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August 10, 2020

Donald Rucker, MD
National Coordinator for Health Information Technology
Office of the National Coordinator for Health IT
U.S. Department of Health and Human Services
330 C Street SW
Washington, DC 20201

Dear Dr. Rucker,

The Electronic Health Record Association is grateful for this opportunity to provide feedback on the Draft Voluntary User-Reported Criteria for the Electronic Health Record Reporting Program.

The EHR Association's 30 member companies serve the vast majority of hospitals, post-acute, specialty-specific, and ambulatory healthcare providers using EHRs across the United States. Our core objectives focus on collaborative efforts to accelerate health information and technology adoption, advance information exchange between interoperable systems, and improve the quality and efficiency of care through the use of these important technologies.

Before we provide feedback on specific questions proposed in the draft, we have some overall recommendations for this project.

Start at the End

Our Clinician Experience group had a difficult time understanding the use cases we anticipate this data being leveraged to solve. The mandated goal is supporting small practitioner and rural purchasing decisions, but the data being collected seems to lack key elements to allow for stratification by those groups. These clinical organizations will have a clear sense of how tech-savvy, paper-centric, or team based their approach to care is, but will not be able to stratify responses based on those crucial factors. We encourage a user-centered design process to explore the resulting uses of this data. We believe that the question of "is this the right vendor for me" should be an easy question for a variety of health IT stakeholders reviewing the data to answer.

Center the Survey around the User

As drafted, this survey is generalized to be answered by any respondent in the healthcare system, creating a mismatch between what various users can successfully give feedback on, the language and mental models of their toolset, and their ability to confidently answer the entire questionnaire.

We recommend the survey first establish the role of the answering participant and then ask questions specifically tuned to them. This will ensure that participants are answering questions as accurately as possible and likely increase the number of participants who complete the questionnaire.

For example, questions could be stratified depending on a participant's role in the institution:

Section	End User	IT Staff
Overall	✓	✓
Interoperability	⚠	✓
Usability	✓	⚠
Implementation	🛑	✓
Support	✓	✓
Upgrades	🛑	✓
Security	🛑	✓
Cost	🛑	✓
Contracts	🛑	✓
General	✓	✓

Allow More Depth

Interoperability and usability are complex topics with significant room for different interpretations, yet the language in this survey is neither specific nor colloquial enough to limit misinterpretation by some participants. As long as the language remains as-is, data gathered in these critical areas will be difficult to interpret. Specific examples are provided in our detailed comments below.

In addition to improving the language used for each question in these areas, particularly the usability topic, shifting from a one-size-fits-all approach to a more tailored approach may improve the data gathered. For example, questions draw inconsistently on inpatient and outpatient examples, sometimes within the same question. Providing specific examples based on the user's primary setting will produce more accurate feedback.

Several areas list multiple questions that are followed by a single free-text field. Such an approach can be limiting. Instead, it would be useful to allow commentary on each element to allow for more nuanced analysis.

Concerns around Methodology

We are concerned at the lack of detail about how this survey will be distributed, who will receive it, and what methods will be used to "normalize" the dataset. Providing meaningful feedback without answers to these questions is difficult.

We specifically request clarity on what steps will be taken to validate that participants actually use the software product they are assessing and how recently they have used it. A related issue is validating that the respondent knows which health IT product does what at their organization. This could be done by presenting some of the common workflows that the product addresses and allowing the user to select what they specifically use the product for. Ironing out those wrinkles will be very helpful before this draft is finalized, and we would like the opportunity to comment on any updates.

Another area of interest is understanding the "floor" for the sample size: what will constitute enough data to be shown? Is one poor rating the equivalent of 600 positive ratings? Clearly, transparency with the data is useful, but providing a sense of scale is also likely to be helpful. Our recommendation is to establish a clear set of expectations around acceptable deviation from the norm, minimum *n* for inclusion, and clarity around the period and frequency of survey responses.

Our input on specific questions follows. Thank you for considering our feedback.

