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Health IT Safe Practices: Toolkit for the Safe Use of Copy and Paste

February 2016

Ensuring Safe Uses of Copy and Paste

- Educational materials, checklists, references, and resources
- Recommendations identified for individual stakeholder groups
- Evidence-based literature review

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Toolkit for the Safe Use of Copy and Paste

EXECUTIVE SUMMARY

In 2013, ECRI Institute convened the *Partnership for Health IT Patient Safety*, a multistakeholder collaborative that includes healthcare providers, health information technology (IT) vendors, academic researchers, patient safety organizations, and professional societies, whose purpose is to work together to make health IT safer. By collecting, analyzing, and sharing health IT data and information, the *Partnership* aims to inform the national strategy for health IT patient safety and provide useful recommendations for all stakeholders involved in the safe use of health IT and in identifying ways to utilize health IT in enhancing patient safety.

On September 23, 2014, a *Partnership* stakeholder meeting, "Partnering for Success," was held to discuss health IT topics and the challenges, barriers, and priorities facing stakeholders using and developing the technology. At the meeting's conclusion, the attendees recommended workgroups for in-depth study of health IT events based on the issues identified at the meeting. Of the

many topics that were identified, the issue of copying and pasting health information (e.g., orders, notes, labels) was later chosen for the first workgroup because the practice is widespread and often underreported and has the potential to cause adverse patient safety events if "copy and paste" practices result in documentation containing inaccurate, irrelevant, or outdated information.

The copy and paste workgroup was convened in February 2015 with Tejal Gandhi, MD, MPH, CPPS, the CEO and president of the National Patient Safety Foundation, as its chairperson. The goal of the workgroup was to examine and ascertain safe practices for the use of copy and paste by examining exemplars, identifying suggested practices, and then encouraging improvements to decrease the safety concerns associated with copy and paste. While billing and compliance issues* and the potential malpractice implications** were mentioned, the focus in developing the recommendations is patient safety. The safe practice recommendations have been agreed upon and endorsed by the multi-disciplinary group of stakeholders.

As part of the workgroup's efforts, it developed additional information about safe practice recommendations to be disseminated to the healthcare community through distribution of this toolkit. These safe practice recommendations*** are:

Recommendation A: Provide a mechanism to make copy and paste material easily identifiable.

Recommendation B: Ensure that the provenance of copy and paste material is readily available.

Recommendation C: Ensure adequate staff training and education regarding the appropriate and safe use of copy and paste.

Recommendation D: Ensure that copy and paste practices are regularly monitored, measured, and assessed.

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* Office of Inspector General (OIG), Department of Health and Human Services. Not all recommended fraud safeguards have been implemented in hospital EHR technology. OEI-01-11-00570 [online]. 2013 Dec [cited 2015 Aug 19]. http://oig.hhs.gov/oei/reports/oei-01-11-00570.pdf
** For example, lab information that is identified and copied (duplicated) but pasted into the incorrect chart.
*** *Organizations should evaluate the HIPAA or regulatory implications associated with implementing specific approaches to these recommended practices.*

The workgroup recognized that some of the recommendations will take time to implement, particularly those that require technology changes by developers and workflow changes for providers. Thus, the recommendations are a framework from which the stakeholders developing and using health IT can, both individually and together, take steps toward the safer use of copy and paste and identify better uses of technology to further patient safety in areas such as documentation. The recommendations are designed to allow the stakeholders the opportunity to identify ways to address the issues as the technology changes, recognizing that external forces, including regulations and requirements, may impact the recommendations in the future. The toolkit provides an opportunity and a challenge to all of the stakeholders to work on making copy and paste activities safer.

For the *vendor,* the toolkit provides discussion points and direction for possible future product development. It also clarifies the concerns regarding the reuse of information and ensuring the usability of the technology and the information contained therein.

For *healthcare organizations,* the toolkit will help with the evaluation of how copy and paste is being used in practice and will assist with implementing lasting changes, even as health IT evolves.

For *clinicians,* the toolkit will help raise awareness of the potential issues associated with copy and paste in documentation, provide tools to help make decisions regarding the appropriate and safe uses of copy and paste, offer alternatives to copy and paste when another function is safer, and help ensure that when copy and paste is used, it is being used with thoughtful volition.

For *professional organizations,* the toolkit will clarify the benefits and shortcomings of copy and paste, provide considerations for the discretionary use of copy and paste, and provide educational resources for their membership.

Please utilize and share the information contained herein.

DEFINITIONS

Various terms and definitions are found throughout the literature to describe copy and paste activities. The terms below were used to inform the workgroup and served as background information. In examining these terms, it becomes clear that there are differences in terminology for how information is reused or brought forward in a record. In addition, the type of information copied and the manner in which the information is brought forward may impact the safe uses of that information. For example, copying information that remains relatively consistent over time does not have the same safety impact as copying a diagnostic impression from another entry in a record.

The workgroup chose to focus on addressing copy and paste in terms of data that is reused from other areas (either in the same system [e.g., clinical notes] or in different systems [e.g., lab])— but most explicitly, data that is volitionally obtained and used elsewhere without having to retype any of the information.

The following terms are frequently seen in the literature regarding copy and paste and are defined below:

- *Copy functionality:* reproducing text or other data from a source to a destination (AHIMA)

- *Copy and paste:* action performed either by keyboard command (e.g., Ctrl + C to copy and Ctrl + V to paste) or with a mouse; selecting data from an original or previous source to reproduce in another location (AAMC)

- *Cut and paste*:* removing or deleting the original source text or data to place it in another location (e.g., Ctrl + X to cut and Ctrl + V to paste) (AAMC)

- *Cloning:* duplication of a note (Weis and Levy)

- *"Whole note cloning":* copying patient notes from one visit to the next (Terry); copying a note from one patient encounter to the next with little or no editing

- *Carry/copy forward:* bringing forward a portion of a note or an entire old note (Weis and Levy)

- *Autofill:* automatically draws data from another part of the record and inserts it upon a specific command

- *Autocomplete:* automatically matches text and provides one or more options

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* Cut and paste will not be addressed here, as this is something that should never be done in a clinical record.

Table 1. Risks and Benefits of Copy and Paste

Risks	Benefits
Production of notes with internal inconsistencies, creating more queries or work to determine if information is correct	Saves time by allowing for information that does not readily change to be easily transferred
Erosion of confidence in the documentation, either for provider or the health record in general, due to outdated, inaccurate, or misleading information	Efficient way to capture complex information
Interferes with effective communication among providers because important findings and problems are intertwined with normal patient information, making it difficult to decipher what is important or current	Improves tracking of multiple problems for complex patients by providing an easy way to continually document the care received
Production of overwhelmingly long charts and notes ("note bloat")	Improves continuity of care by allowing a simple way to transfer important information to other providers (e.g., discharge or transfer summaries)
Perceived need to "fill" the note for billing and regulatory requirements	Reduces transcription errors (including those associated with complex content)
Medicolegal integrity	Avoids the risk of neglecting communications or addressing important issues (e.g., omitting to address an area of the care plan)

INTRODUCTION

Copy and paste activities* strive to facilitate efficient medical documentation** but they have also resulted in new safety risks.*** See "Table 1. Risks and Benefits of Copy and Paste" for additional information. Copy and paste is, in part, a function of the operating system used with the electronic health record (EHR).[†] As a set of capabilities, it is not unique to one particular EHR vendor or one particular program, making it both readily available and its use often difficult to limit.[††] Recognizing that reality as well as the current benefits of copy and paste, the approach taken by the *Partnership's* workgroup[†††] was to identify ways to minimize the patient safety risks associated with copy and paste and to focus on promoting those recommendations for safe use, rather than suggesting eliminating the practice.

Studies have shown that copy and paste is frequently used in healthcare, although the number of published studies on the subject is small. In one study of self-reported copy and paste use, two-thirds of medical students at Northwestern University "frequently" or "nearly always" copied their own notes (Heiman et al.). In another study, resident physicians from three departments within two large academic centers were surveyed regarding their opinions on copying and pasting information. Of the 253 physician respondents who documented patient notes in the EHR, 226 (89%) indicated that they used copy and paste when writing daily progress notes and 78% were deemed "high users," meaning that they almost always or mostly used copy and paste for progress notes. (O'Donnell et al.)

To inform the workgroup, feedback was solicited from *Partnership* members to determine areas in which copy and paste is often used (e.g., demographic information, prescription renewals) and what types of information are most frequently copied and pasted (e.g., notes, problem lists, allergies). Additionally, an evidence-based literature review was performed to further evaluate copy and paste issues. The prevalence of the use of copy and paste remains high and thus greater attention must be afforded to ensuring the safe use of this functionality until other options

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* For example, a physician copies and pastes admission information, imaging study reports, and lab values from previous day's notes into progress notes.

** The benefits of copy and paste include time-saving efficiencies, improved tracking of multiple problems for complex patients, continuity of medical decision making, completeness of documentation, and reduced transcription errors.

*** Potential safety issues include propagation of inaccurate, inconsistent, outdated, irrelevant, or incorrect information; authorship questions; redundant information (with important, relevant information hidden); diagnostic bias (Weis and Levy); excessively long and overwhelming notes; and regulatory concerns.

† For example, Windows-based systems use Control (Ctrl + C) to copy and Control (Ctrl + V) to paste.

†† The literature contains suggestions that copy and paste be prohibited; however, the workgroup does not agree with this position.

††† Additional concerns with copy and paste that are outside the scope of the *Partnership's* workgroup, and are not discussed in this toolkit, include concerns arising when using information from another physician's note, errors impacting population health studies, data mining errors, inaccurate billing, and fraud and abuse.

that mitigate the risks associated with copy and paste are identified.

The safety risks of copy and paste are seen in a number of ways and may often be discounted. In an effort to understand the potential and actual safety risks, the workgroup reviewed and evaluated information from a variety of sources. First, the workgroup looked at events reported to the *Partnership*; these events are reviewed in detail in "Appendix 1: Copy and Paste Events." The workgroup also evaluated evidence from the literature of serious patient harm associated with copy and paste, as the following example illustrates (O'Reilly; Hersh):

A chemotherapy patient with a history of prior pulmonary embolus (PE) was admitted to a hospital for diarrhea and dehydration. While the admission note's assessment and plan specified the patient should receive heparin for venous thromboembolism prophylaxis, the medication was never ordered. After the patient was transferred to a different service, the assessment and plan were copied and pasted for five days and approved by the attending physician, but no heparin was ever ordered. Shortly after discharge, the patient developed a PE and required readmission.

Initially, it may not be not clear that copy and paste played a role in the example event. The plan that the patient would receive heparin to prevent a PE or a deep vein thrombosis (DVT) was not acted upon, and the reason for inaction was not solely that the plan had been repeatedly copied. However, repeatedly copying material creates an obstacle to identifying important information

in the record, and, as the example illustrates, the document no longer functions as an effective communication tool among providers. When communication is impaired in this way, healthcare workers responsible for completing the task (in this case, heparin ordered to prevent PE or DVT) may be blinded to critical information, or may not critically evaluate or act on the information, because they have seen it repeatedly and conclude that the action has been completed by someone else.

Some records contain so much copied and pasted information that timely or accurate interpretation of the information is difficult, if not impossible. For example, copying and pasting all results of a patient's laboratory tests without pointing out which results are of concern requires providers to spend time trying to decipher the meaning behind the inclusion of the complete lab results. In addition, data or text repeated multiple times from one note to another can bias a clinician's assessment and may result in a delayed or missed diagnosis.

Inaccurate information may impede correct and timely treatment, further delay diagnosis, or potentially negatively impact care if incorrect information is not removed from the record. This also leads to an erosion of confidence in that record. Moreover, it becomes difficult to defend a record with incorrect or out-of-date information in a court of law. Copy and paste events are now creeping into medical malpractice litigation. For example, an insurer identified 147 malpractice cases in which the EHR was identified as a contributing factor; 10% of these

cases had prepopulating or copy and paste as a "top issue" (Ruder).

Unlike other health IT issues, a major problem with copy and paste is that it is silent, making it difficult to identify or recognize when copied and pasted information appears. When copied and pasted material is not visible in a useful way, validation or confirmation of its accuracy becomes even more challenging.

Problems can also occur with using information that is later identified as being erroneous because the information was the result of inadvertent copying and pasting of old information or of information from another patient's medical record. In another event reported to the *Partnership*, information communicated by email in a patient portal was found to contain information that had been copied from another patient's chart.

Providers bear the responsibility for what is contained in their documentation and therefore must verify that the material entered is correct. However, without the ability to see what information has been copied and where it originated, confirmation can be challenging, especially when multiple providers are working with a patient's record. While patients, through the use of patient portals, may help to identify incorrect or inaccurate information, this is not enough. The reasons for using copy and paste are diverse; the solutions must be as well.

As illustrated in the example, the potential problems associated with copy and paste for the patient, provider, and healthcare organization are numerous, and we are just

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beginning to see the consequences. By identifying recommendations for the safe use of copy and paste, providers, healthcare organizations, vendors, and others will have a heightened awareness of the patient safety risks and can begin to work not only to implement these practices but also to identify other innovations to make documentation easier, more efficient, and safer.

WORKGROUP PROCESS

The *Partnership's* copy and paste workgroup was composed of a diverse group of stakeholders, including vendors, providers, professional organizations, academics, and safety specialists. Although the workgroup was cognizant of the regulatory, legal, and compliance issues associated with copy and paste, the focus remained on using this functionality in a manner that would ensure patient safety.

The group met regularly over the course of six months to accomplish the following:

- Define the focus of copy and paste safe practice recommendations

- Investigate how copy and paste is currently used

- Determine the impact of copy and paste on patient safety

- Review exemplars of practices currently in place

- Develop recommendations geared to the safe use of copy and paste

The first task was to identify the patient safety issues with copy and paste. To accomplish this, the workgroup examined events submitted to the *Partnership*, current uses of copy and paste, vendor alternatives to the use of copy and paste, and provider exemplars of practices used in their facilities for the safer use of copy and paste. An extensive search of the evidence-based literature (both empiric and gray literature) also provided insight into patient safety issues and topics for workgroup discussion. All of this information formed the basis of the recommendations for the safe use of copy and paste that are included in this toolkit.

After the workgroup agreed on preliminary recommendations, they then ranked the recommendations according to feasibility, importance, and impact. The recommendations were also categorized as to how they would be addressed (e.g., through regulation, technology, education, or policy and procedures) to further tailor the actions related to the recommendations to each of the stakeholder groups—providers, provider organizations, vendors, collaborators, and patients.

In order to determine whether the recommendations identified by the workgroup would facilitate usability, the recommendations were examined using Sittig and Singh's sociotechnical model. This method not only provided a plan for the implementation of the practices but also considered the sustainability of the safety recommendations when future innovations and new technologies arise.

RECOMMENDATIONS

In order to mitigate the safety risks that occur when materials are copied and pasted, and in an effort to make the use of copy and paste safer, the workgroup identified and refined multiple suggestions prior to agreeing on the following four safe practice* recommendations:

Recommendation A: Provide a mechanism to make copy and paste material easily identifiable.

Recommendation B: Ensure that the provenance of copy and paste material is readily available.

Recommendation C: Ensure adequate staff training and education regarding the appropriate and safe use of copy and paste.

Recommendation D: Ensure that copy and paste practices are regularly monitored, measured, and assessed.

To evaluate whether the safe practice recommendations were feasible, complete, and practicable, the workgroup determined that it was appropriate to evaluate the recommendations using the sociotechnical model. The sociotechnical model (see Figure 1. Copy and Paste Safe Practice Recommendations and Associated Sociotechnical Model Components), with its eight dimensions, is designed to address "challenges involved in design, development, implementation, use, and evaluation of HIT within complex adaptive healthcare systems" (Sittig and Singh). The model provided a

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* Organizations should evaluate the HIPAA or regulatory implications associated with implementing specific approaches to these recommended practices.

Figure 1. Copy and Paste Safe Practice Recommendations and Associated Sociotechnical Model Components. The different components of the model are keyed to recommendations A, B, C, and D.
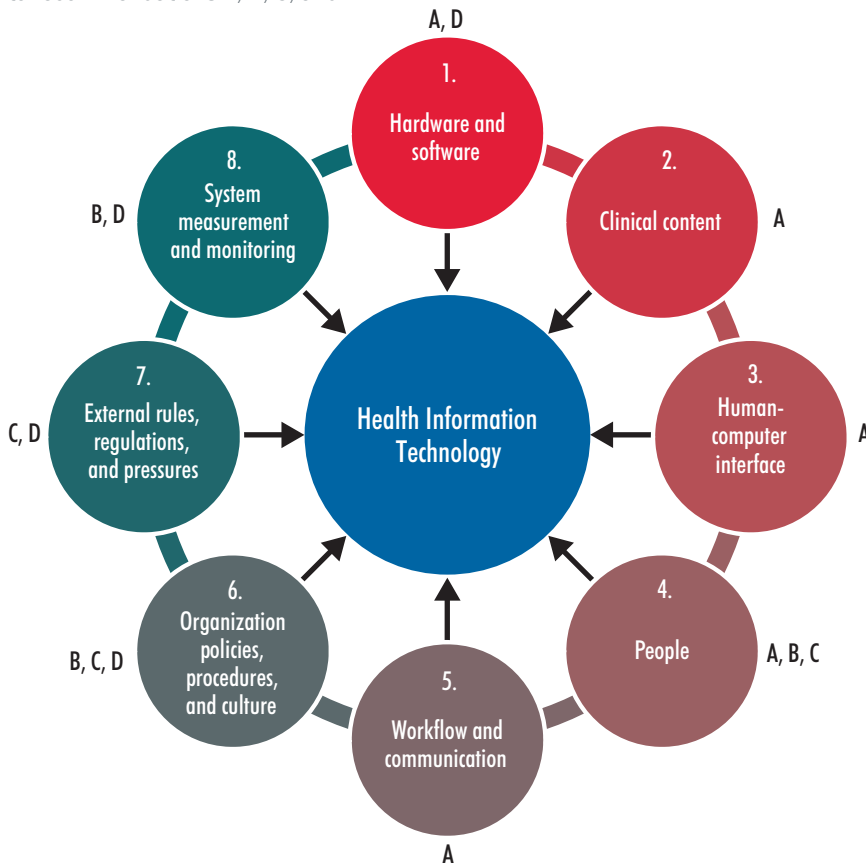
Source: Sittig DF, Singh H. A new socio-technical model for studying health information technology in complex adaptive healthcare systems. *Qual Saf Health Care* 2010 Oct;19 (Suppl 3):i68-74. http://qualitysafety.bmj.com/content/19/Suppl_3/i68.long

vehicle by which to evaluate key factors impacting these recommendations in order to ensure that all aspects of the healthcare process were taken into account. The sociotechnical model provides a way to account for the interactions of these changes within the systems where they are being used. While this is just one model for assessment of the recommendations set forth below, this model provides the structure to direct and monitor changes that may result as these recommendations are implemented.

While the recommendations focus on what various stakeholders can do to make copy and paste safer, it is important for all stakeholders to recognize that frontline staff will also be impacted by these recommendations. The goal of these recommendations is not to impair usability of the system or impede workflow, but rather to allow providers the opportunity to evaluate the best ways to see the information that is being reused. Healthcare organizations therefore should also ensure that staff engagement with this

process is considered when implementing these recommendations.

The workgroup realizes that some of the recommendations proffered will take time to implement, particularly those recommendations that require technology changes by developers. The recommendations in this toolkit are intended to provide a framework from which all stakeholders vested in developing and using health IT can, both individually and together, begin a dialogue, take steps toward the safe use of copy and paste, and identify better uses of technology to further patient safety as priorities and safety programs are planned and established. In addition, the recommendations contained in the toolkit are designed to allow stakeholders in health IT the opportunity to identify how to solve these issues as technology changes, recognizing that external forces, including regulations and requirements, may impact these recommendations in the future.

Recommendations in Depth*

Recommendation A: **Provide a mechanism to make copy and paste material easily identifiable.**

Why This Is Important	Potential Implementation Actions	Target Audience	Examples of Solutions	Sociotechnical Model Categories Addressed by This Recommendation
Information that is copied should be easily identified to allow for verification of accuracy and to facilitate review for edits.	Create policy and procedures and monitor compliance.	✓ Provider organization	Copied material is: • Visible in a split screen • Visible by hovering so that the screen is not cluttered • In a different format (e.g., italics, different color, other method) • Distinct from presently entered content	1, 2, 3, 4, 5 (Figure 1)
	Make the record of copy and paste actions easily identifiable to facilitate review and editing of copied text.	✓ Vendor ✓ Provider		
	Identify areas (if any) that should be locked from copying (e.g., signature block of a completed note into a new note).	✓ Provider organization ✓ Vendor		
	The system needs to accurately recognize copy and paste activities (e.g., reports have shown that dictated notes may be flagged as notes that have been copied and pasted).	✓ Provider organization ✓ Vendor		

Recommendation B: **Ensure that the provenance** of copy and paste material is readily available.**

Why This Is Important	Potential Implementation Actions	Target Audience	Examples of Solutions	Sociotechnical Model Categories Addressed by This Recommendation
Being able to trace the provenance of copied and pasted material can help verify that the information is appropriate and accurate; this may also increase the potential to defend the record and achieve billing compliance.	Identify the original source (date, time, record, and author) of the information to verify accuracy, applicability, reliability, and timeliness.	✓ Vendor ✓ Provider organization	Have a log available of when the note is changed, who changed it, and how it was changed. Information about copied material appears on demand in a separate window. Hover to identify the source of the copied information. Metatagging pasted information with original identifiers (e.g., author, care setting, original date, time).	4, 6, 8 (see Figure 1)
	Track authors of copied text to facilitate regulatory compliance.	✓ Vendor ✓ Provider organization		

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* Organizations should evaluate the HIPAA or regulatory implications associated with implementing specific approaches to these recommended practices.
** Provenance includes the chronology of ownership.

Recommendation C: **Ensure adequate staff training and education regarding the appropriate and safe use of copy and paste.**

Why This Is Important	Potential Implementation Actions	Target Audience	Examples of Solutions	Sociotechnical Model Categories Addressed by This Recommendation
Providers are responsible for the content and accuracy of documentation. Training about copy and paste should include information about the patient safety risks and benefits and should comply with all regulatory, legal, and compliance guidelines.	Provide competency-based, hands-on training upon hiring and on regular basis.	✓ Provider organization	Provide regular training and feedback on performance. Encourage providers to "act with volition" by identifying what was intended to be copied and determining that the copied material is appropriate for inclusion. Use alternative models of documentation by recognizing which parts of a previous encounter are brought into a new encounter.	4, 6, 7 (see Figure 1)
	Make available new technology to safely reuse information. Provide feedback to those using this functionality. Identify methods to verify correct and current information.	✓ Vendor ✓ Provider ✓ Provider organization		

Recommendation D: **Ensure that copy and paste practices are regularly monitored, measured, and assessed.**

Why This Is Important	Potential Implementation Actions	Target Audience	Examples of Solutions	Sociotechnical Model Categories Addressed by This Recommendation
To ensure the integrity of the clinical record, the quality and safety of care rendered, and compliance with state and federal regulations.	Create an audit policy, monitoring copy and paste by provider, and reporting audit findings internally.	✓ Provider organization	Identify what type of data is tracked. Identify who is able to visualize the tracking log for copied material. Identify who is able to see copied information. Provide new opportunities for interoperability, negating the need to rely on copied information. Determine if there should be a time limit on the ability to see copied information. Identify a governance and feedback process.	1, 6, 7, 8 (see Figure 1)
	Create audit tools.	✓ Vendor		
	Create an auditing policy.	✓ Provider organization		

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CONCLUSION

The *Partnership for Health IT Patient Safety* presents the four safe practice recommendations, Recommendations A-D, along with Health IT Safe Practices: Toolkit for the Safe Use of Copy and Paste in order to facilitate the safe and effective use of copied and pasted material. Safe and effective reuse of information requires that the information relied upon be accurate, timely, and reliable. Providers have copied and pasted information as a means of improving usability. Copied material is used when systems are not interoperable and

information does not flow between those systems, in order to improve efficiency, provide for complete documentation, and avoid transcription errors. However, the use of copied and pasted information may negatively affect patient safety by providing an opportunity for missed or delayed diagnosis; creating cognitive bias in clinical decision making; and inappropriately lengthening clinical documentation (note bloat), decreasing a note's effectiveness as a communication tool. The *Partnership's* workgroup developed safe practice recommendations and tools to encourage practices that

ensure when information is reused, it is reused in the safest possible manner. The checklists, assessments, educational and training materials, and exemplar materials that follow are all intended to aid organizations in implementing the safe practice recommendations and in assisting vendors as they develop new technologies to facilitate the effective reuse of information. The *Partnership's* stakeholders have reviewed and discussed these recommendations and, as of December 2015, are in the process of formalizing endorsement of the safe practice recommendations.

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RESOURCE LIST

The following items are not referenced in this toolkit but provide valuable information related to copy and paste activities.

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Tools

The Partnership for Health IT Patient Safety's copy and paste workgroup compiled a number of tools to facilitate the implementation of the safe practice recommendations. These tools include risk assessments, sample policies and procedures, checklists, training materials, and implementation suggestions. The safety recommendations are presented in various ways in the tools so that the tools can be used for different purposes and by different stakeholders; while some of the information contained in the tools may appear repetitive, recall that the tools are meant to be used as stand-alone items.

Please disseminate these recommendations within your organization to make certain that those impacted by electronic documentation are aware not only of the benefits but also of the risks that may arise when using copy and paste. Providing this information will ensure that stakeholders are equipped with the tools to mitigate the safety risks and will heighten awareness in developing safe practices.

Tools Available

Copy and Paste Recommendation Implementation Actions: Benefits and Considerations

Risk Assessment Tools: Know Your Risks

- Leadership Tool for a Provider Organization
- Provider Tool
- Vendor Tool
- Tool for a Professional Organization

Handout: Safe Practice Recommendations for Copy and Paste

Action Plan for Implementing Copy and Paste Recommendations

Copy and Paste Recommendation Checklist

Sample Policies and Procedures

- Copy and Paste Policy Development Tool
- Audit and Tracking Development Tool
- Audit Tool

Training and Education

- Training Materials and Checklist
- Sample Copy and Paste Educational Tool (PowerPoint)

Sponsored by

Copy and Paste Recommendation Implementation Actions: Benefits and Considerations

The workgroup in development of the safe practice recommendations recognized that the actions suggested may also give rise to other concerns. Overall, the workgroup concluded that these considerations did not outweigh the benefits of the recommendations. See the following benefits and considerations for each recommendation.*

Recommendation A. Provide a mechanism to make copy and paste material easily identifiable.

Benefits	Considerations
• Copied text is easily seen • Potential deterrent to copying • Facilitates author attribution	• May make notes difficult to read or distracting • May be hard to differentiate original from copied text if copying occurs multiple times • Compatibility issues between systems may make visibility difficult • Viewers who are color blind may be unable to see the color of changed text • Time and development costs must be weighed and considered relative to other priorities and regulatory requirements

Recommendation B. Ensure that the provenance of copy and paste material is readily available.

Benefits	Considerations
• Easily identify the original author • Ability to distinguish credibility and timeliness of information	• Insurance billing compliance • Cognitive bias • Development time and costs relative to other provider development priorities and regulatory requirements • Background activity resulting in slower processing while the copied materials are being identified, creating the inability to rapidly access the documentation

Recommendation C. Ensure adequate staff training and education regarding the appropriate and safe use of copy and paste.

Benefits	Considerations
• Expectations are clear • Alternatives are identified	• Upgrades and new technology may necessitate changes • Development of improved alternatives to copy and pasting

Recommendation D. Ensure that copy and paste practices are regularly monitored, measured, and assessed.

Benefits	Considerations
• Ability to understand when copying is frequently used • Develop alternative methods to copying	• Capacity of current system • Development time and costs relative to other provider development priorities and regulatory requirements • Potential regulatory compliance issues (e.g., billing) • Legal considerations

* Organizations should evaluate the HIPAA or regulatory implications associated with implementing specific approaches to these recommended practices.

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Risk Assessment Tools: Know Your Risks

LEADERSHIP TOOL FOR A PROVIDER ORGANIZATION

Why is the proper use of copy and paste important?

Copying and pasting information from one area into another is a mechanism used by healthcare providers and others to facilitate documentation. Studies have shown that physicians use copy and paste features frequently.[*,**] One study of self-reported copy and paste use found that two-thirds of a university's medical students "frequently" or "nearly always" copied their own notes[***]; however, copy and paste is also used in many other areas, including but not limited to admissions and business offices. An American Medical Association (AMA) Board of Trustees report indicated that copy and paste is "intended to reduce the time required for clinical documentation."[†]

Efficiency is just one of the reasons that copying and pasting is deemed a beneficial functionality. Others include capturing complex information and reducing transcription errors. However, copying and pasting carries increased risks that may negatively affect patient safety and can create problems for the organization. Copying and pasting information can degrade the quality of the clinical note and jeopardize patient safety if information is incorrect, outdated, or erroneous. Copying and pasting can also create compliance issues (billing fraud and abuse); decrease the reliability of the information documented (inability to defend the chart in professional liability actions, inability to trust the information for treatment); and create cognitive bias (with clinicians moving away from analytical reasoning).

Did you know?

☐ Copy and pasting may degrade the quality of the clinical note.[**] It is becoming clear that copying and pasting makes notes excessively long, impairs analysis, creates cognitive bias, and may perpetuate inaccurate, untimely, or incorrect information.

☐ Medicolegal and regulatory liability can result from the improper use of copy and paste. Claims of inflated or fraudulent billing and the inability to defend the medical record are just a couple of these risks.

☐ Only 24% of hospitals have a copy and paste policy in place.[††]

☐ Standards and practices for the reuse of information must take into account regulatory and billing compliance as well as legal and business considerations.

☐ Appropriate clinical documentation is essential for the provision and representation of accurate, safe, and timely care.

☐ Recognizing the risks and prevalence of copying and pasting by following and monitoring the outlined recommendations will aid in the safe use of copy and paste until other alternatives are identified.

Did you ask?

☐ What are we doing to identify the use of copy and paste within records?

☐ How are we educating users about the safe uses of copy and paste?

☐ Do we monitor the use of copy and paste?

☐ Do we report back to providers and others documenting in the record about their use of copy and paste?

☐ Are we working with our vendors to develop other alternatives for the safe reuse of information previously recorded?

* O'Donnell HC, Kaushal R, Barron Y, et al. Physicians' attitudes towards copy and pasting in electronic note writing. *J Gen Intern Med 2009* Jan;24(1):63-8. Also available at http://www.ncbi.nlm.nih.gov/pubmed/18998191 PubMed: http://www.ncbi.nlm.nih.gov/pubmed/18998191

** Thielke S, Hammond K, Helbig S. Copying and pasting of examinations within the electronic medical record. *Int J Med Inform* 2007 Jun;76 (suppl 1):S122-8. http://www.ncbi.nlm.nih.gov/pubmed/16899403

*** Heiman HL, Rasminsky S, Bierman JA, et al. Medical students' observations, practices, and attitudes regarding electronic health record documentation. *Teach Learn Med* 2014 Jan;26(1):49-55.
http://www.ncbi.nlm.nih.gov/pubmed/24405346 PubMed: http://www.ncbi.nlm.nih.gov/pubmed/24405346

† Barbe DO. Utilization of EHR and the practice of "cutting and pasting" or cloning. Report of the Board of Trustees, 20-A-14, presented at the 2014 annual meeting of the House of Delegates, American Medical Association (AMA). Chicago (IL): AMA; 2014. Also available [members only] at
http://www.ama-assn.org/ama/pub/about-ama/our-people/house-delegates/meeting-archives/2014-annual-meeting.page

†† Office of Inspector General (OIG), U.S. Department of Health and Human Services. Not all recommended fraud safeguards have been implemented in hospital EHR technology. OEI-01-11-00570. 2013 Dec [cited 2015 Sep 29]. http://oig.hhs.gov/oei/reports/oei-01-11-00570.pdf

Risk Assessment Tools: Know Your Risks

PROVIDER TOOL

What do we mean by copy and paste?

Copying and pasting information is a series of actions performed either by keyboard command (e.g., Ctrl + C to copy and Ctrl + V to paste) or with a mouse, involving selection of data from an original or previous source to reproduce it in another location.* Typically copy and paste activities involve the reuse of information that already exists elsewhere in the medical record or in other relevant documentation. Studies have found that 74% to 90% of physicians use copy and paste.**

Why is the proper use of copy and paste important?

While improving efficiency, capturing complex information, and reducing transcription errors are benefits of this functionality, copy and paste carries increased risks that may negatively impact patient safety.***,† Copying and pasting information can decrease the reliability of the information documented, create cognitive bias (with clinicians moving away from analytical reasoning), and create bloated notes that become difficult to review and understand. Additionally, overreliance on copy and paste may lead to failures in the documentation of current findings, including the failure to document important deviations from a prior condition, thus jeopardizing accurate and timely diagnosis. Providers must also be aware of the effect copy and paste has on billing compliance and defense of the medical record, as copy and paste events are now appearing in medical malpractice litigation.††

Did you know?

☐ Unknowingly copying incorrect information from clinical examinations may impair clinical decision making.

☐ Inappropriate copying and pasting may complicate billing compliance, make the medical record more difficult to defend, and distract readers from the salient clinical information.

☐ Copying and pasting risks the inclusion of outdated or incorrect information.

☐ Overreliance on copy and paste may lead to failures in the documentation of current findings, including the failure to document important deviations from a prior condition.

Did you ask?

☐ What are more appropriate alternatives to copying and pasting information in the record to ensure patient safety?

☐ Am I using copying and pasting appropriately and only as needed?

☐ Am I using viable alternatives to copy and paste?

☐ Am I aware of the regulatory and compliance issues associated with copy and paste?

* Association of American Medical Colleges (AAMC). AAMC compliance officers' forum: electronic health records in academic medical centers [online]. 2011 Jul 11 [cited 2015 Aug 26]. https://www.aamc.org/download/253812/data/appropriatedocumentationinanehr.pdf

** Bowman S. Impact of electronic health record systems on information integrity: quality and safety implications [online]. Perspect Health Inf Manag 2013 Fall;1-19 [cited 2015 Sep 28]. http://perspectives.ahima.org/impact-of-electronic-health-record-systems-on-information-integrity-quality-and-safety-implications/#.Vgm142aFPNM

*** O'Reilly KB. EHRs: "sloppy and paste" endures despite patient safety risk [online]. American Medical News. 2013 Feb 4 [cited 2015 Aug 25]. http://www.amednews.com/article/20130204/profession/130209993/2

† Hersh W. Cases and commentaries: copy and paste [online]. Agency for Healthcare Research and Quality (AHRQ) WebM&M; 2007 Jul-Aug [cited 2015 Aug 25]. https://psnet.ahrq.gov/webmm/case/157/copy-and-paste

†† Ruder DB. Malpractice claims analysis confirms risks in EHRs [online]. *Patient Saf Qual Healthc* 2014 Feb 9 [cited 2015 Aug 26]. http://psqh.com/january-february-2014/malpractice-claims-analysis-confirms-risks-in-ehrs

Risk Assessment Tools: Know Your Risks

VENDOR TOOL

What can vendors do to mitigate safety issues associated with copy and paste?

Currently, copying and pasting information in the record is a more efficient alternative to retyping or reentering information that has been previously documented in the record. However, inappropriate reuse of information may result in reliance on information that is inaccurate, incomplete, or outdated and thus may result in patient safety issues, including delayed or missed diagnosis, medical error, or inappropriate patient information.

One solution to the issues with copying and pasting information would be to make copied and pasted information easily identifiable with a clear indication of the original source. However, in making the provenance of copied and pasted information visible to others (e.g., those using, evaluating, and relying on the record), it is imperative that the appearance of the distinctions and the provenance not clutter the record or make it confusing. Making these and other changes will take time.

Did you know?

☐ Physicians frequently use copy and paste in their documentation and may be unfamiliar with other tools available for the reuse of information.

☐ Records with large amounts of copied information may be the result of an inability to select a particular portion of a note, leaving copying the entire note as the only option.

☐ For appropriate billing of clinical encounters, certain records should not be copied.

☐ Not everyone in an organization who is documenting in the record may know what alternatives to copying and pasting are available.

Did you ask?

☐ Have customers identified their needs and concerns regarding the reuse and reentry of information in the record?

☐ Is copied information readily visible to those needing to verify the accuracy, timeliness, and completeness of that information? Are there various options for visualizing copied material?

☐ Is it possible to distinguish copied and recently updated information within the record?

☐ Are appropriate audit functions available to recognize when information was copied, where it was copied from (including date, time, original author, and original record, if applicable), and who has copied the information?

☐ What options are available to view the provenance of the information obtained?

☐ What tools are alternatively available, or in development, to aid in the safe reuse of information?

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Risk Assessment Tools: Know Your Risks

TOOL FOR A PROFESSIONAL ORGANIZATION

Why is advancing the proper use of copy and paste important?

Copying and pasting information from one set of patient documentation into another is a mechanism used by healthcare providers to facilitate efficient medical documentation but may also result in new safety risks. Studies have shown that many physicians use copy and paste features frequently,*,** but while copying and pasting is common, "there are few widely accepted standards or rules established about copying and pasting in medical records."**

Copying and pasting can negatively affect patient safety, create compliance issues (billing fraud and abuse), and decrease the reliability of the information documented (creating legal issues). So while improving efficiency, capturing complex information, and reducing transcription errors may be benefits of copy and paste, the practice is not without risk.

Did you know?

☐ Standards and practices for the reuse of information must take into account regulatory and billing compliance as well as legal and business considerations.

☐ Appropriate clinical documentation is essential for the provision of accurate, safe, and timely care.

Did you ask?

☐ What are we doing to promote the appropriate use of copy and paste to promote patient safety?

☐ How are we educating stakeholders about the safe uses of copy and paste?

☐ Do we encourage tracking of the use of copy and paste in order to identify areas for improvement?

☐ Are we encouraging vendors to develop technologies to facilitate the appropriate, efficient, and accurate reuse of information?

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* O'Donnell HC, Kaushal R, Barron Y, et al. Physicians' attitudes towards copy and pasting in electronic note writing. *J Gen Intern Med* 2009 Jan;24(1):63-8. Also available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2607489/ PubMed: http://www.ncbi.nlm.nih.gov/pubmed/18998191

** Thielke S, Hammond K, Helbig S. Copying and pasting of examinations within the electronic medical record. *Int J Med Inform* 2007 Jun;76 (suppl 1):S122-8. PubMed: http://www.ncbi.nlm.nih.gov/pubmed/16899403

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Handout: Safe Practice Recommendations for Copy and Paste*

Recommendation A. Provide a mechanism to make copy and paste material easily identifiable.

Rationale for practice: In order to protect and enhance patient safety, clinical documentation, regardless of how it is created, must be accurate, reliable, and timely. The time-saving efficiencies of reusing information in the electronic environment through copy and paste to document complex medical conditions can ensure completeness of encounter documentation and generally produces fewer transcription errors. However, in order to ensure accuracy, reliability, and appropriateness, copied and pasted information must be verified prior to final submission. In order to achieve this goal, plans should be made to ensure that the copied and pasted information is readily visible so that it can be confirmed and validated.

Stakeholders impacted: providers, provider organizations, vendors, patients, professional organizations

Recommendation B. Ensure that the provenance of copy and paste material is readily available.

Rationale for practice: Knowing the source, context, author, time, and date from which the source information was copied is important in ensuring the accuracy, reliability, and appropriateness of information that will be used to make clinical decisions. Relying on information that is inaccurate, out of date, or from an inappropriate source (e.g., unintended copying and pasting of information pertaining to the wrong patient) negatively impacts patient care and more importantly patient safety.

Stakeholders impacted: vendors, providers, provider organizations, and other professionals (including risk managers, legal counsel, clinical informaticists, and health information specialists)

Recommendation C. Ensure adequate staff training and education regarding the appropriate and safe use of copy and paste.

Rationale for practice: Improper use of copy and paste information can jeopardize patient safety, causing inaccurate, inappropriate, or outdated information to be used in clinical decision making. Outlining proper procedures for copying and pasting information can standardize the process to ensure that all staff are following appropriate and best practice guidelines, as well as facilitate regulatory compliance and ensure that the record will be useful in the litigation setting.

Stakeholders impacted: provider organizations, providers, regulators, insurers, legal counsel

Recommendation D. Ensure that copy and paste practices are regularly monitored, measured, and assessed.

Rationale for practice: Audit trails identify those key activities that are helpful in detecting the improper or unsafe use of copy and paste. Implementation of an audit policy will allow organizations and providers to monitor how copy and paste is used to identify safety issues and offer physicians and staff alternative ways to reuse correct and current information, when applicable, to make patients safer. Monitoring will help ensure that the identified solutions are appropriate and effective.

Stakeholders impacted: providers, provider organizations, vendors, professional organizations

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* The copy and paste workgroup, chaired by Dr. Tejal Gandhi, president and CEO of the National Patient Safety Foundation, included providers, vendors, expert advisory panel members, collaborating organizations, and others. *Organizations should evaluate the HIPAA or regulatory implications associated with implementing specific approaches to these recommended practices.*

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Action Plan for Implementing Copy and Paste Recommendations*

Recommendation A. Provide a mechanism to make copy and paste material easily identifiable.

Why?	Action Category for Vendors	Action Category for Providers	Action Category for Organizations
Information that is copied should be easily identified so that accuracy can be verified.	Make technology available to enable visibility of copied information. Identify and develop alternatives to certain uses of copying. Conduct usability testing.	Abide by policies and procedures. Provide input to vendors about the use of copying. Verify accuracy of copied information regardless of the source. Strive for brevity (no unnecessary use of copied material). Acknowledge the original source of information. Conduct usability testing.	Educate and train on recommended practices. Enforce policies and procedures. Monitor for effectiveness. Audit and track the uses of copy and paste. Discuss alternatives to copying with vendors.

Recommendation B. Ensure that the provenance of copy and paste material is readily available.

Why?	Action Category for Vendors	Action Category for Providers	Action Category for Organizations
Identify the original source (date, time, and author) of the information to verify accuracy, applicability, reliability, and timeliness.	Make technology available to track the original source of copied information, including the original author, date, time, and source. Identify alternatives for the reuse of relevant information.	Verify that the information copied is accurate, timely, appropriate, and essential. Determine if copied material will need to be edited in the context of the current use. Appropriately select information to copy to ensure brevity, accuracy, and compliance with regulations and requirements.	Monitor the use of this feature to facilitate compliance with regulations and other requirements.

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* Organizations should evaluate the HIPAA or regulatory implications associated with implementing specific approaches to these recommended practices.

Recommendation C. Ensure adequate staff training and education regarding the appropriate and safe use of copy and paste.

Why?	Action Category for Vendors	Action Category for Providers	Action Category for Organizations
Providers are responsible for the content of documentation and should have training about the safe use of the copy and paste functionality. They should also be trained on the patient safety risks and benefits as well as the state and federal rules regarding documentation prior to the initial use of the technology and on an ongoing basis.	Identify additional methods for the accurate reuse of information for all those entering information. Provide information about safe ways or alternatives to copy and paste within the system.	Complete training and regular updates to identify safe uses of copy and paste, alternative methods for the reuse of information, and the safe use of any new technologies that are or will become available.	Ensure that staff receive the appropriate training and updates on the safe uses of copy and paste, alternative methods for the reuse of information, compliance and billing concerns associated with copy and paste, and information about any related technological advances.

Recommendation D. Ensure that copy and paste practices are regularly monitored, measured, and assessed.

Why?	Action Category for Vendors	Action Category for Providers	Action Category for Organizations
To support the integrity of the clinical record, the quality and safety of care rendered, and compliance with state and federal regulations.	Identify methods to track copy and paste usage for audits. Identify monitoring tools to determine if recommended practices are viable and appropriate to achieve the identified goals. Identify ways to make systems interoperable so that information flows and there is decreased need to copy and paste information.	Use the copy functionality appropriately to achieve the benefits of copying and pasting, and to minimize the risks and patient safety concerns.	Track copy and paste activity. Determine what constitutes inappropriate use of copy and paste. Identify areas in which copy and paste is frequently used and determine if these uses are appropriate. Continue to identify alternatives for the reuse of information. Monitor copy and paste activities, policies and procedures, and technology developments to ensure that patient safety goals are met.

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Copy and Paste Recommendation Checklist

	This Item Has Been Implemented	In Process of Implementing	Discussed and Considered but Not Implemented	No Activity Plan to Implement
For Clinical Providers				
Copied material can be clearly identified (retrospectively).				
The source of copied information is readily accessible.				
Providers are volitional when selecting information to copy and paste.				
Providers are aware of the importance of verifying that information is correct and current when selecting information to copy and paste.				
Providers are aware of procedures for removing incorrect information.				
Providers are aware of the consequences for improperly or inappropriately using this functionality.				
Providers are aware of alternative methods of capturing information without copying and pasting (e.g., autofill, hover reference).				
Providers are trained and tested on the proper use of copy and paste.				
Training and review of written policies and procedures exist for the safe use of copy and paste.				
Report cards monitoring safe uses of copy and paste are available to ensure processes are effective.				
For Provider Organizations				
The organization has determined how copy and paste is used within the organization.				
The organization has developed policies and procedures for the safe and appropriate use of copy and paste.				
There is a policy addressing copy and paste activities.				
The organization has determined what areas are monitored for the use of copy and paste.				
There is a policy in place for removing incorrect or inaccurate information from the record.				
The organization has identified the individuals responsible for ensuring corrections are made to records.				
There is a policy in place to monitor copy and paste activities.				
Copy and paste activities are routinely monitored.				
Audit logs are available to identify when copy and paste activity has occurred during documentation.				
Real-time auditing is available.				
The organization is aware of what options are available for system analysis of copy and paste activities.				

Copy and Paste Recommendation Checklist (continued)

	This Item Has Been Implemented	In Process of Implementing	Discussed and Considered but Not Implemented	No Activity Plan to Implement
For Vendors				
Copy and paste information can be identified.				
Alternatives to copy and paste are available and take clinical and business needs into consideration.				
Roles of those documenting information are visible (e.g., provider type, unit).				
Provenance of copied information is available.				
Monitoring of copy and paste activities is possible.				
Audits and summaries of copy activity are available.				
Errors identified through monitoring of copied information can be corrected easily and at an appropriate time in the care process.				
Vendors and organizations work together to develop alternative technologies for the reuse of information.				
Instances in which material has been copied multiple times are addressed in order to identify original source.				
The record is not made "busier" or more difficult to read when identifying copied material or the provenance of copied materials.				

Sample Policies and Procedures

COPY AND PASTE POLICY DEVELOPMENT TOOL

Use the information in this development tool as a guide to assist in the development of a policy for your organization or practice. The information in the brackets should be replaced with your facility's decisions on the topics.

Purpose

- [Identify the scope of the policy, the goals the policy seeks to meet, and the risks associated with the practice.]
- [Identify the appropriate uses for copy and paste in electronic documentation to ensure safe, effective, accurate, quality care that complies with all legal and regulatory guidance.]

Applicability

- [Identify those individuals impacted by the policy and standard.]
- This policy applies to all individuals documenting in the electronic record.

Policy

A. [Identify standards for those documenting in the electronic record or in other areas that will become part of the electronic record.]

   1. Providers are responsible for the accuracy and content of their clinical documentation.

   2. Others documenting in the electronic record are responsible for verifying the accuracy of the information entered or copied into the record.

B. [Identify definitions and the desired standards.]

   1. [Define copy and paste.]

   2. [Identify standards.]

      Copied material should:

      a. Include only information necessary to support clinical decision making

      b. Be used with caution and content should be verified to avoid incorrect or unnecessarily long entries

      c. Accurately reflect the clinical services performed* by the documenting provider

      d. Attribute to the appropriate provider any materials copied or reused

      e. Document the present status of the patient

   3. Attribution should:

      a. Identify the source of information (date, time, previous author, note location)

      b. Identify the original author

      c. Summarize, reference, or refer to applicable lab, pathology, radiology, or other reports rather than including them in their entirety

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* Centers for Medicare and Medicaid Services, Medicare Claims Processing Manual, Pub. No. 100-04, ch. 12, §30.6.1: "The volume of documentation should not be the primary influence upon which a specific level of service is billed. Documentation should support the level of service reported. The service should be documented during, or as soon as practicable after it is provided in order to maintain an accurate medical record." https://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/clm104c12.pdf

4. [Determine if your facility will have limits on items that should be copied.]

   a. *Example: "Never copy the signature block of a completed note into a new note."**

   b. *Example: "Never copy data or information that identifies a health care provider as involved in care that the health care provider is not involved in."**

   c. *Example: "Do not copy entire laboratory findings, radiology reports, and other information in the health record verbatim into progress notes, consults, or discharge summaries when it is not specifically addressed or clearly pertinent to the care provided."**

   d. *Example: "Do not re-enter previously recorded data unless specifically required for the assessment of a specific patient problem."**

C. [Identify ways to address and correct inaccurate information.]

   1. [Identify who must be notified about the error and in what time frame.]

   2. [Identify the process of error correction.]

D. [Identify the consequences of inappropriate documentation (optional).]

   1. Failure to comply with this policy will result in [define].

[Include references to other applicable policies and procedures.]

---

* Veterans Administration Medical Center exemplar.

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Sample Policies and Procedures

AUDIT AND TRACKING DEVELOPMENT TOOL

Use the information in this tool as a guide to assist in the development of a policy for your organization or practice. The information in the brackets should be replaced with your facility's decisions on the topics.

Purpose:

[Identify the scope of the audit and tracking policy and the goals associated with auditing and tracking of copied materials.]

   To identify how audits and tracking of copy and paste activity in electronic documentation will occur to ensure safe, effective, and accurate documentation practices that conform with all legal, regulatory, and compliance guidance.

Applicability:

[Identify those individuals impacted by the policy and standard.]

   This policy applies to all documentation and audits and tracks documentation by any individuals using the electronic record.

Policy:

[Identify standards for auditing and tracking documentation in the electronic record or in other areas that will become part of the electronic record to ensure that they are in accord with all legal, regulatory, and compliance guidance.]

[Identify items to be audited and tracked (e.g., types of documentation)]:

- ☐ [Define how copied information will be distinguished (e.g., number of words that are the same, percentage of information that is the same).]
- ☐ [Identify any areas that are not included in the audits because they may appear to contain a high volume of copied information (e.g., dictations).]
- ☐ [Identify who will conduct audits.]
- ☐ [Identify how often audits will be conducted and over what period of time.]
- ☐ [Identify how the information will be reported to those documenting in the record (e.g., total copied entries per provider/per all providers, copied entries over a certain period).]
- ☐ [Determine if you are including the copied date and time.]
- ☐ [Create reporting mechanisms for this audited and tracked information.]
- ☐ [Identify the action plan for those who are not complying with copy and paste policies as identified by auditing and tracking.]
- ☐ [Identify incorrect, inaccurate information and methods of correction.]
- ☐ [Create a method to verify that any corrections of inaccurate or incorrect information have been completed.]

[Include references to other applicable policies and procedures.]

Audit Tool

The Copy and Paste issue log* is a means of gathering information about copy and paste, including the unintended consequences resulting from the use of copy and paste. The log allows for documentation and tracking of hazards and events and provides a means to capture how the hazard or event was discovered, the impact of the hazard or event, and what was done to address any identified hazards or events.

Training and Education

TRAINING MATERIALS

The following training and education materials include a checklist and a sample PowerPoint which can be customized for your organization. Before beginning training and continuing education, note the following:

☐ Identify individuals who need to complete training/continuing education.

☐ All providers who document or communicate in the clinical record should complete training and continuing education on the appropriate and safe uses of copy and paste.

☐ Identify when training and education will occur.

☐ Training for the safe use of copy and paste should occur, at minimum, during new-hire employee orientation, and then additional/refresher education should occur on a regular basis (e.g., yearly).

☐ Keep records of training and education (e.g., individuals who attend and dates of training) to ensure that it has been completed.

CHECKLIST

The following should be reviewed during training for the safe use of copy and paste:

☐ Define copy and paste and its benefits and risks.

☐ Establish and review appropriate uses of copy and paste.

☐ Encourage volitional use of copy and paste, in the appropriate context, until other methods are available to safely reuse information.

☐ Make certain that copy and paste does not create unwieldy, inaccurate, or bloated notes that take away from effective, succinct, and accurate clinical documentation that is necessary to facilitate timely diagnosis and treatment.

☐ Create an awareness of policies and procedures related to copy and paste.

☐ Encourage review and editing of all copied materials included in clinical documentation.

☐ Learners should demonstrate appropriate use of copy and paste as seen in clinical documentation and audits.

☐ Share examples of the consequences of the inappropriate use of copy and paste.

☐ Clarify the process for identifying and correcting documentation that is discovered to contain incorrect, inaccurate, or outdated information that has been copied and pasted into a record.

☐ Review any items that should not be copied (e.g., another person's signature).

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Sample Copy and Paste Educational Tool (PowerPoint)

Safe Practices for Copy and Paste in Your Organization*

- **Recommendation A**–Provide a mechanism to make copy and paste material easily identifiable.
- **Recommendation B**–Ensure that the provenance of copy and paste material is readily available.
- **Recommendation C**–Ensure adequate staff training and education regarding the appropriate and safe use of copy and paste.
- **Recommendation D**–Ensure that copy and paste practices are regularly monitored, measured, and assessed.

* Organizations should evaluate the HIPAA or regulatory implications associated with implementing specific approaches to these recommended practices.

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Agenda

- Define copy and paste
- Identify the benefits and risks of copy and paste
- Determine why the safe use of copy and paste is important
- Review safe practice recommendations

Copy/Paste: Prevalence, Problems, and Best Practices

Best Practices for the Safe Use of Copy and Paste Toolkit

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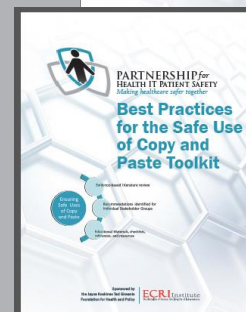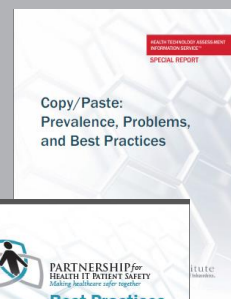
Are you aware of your organization's policies and procedures related to copy and paste?

▶ Yes

▶ No

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Are you aware of any safe practice recommendations for mitigating the patient safety risks associated with copy and paste?

▶ Yes

▶ No

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What Is Copy and Paste?

▶ Commonly used terms include:
- copy functionality
- copy and paste
- cut and paste
- cloning
- carry forward, copy forward
- autocomplete, autofill
- CPF (copy and paste function)
- data replication and reuse

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▶ **Copy functionality:** reproducing text or other data from a source to a destination (AHIMA)

▶ **Copy and paste:** action performed either by keyboard command (e.g., Ctrl + C to copy and Ctrl + V to paste) or with a mouse; selecting data from an original or previous source to reproduce in another location (AAMC)

▶ **Cloning:** duplication of a note (Weis & Levy)

▶ **Carry/copy forward:** bringing forward a portion of a note or an entire old note (Weis & Levy)

▶ **Autofill:** automatically draws data from another part of the record and inserts it upon a specific command

▶ **Autocomplete:** automatically matches text and provides one or more options

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Examples

▶ Physician copies and pastes admission information, imaging study reports, and lab values from previous day's notes into progress notes, making note "difficult to follow and interpret."

▶ Consultant copies and pastes information from primary team notes, resulting in inaccurate documentation with new information that changes the diagnosis and management of the patient.

▶ Communication by email in patient portal contains information pasted from another patient's chart.

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Copy and Paste is a Multidimensional Issue and is Best Evaluated in the Eight-Dimension Sociotechnical Model of Safe & Effective EHR Use
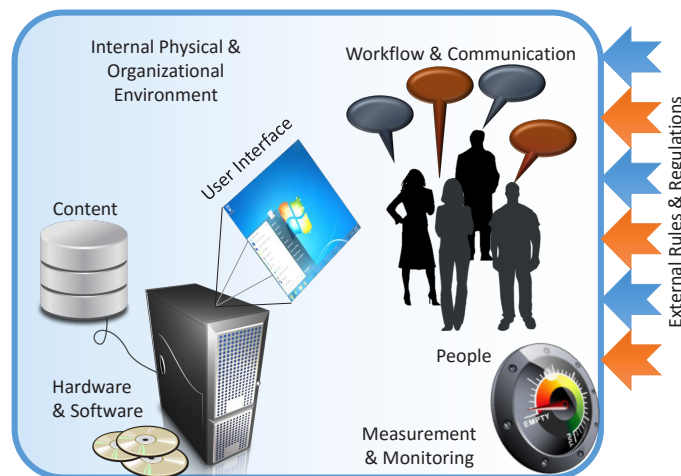
Sittig D, