. This section may be best suited for IT staff or administrative users. If you are not knowledgeable about product upgrades, you can skip this section by selecting "skip upgrades." Otherwise, please select "continue" to begin this section, where you will be able to answer "don't know" to individual questions.

Upgrades

12. How would you rate your satisfaction with the following aspects of upgrades and maintenance for [autofill product name based on Q1]?

    Response Options (1-5 from very dissatisfied to very satisfied):
    1. Very dissatisfied
    2. Dissatisfied
    3. Neither satisfied nor dissatisfied

4. Satisfied
5. Very satisfied
6. Don't know
7. Not applicable (e.g., have not experienced upgrades or maintenance)

12.1 Overall satisfaction with product upgrades
12.2 Overall satisfaction with product maintenance
12.3 The downtime or burden associated with upgrades and system maintenance
12.4 Notification from vendor of upcoming upgrades or maintenance in advance of an upgrade or downtime
12.5 Vendor support for upgrades or maintenance
12.6 Requirements from the vendor that users upgrade to current release
12.7 Timeliness of upgrades to meet new public policies or regulations (e.g., data and interoperability standards, certification of electronic health information technology, CMS programs)
12.8 Inclusion of clinician requested features (e.g., upgrades address clinician needs)
12.9 Optional: Please share any comments related to your rating of overall satisfaction with upgrades.
[add box to collect optional free text/unstructured responses that can also be left blank]

Screening question: The following section asks about privacy and security for [autofill product name based on Q1]. This section may be best suited for IT staff or administrative users. If you are not knowledgeable about privacy and security, you can skip this section by selecting "skip privacy and security." Otherwise, please select "continue" to begin this section, where you will be able to answer "don't know" to individual questions.

Privacy and Security

13. How would you rate your satisfaction with the following privacy and security features of [autofill product name based on Q1]?

Response Options (1-5 from very dissatisfied to very satisfied):
1. Very dissatisfied
2. Dissatisfied
3. Neither satisfied nor dissatisfied
4. Satisfied
5. Very satisfied
6. Don't know
7. Not applicable (e.g., do not use security and privacy features)

13.1 Multifactor authentication (e.g., text, email, push or token-based passcode)
13.2 Use of biometric devices for sign on and medication prescribing
13.3 Ability to restrict access to the EHR based on a user's roles and position within your organization (role-based access control)
13.4 Compliance with various privacy and security standards (e.g., NIST Cybersecurity Framework, FISMA 800-53, EHNAC, HITRUST, SAAS, SOC)
13.5 Ability to support client use of encryption (i.e., encrypted database features mobile technology)
13.6 Ability to segregate sensitive data from other patient information in order to comply with 42CFR Part 2 (Federal code 42 CFR Part 2 requires that patient information

gathered in rehabilitation and substance use treatment programs be kept separate from other health data)

13.7 Ability to record and access patient privacy preferences and consent

13.8 Optional: Please share any comments related to your rating of overall satisfaction with privacy and security.
[add box to collect optional free text/unstructured responses that can also be left blank]

Screening question: The following section asks about the costs of [autofill product name based on Q1]. This section may be best suited for IT staff or administrative users. If you are not knowledgeable about product costs, you can skip this section by selecting "skip cost." Otherwise, please select "continue" to begin this section, where you will be able to answer "don't know" to individual questions.

Cost

14. What pricing model(s) does your [autofill product name based on Q1] operate on? Select all that apply.

    Response Options:
    a. Perpetual license pricing (e.g., on-site EHR deployment)
    b. Subscription pricing (e.g., software as a service)
    c. Other [specify]
    d. Don't know

15. What was the approximate total cost of implementing [autofill product name based on Q1]? *Please consider all costs paid to the vendor for implementation, implementation training, travel for an on-site training, etc. Do not consider costs beyond those paid to the vendor (e.g., purchasing computers and tablets, staff hours, workflow redesign). Please provide your best estimate.*

    Response Options:
    a. $0–$4,999
    b. $5,000–$9,999
    c. $10,000–$24,999
    d. $25,000–$49,999
    e. $50,000–$74,999
    f. $75,000–$99,999
    g. $100,000–$499,999
    h. $500,000–$999,999
    i. $1,000,000-$2,499,999
    j. $2,500,000-$4,999,999
    k. $5,000,000+
    l. Don't know

    15.1 Optional: Please share any comments related to your response for implementation cost.
    [add box to collect optional free text/unstructured responses that can also be left blank]

16. What is the approximate annual cost to maintain your product, [autofill product name], for all users in your organization? *Please consider all costs paid to the vendor, including for customization, interfaces, features and functionalities, reporting, and standard upgrades. Do not consider costs beyond those paid to the vendor (e.g., purchasing computers and tablets, staff hours, workflow redesign). Please provide your best estimate.*

Response Options:
a. $0–$999
b. $1,000–$2,499
c. $2,500–$4,999
d. $5,000–$7,499
e. $7,500–$9,999
f. $10,000–$14,999
g. $15,000–$19,999
h. $20,000–$24,999
i. $25,000–$49,999
j. $50,000–$74,999
k. $75,000–$99,999
l. $100,000+
m. Don't know

16.1 Optional: Please share any comments related to your response for annual cost.
[add box to collect optional free text/unstructured responses that can also be left blank]

17. How did your final costs compare to the vendor-supplied estimate for [autofill product name] for each of the following?

Response Options (1-5 much lower to much higher):
1. Much lower
2. Lower
3. About the same
4. Higher
5. Much higher
6. Don't know

17.1 Product implementation costs
17.2 Ongoing product maintenance costs
17.3 Optional: Please share any comments related to your responses.
[add box to collect optional free text/unstructured responses that can also be left blank]

Screening question: The following section asks about contractual information for [autofill product name based on Q1]. This section may be best suited for IT staff or administrative users. If you are not knowledgeable about contractual information, you can skip this section by selecting "skip contractual information." Otherwise, please select "continue" to begin this section, where you will be able to answer "don't know" to individual questions.

Contractual Information

18. Does your contract for purchasing [autofill product name based on Q1] include a defined cost and/or procedure to leave the product (sometimes called an "out clause")?

Response Options:
a. Yes
b. No
c. Don't know

18.1 Optional: Please share any comments related to your response.
[add box to collect optional free text/unstructured responses that can also be left blank]

19. Does your contract for purchasing [autofill product name based on Q1] preclude you or your organization from sharing information about their experience using [autofill product name based on Q1] (sometimes referred to as a "gag clause")?

    Response Options:
    a. Yes
    b. No
    c. Don't know

19.1 Optional: Please share any comments related to your response
[add box to collect optional free text/unstructured responses– allow it to be blank]

General Questions on User Characteristics

The following questions are intended to collect information on the characteristics of certified health IT product users. This information will be used to help consumers understand the type of user responding to this questionnaire and rating the product. If you did not complete these questions independently, please include appropriate responses for all individuals who contributed to the responses.

20. What type of health IT user best describes your role? Choose all roles that apply, including secondary roles.

    Response Options:
    a. Practicing physician
    b. Other practicing clinician (e.g., advanced practice nurse, physician assistant, registered nurse)
    c. Practicing allied health professional (e.g., imaging specialist, medical assistant, health educator)
    d. Information technology (IT) or health IT staff
    e. Administrative or leadership (e.g., practice management, quality improvement, billing, public health reporting)
    f. Other [please specify]

21. In what setting do you primarily use [autofill product name based on Q1]? *Select all that apply.*

    Response Options:
    a. Private solo or group practice
    b. Freestanding clinic or Urgent Care Center
    c. Community Health Center (e.g., Federally Qualified Health Center [FQHC], federally funded clinics or "look-alike" clinics)
    d. Mental health center
    e. Hospital emergency or hospital outpatient departments
    f. Hospital inpatient departments
    g. Long term or post-acute care facility
    h. Other [please specific]

22. About how many clinicians work in the practice or organization where you use [autofill product name based on Q1]? Include all locations in your organization or health system, consider the number of full-time employee (FTE) clinicians or the equivalent.

    Response Options:
    a. 1 (solo)
    b. 2–4
    c. 5–10
    d. 11–50
    e. 51–100
    f. 101-500
    g. 501-1,000
    h. More than 1,000

23. What best describes the types of services provided at the care setting in which you use [autofill product name based on Q1]? *Select all that apply*.

    Response Options:
    a. Addiction medicine
    b. Allergy/Immunology
    c. Anesthesiology
    d. Cardiology
    e. Critical care
    f. Dermatology
    g. Emergency medicine
    h. Endocrinology
    i. Gastroenterology
    j. General surgery
    k. Hematology
    l. Hospice & palliative care
    m. Infectious disease
    n. Nephrology
    o. Neurology
    p. Neurosurgery
    q. Nuclear medicine
    r. Obstetrics & gynecology
    s. Oncology
    t. Ophthalmology
    u. Oral surgery
    v. Orthopedic surgery
    w. Other [please specify]
    x. Otolaryngology
    y. Pain management
    z. Pathology
    aa. Physical medicine and rehabilitation
    bb. Plastic and reconstructive surgery
    cc. Primary care, other (e.g., general practice, family practice, internal medicine, geriatric medicine)
    dd. Primary care, pediatrics
    ee. Proctology
    ff. Psychiatry
    gg. Pulmonary disease

hh. Radiology
ii. Rheumatology
jj. Sports medicine
kk. Thoracic surgery
ll. Urology

24. In what state do you use [autofill product name based on Q1]? Select your primary location. [insert drop box]

25. How would you describe the location of the care setting in which you use [autofill product name based on Q1]?

    Response Options:
    a. Urban
    b. Suburban or small metropolitan
    c. Rural

26. Do you consider the main care setting in which you use [autofill product name based on Q1] to be a safety net setting? The Institute of Medicine defines safety net products as those "that organize and deliver a significant level of both health care and other health-related services to the uninsured, Medicaid, and other vulnerable populations."

    Response Options:
    a. Yes
    b. No
    c. Don't know

27. How long have you been using [autofill product name based on Q1]?

    Response Options:
    a. Less than one year
    b. 1-2 years
    c. 3-5 years
    d. 6-10 years
    e. More than 10 years
    f. Don't Know

28. How would you rate your proficiency using [autofill primary product name based on Q1]?

    Response Options:
    a. Expert or super user
    b. Advanced user
    c. Intermediate user
    d. Novice user
    e. Struggling or new user

Statement of Independence

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