Sincerely,

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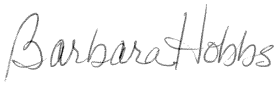
Chair, EHR Association
Cerner Corporation

David J. Bucciferro
Vice Chair, EHR Association
Foothold Technology

HIMSS EHR Association Executive Committee



Barbara Hobbs
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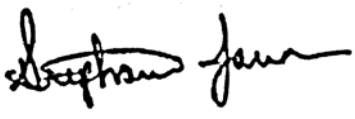

Stephanie Jamison
Greenway Health

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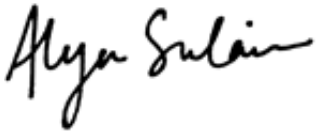

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About the HIMSS EHR Association

Established in 2004, the Electronic Health Record (EHR) Association is comprised of 30 companies that supply the vast majority of EHRs to physicians' practices and hospitals across the United States. The EHR Association operates on the premise that the rapid, widespread adoption of EHRs will help improve the quality of patient care as well as the productivity and sustainability of the healthcare system as a key enabler of healthcare transformation. The EHR Association and its members are committed to supporting safe healthcare delivery, fostering continued innovation, and operating with high integrity in the market for our users and their patients and families.

The EHR Association is a partner of HIMSS. For more information, visit www.ehra.org.

HIGH-LEVEL QUESTIONS

Which draft criteria would you prioritize for inclusion in the EHR Reporting Program, and why?

We recommend a focus on criteria that contributes to better purchasing decisions, if that's the intent of the program. It is important that reviewers are able to both find other organizations like them and assess their success with the product. Reviewers must be able to see the standard deviation of responses from across the organization and within user groups – this will help account for selection bias. Alongside identifying the data to be collected, it is important to concurrently design the way the data will be used (e.g., realistic scenarios, "jobs to be done" (JTBD) of purchasing users).

Which draft criteria should be rephrased, reworded, or removed?

Please see our comments on individual criteria.

Should the voluntary user-reported criteria cover only the most recent version of a certified health IT product or all versions of the product?

Because purchasers can only purchase the most recent version of the software, it makes sense to gather feedback from users of more recent versions. Given customer adoption timelines, the most recent version may not be feasible, so one-year-old versions would be appropriate.

We note that the process of loading system updates within a hospital system is typically an IT function. As drafted, the survey does not assure evaluation is occurring on an updated system. Since developers are given the option to provide specific or non-specific version information on the ONC CHPL, it is important the evaluation ask if the user is evaluating an updated system, and not one that may be far behind in handling the change management process.

What certified health IT users are most likely able to report on the criteria (e.g., clinicians, administrators, IT specialists)?

The answer to this will, reasonably, vary widely. End-users are best positioned to explain their own experience. Those working on the IT side (or responsible for administering the system) are best positioned to explain configurability, upgrades, maintenance, implementation, and so on. Those working in a clinical setting are best positioned to comment on issues such as usability. We recommend that the questionnaire reflect this reality, and allow the correct subset to speak to their knowledge base.

As we note several times in our evaluation of specific criteria, the one-size-fits-all approach to the survey seems inadequate to capture meaningful information.

What could motivate end users to voluntarily report on certified health IT products?

Extremely unsatisfied and extremely satisfied users are more likely to give feedback, with probably a tendency to skew unsatisfied. How can that be statistically controlled for? How will significant deviation be handled? See various studies: here, here.

The longer and more complex the questionnaire is, the more likely it is to lose users with more subtle and nuanced views of the products they use.

A potential motivator could be a clear outcome: yearly reports that review the current trends in this feedback, and even allow for forums to discuss issues and what vendors will/can/should do about them.

OTHER FEEDBACK

The survey as written is likely twice the length of the predicted (and reasonable) 10-15 minutes.

We recommend addition of an optional "additional comments" field for all ranking questions, rather than a single "any additional thoughts" field at the end of a complex section.

Each section should end with the overall score rather than start with it, allowing respondents to think through their use of the product prior to assigning a more accurate score.

We have several questions related to respondents:

- What is the recruiting process for potential respondents?
- How will it be determined if they are actually users of the product?
- What is the representative sample of users?
- Will respondents be categorized to help understand the results? e.g., rural clinics, critical care, ambulatory care, etc.

For hospital reporting regarding EHR satisfaction it is important to know the utilization of the EHR hospital-wide versus distinct departments, as well as specific locations within a healthcare system, in order to effectively inform others.

Hospital size should be considered to further guide the applicability of the answers to future reviewers.

The quality of the answers is of course key to the value of the data gathered. What is the minimum data set before reporting? Will there be a drop of high/low? Standard deviation should guide what data are included. Additionally, we encourage evaluation of each survey to ensure that appropriate questions were addressed; results will be skewed if information from incomplete surveys are included, which may have been submitted to discredit an EHR.

PRODUCT CHARACTERISTICS

1. What certified health IT products do you use?

The EHR Association has no recommendations for this question.

USER CHARACTERISTICS

2. What type of health IT user best describes you?

We recommend adding operational leadership options (e.g. clinic managers, quality managers). Including operational leadership will allow deeper insight into the day-to-day experience of change management, maintenance, and integration of clinician feedback into the system. If these roles are not included, it will be more difficult for operational leaders to use the Reporting Program to inform their purchasing decisions.

We also recommend adding other roles that relate to other uses and types of certified health IT, such as quality management, consumer/consumer engagement, or infection control/public health reporting.

We recommend removing "pharmacist" as an available user type, as pharmacists are not the target users of certified health IT.

In order to account for the 'many hats' nature of today's clinicians, we further suggest the survey ask for both a primary role and other secondary roles. Broad categories of secondary roles will help for later data stratification.

We note that many of the questions that follow will only be answerable (accurately, at least) by one type of user. To reduce user burden, clinical end-users of the software should receive a different set of questions than IT staff responsible for supporting the software.

OVERALL SATISFACTION

4. How likely is it that you would recommend [autofill primary product name based on Q1] to a colleague with a practice similar to yours?

This question seems to be implicitly focused on an ambulatory setting – the term "practice" seems limiting. We recommend that the phrase, "in a setting similar to yours" be used instead, given that is the term ONC uses for real-world testing, to include both institutional and ambulatory settings.

INTEROPERABILITY

5. Indicate the level of ease or difficulty completing each of the following tasks using [autofill primary product name based on Q1].

The questions in this section are not “tasks" in the sense that end-users would think of. They are functions of the system that happen as part of a more specific clinical workflow. If interoperability is working at all, the individual functions will be lost on many users. Focusing the question on a specific workflow that exemplifies the functionality would be more effective.

5.1 Electronically exchanging health information with clinicians who have a different EHR/health IT product than the one used by organization

We recommend a user-centric study design, asking more specifically about the entities with which the clinical end-user can exchange data: e.g., clinicians outside the organization, clinicians inside the organization, payers, state registries/public health, clinical registries, etc. It is unlikely that a clinical end user will be aware of which developers develop EHRs their EHR exchanges data with; this question is more suited to someone on the IT team.

5.2 Electronically exchanging health information with clinicians outside my organization

We recommend clarifying this question. The draft language is ambiguous and likely will not match participants’ experience. What does this question actually mean? Does it refer to sending a patient chart to a specialist or another type of exchange? It is important that participants clearly understand what is being asked.

5.3 Electronically exchanging health information with clinicians inside my organization

We recommend clarifying this question. The draft language is ambiguous and likely will not match participants’ experience. What does this question actually mean? Does it refer to sending a patient chart to a specialist or another type of exchange? It is important that participants clearly understand what is being asked.

5.4 Electronically exchanging health information with health information organizations (HIOs) or health information exchanges (HIEs)

A clinical end user may not be able to distinguish between connections to HIEs/HIOs, and connections directly to another provider's practice. This is a more appropriate question for IT staff.

5.5 Electronically exchanging health information with payers (e.g., Medicare, Medicaid, private payers)

This question may not be appropriate for all participants, as some payer info may be processed through practice management software and not the certified health IT. This type of configuration should be an option in the responses.

We also note that Medicaid may not be a useful example; because there is no standardized format for Medicaid, responses may differ from state to state. Exchanging health information with private payers may yield more useful responses.

5.8 Connecting with your local prescription drug monitoring program (PDMP) through your certified health IT product

We recommend removing this question.

Responses to this question will vary widely, not necessarily because the technology is not available within the EHR, but because in the absence of a federal, standards-based approach, states have created complex environments that are misaligned, confusing, and costly to healthcare providers and EHR developers. This wide variation in the implementation and use of PDMPs at the state level has created a barrier to the effective use of EHRs and other health information technology in the fight against the opioid epidemic, and adds to clinician burden by not allowing for efficient and routine workflows.

5.9 Producing all the reports that are required for my organization's specialty

We believe that end-users will likely see reporting as being distinct from interoperability and we recommend this question be moved to section 8. If the intent of the question is specifically about the provider's ability to produce specialty-specific aggregate quality measures for submission to an external benchmarking database, we recommend the question be reworded to more precisely capture that scenario.

5.10 Attesting to the Promoting Interoperability Program and the Merit-Based Incentive Payment System (MIPS)

This question will not apply to hospitalists or inpatient systems. We note there are no similar questions about eCQM submission or attestation for hospital based quality reporting or Promoting Interoperability.

5.11 Please share any comments related to your responses that you are willing to make publicly available.

USABILITY

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

"Usability" is a concept that is *experienced* by clinical end-users, not something all end-users have the vocabulary to speak to. If another word is not considered, it will be important to define what is meant by the term when asking questions about usability.

However phrased, this question is appropriate for clinical end-users, and not for IT staff.

7. How would you rate your satisfaction with the following aspects of [autofill primary product name based on Q1]?

We note that many of the questions in Section 7 are phrased in a comparative way, but it's not clear what participants are supposed to be comparing to. Other EHRs? Paper charts? This becomes especially complicated when thinking of 'EHR-first' clinicians, who have had little or no experience with paper charts.

Reframing these questions to ask about a common scenario that represents the specific criterion would be more helpful. (e.g., "I can talk to patients while entering information," "It is easy for me to see what information is required," or "The system alerts me before an error occurs.") Another option would be to shift the questions to the Nielsen Norman (or other) usability heuristics that may be familiar to users, or at least have agreed-upon definitions.

Additionally, we suggest changing the "satisfied/unsatisfied" scale to agree/disagree, which is a better fit for these questions.

Finally, the ambulatory bias comes through again with use of the term "practice" – again, we recommend "setting" as used by ONC in other contexts.

7.1 allows users to be more productive

"Productivity" is a vague concept that can be widely interpreted. We recommend tying this question more closely to clinical practice and measurement.

7.2 has an intuitive workflow

This question is likely to be interpreted in different ways by different participants, as it can apply to a variety of workflows. One solution could be to break it out into subsections that cover a wide range of common workflows.

7.5 decreases the time users spend documenting patient care

We support this question, which seems like a more useful way to address the productivity metric. We note again that "decrease" is a relative term that may not be answerable by all users.

7.7 improves patient safety

"Improves" is a vague term and open to interpretation. Improves compared to what? Does a low score equate to 'they increase the risk of harm'? Patient safety is not limited to an organization's EHR; there are multiple layers and structures to safety and quality measures at organizations. Focusing this question on how well the EHR integrates into ensuring safety protocols and clinical processes for patient safety would be more effective to assist in purchasing decisions.

7.9 easily produces understandable clinical summaries

We find this question unclear. Is it asking about the quality of discharge summaries, the ability to present summarized clinical data, or something else? We suggest the question be reworded to better identify what is being asked.

We further note that developers are responsible for producing clinical summaries based upon associated standards such as CCDA. Developers are bound under certification to follow standards and do not have latitude to individually address usability concerns therein.

7.11 has advantages that outweigh its disadvantages overall

This question is very vague, and we predict answers will likely be biased by other factors (e.g., the respondent's attitude toward technology). If this question is included it should include a free-text comment.

8. Indicate the ease of use for each of the following features and functionalities in [autofill primary product name based on Q1].

Focusing questions on specific workflows that exemplify each functionality would be more effective.

As drafted, these questions fall into a complex organizational space, as there is little guarantee that healthcare delivery organizations will allow each piece of functionality to be used, that the configuration is the same across different organizations, or that individual clinical end-users know a feature is available.

Additionally, there are areas of functionality or capability that have nothing to do with certified health IT such as data analytics, integrated chronic care management tool, patient reminders, voice recognition, optical character recognition and telemedicine. The focus should be on capabilities of certified health IT or on capabilities necessary to implement and maintain certified health IT.

8.1 Data analytics (e.g., produce feedback reports, identify high-risk patients, create data visualizations and graphics)

Based on the examples provided, this is half a clinical end-user question, and half an IT staff question. We suggest breaking it out into separate questions for each group.

8.2 Default values for common orders (e.g., medication order specifics, routine laboratory draw times)

Ideally, examples would be tuned to the clinical context of the user (e.g., routine lab draw times don't mean much in the ambulatory space).

8.4 Evidence-based order sets and charting templates (e.g., prepopulated order sets and charts)

We recommend these be broken down into separate questions, as order sets and charting templates are different.

We note that while these items may be integrated into the EHR, they are not usually part of the EHR software. The order sets and charting templates provided are typically purchased or created at the discretion of the healthcare delivery organization, and the extent to which they are evidence-based are not a quality inherent to the EHR technology.

8.6 Integrated chronic care management tool (e.g., care plans, care transitions, coordination with home and community-based services)

Prior to asking this question, we suggest it will be important to clarify if multiple health IT systems are in place at an organization as transitions of care can often be paralleled by a transition of product. If we do not understand the variety of products at play these results will be misleading.

8.7 Mobile accessibility (e.g., mobile-friendly web interfaces, ease of use on smartphone)

We recommend rewording this question, as the term "accessibility" could be misleading to some participants.

8.8 Optical character recognition (i.e., ability to encode scanned text and integrate into the product's data fields)

This question would benefit from additional clarification. Are participants being asked to consider the accuracy of OCR, or how easy it is to use this functionality within the product?

8.9 Patient reminders (e.g., ability to send through patient portal, automated reminder calls)

Clinical end-users may not be aware of automated reminders, as they do not need end-user intervention. We also note that this functionality would likely not apply in an inpatient setting.

8.10 Remote accessibility (i.e., access from home computers and tablets)

We recommend rewording this question, as the term 'accessibility' could be misleading to some participants.

8.12 Telemedicine capabilities (e.g., virtual visits, video, and/or data collection within health IT product)

This question would benefit from additional clarification. Is it asking about telemedicine capabilities (i.e. features available in the product), or the user experience of the telehealth system? We also recommend the question be reworded to distinguish between the provider and patient experience.

8.13 User-configured interfaces (e.g., screen views, tabs, links, charts, reports, templates, alerts)

Healthcare delivery organizations may choose to disable user-configuration to promote standardization of care and best practices. We recommend this question be removed or otherwise account for how an organization might choose to limit an EHR's capabilities.

8.14 Voice recognition/voice-to-text capabilities (e.g., voice-activated recording, natural language processing)

This question would benefit from additional clarification. Are participants being asked to consider the accuracy of voice capabilities, or how easy it is to use this functionality within the product?

IMPLEMENTATION

9. How would you rate your overall satisfaction with the implementation of [autofill primary 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."

This question is appropriate for IT staff, and not for clinical end-users.

This question is too broad and misses several specific aspects of the implementation experience. We recommend the question include sub-question response options, in place of the italicized note, asking about specific aspects of implementation such as configurability, customizability, availability/quality of reference information or guidance, availability and quality of recommended practices, ability to be self-directed in implementation, requirements for vendor involvement, and degree of reliance on vendor/developer performing specific tasks.

Finally, we note that some developers work directly with organizations to implement EHR software, some rely entirely on external firms, and some allow organizations to choose. We recommend the survey first capture who was responsible for the implementation and then support further stratification based on external implementation service firms.

HEALTH IT PRODUCT SUPPORT

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

This question is appropriate for IT staff, who should be asked if they are providing direct end-user support, or if their health IT provider is providing all or some of that support. For participants at larger organizations, their IT staff is likely the first level for product support. In those cases, responses by clinical end-users would likely refer to IT staff within their own organization.

10.3 In-person support

We note that the availability of in-person support from EHR developers is affected by COVID-19.

10.4 Online user guides and/or video tutorials

The EHR Association has no recommendations for this question.

10.5 Live and/or recorded webinars

The EHR Association has no recommendations for this question.

11. How would you rate the available support for [autofill primary product name based on Q1]?

This question is appropriate for IT staff, who should be asked if they are providing direct end-user support, or if their health IT provider is providing all or some of that support. For participants at larger organizations, their IT staff is likely the first level for product support. In those cases, responses by clinical end-users would likely refer to IT staff within their own organization.

UPGRADES

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

This section has little meaning to clinical end-users, so would be best limited to IT staff participants.

We note that some healthcare delivery organizations do not handle messaging/change management on their own.

Sub-questions would be useful, to include the upgrade approach used, the frequency of upgrades and requirements of the developer to have the provider remain on a current/supported release.

PRIVACY AND SECURITY

13. Overall, how would you rate the security and privacy features of [autofill primary product name based on Q1] (e.g., multifactor authentication, role-based access control, 42 CFR Part 2, HIPAA, etc.)?

This question is appropriate for IT staff, and not for clinical end-users.

COST

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

This question is appropriate for IT staff, and not for clinical end-users.

15. What was the approximate total cost of implementing [autofill primary 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.

This question is appropriate for IT staff, and not for clinical end-users.

The cost ranges offered seem too fine-grained for smaller implementations, and too gross cut for larger ones.

16. What is the approximate annual cost to maintain your product, [autofill primary product name], for all users in your organization? Please consider all costs paid to the vendor, including for customization, features and functionalities, and reporting. 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.

This question is appropriate for IT staff, and not for clinical end-users. The question should also include interface costs.

We note it will be difficult to obtain apples-to-apples comparisons, particularly for vendors that supply a variety of products. We question the utility of this question in helping others make informed purchasing decisions.

CONTRACTUAL INFORMATION

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

This question is appropriate for IT staff, and not for clinical end-users.

GENERAL QUESTIONS ON USER CHARACTERISTICS

18. In what setting do you primarily use [autofill primary product name based on Q1]?

We wonder why "independent" is an option? Is that a "size of practice" detail? Overall the response options include a number of settings that are not valid for the use of certified health IT. If this survey is

intended to compare certified health IT products, per the original Congressional mandate, inappropriate settings should be removed.

19. About how many clinicians work in the practice or organization where you use [autofill primary product name based on Q1]? Include all locations in your organization or health system.

The ranges offered seem to assume a focus on physician or clinician practices, and over-generalize the sizes of larger organizations. We suggest more meaningful ranges may be:

- Solo or less than 5
- 6-10
- 11-50
- 51-100
- 101-500
- 501-1000
- More than 1000

We also note that an end-user may have little awareness of the total number of clinicians who fall under the "organization's" umbrella. Additionally, larger organizations deploy different EHRs across providers under their umbrella, further underscoring the variability in this data. We question the utility of this question.

20. What best describes the types of services provided at the practice in which you use [autofill primary product name based on Q1]? Select all that apply.

We note that the responses are extremely outpatient focused; we recommend those responses only be shown to those participants, and that separate options be made available for acute care participants.

23. Approximately what percentage of patients at the practice in which you use [autofill primary product name based on Q1] are uninsured or covered by Medicaid?

This question is not relevant to the EHR.

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

We recommend adding a preceding question about the clinician's technical proficiency in general. This will allow users reviewing data to more specifically hone in on the experiences of providers with a similar level of technical expertise and expectations to themselves.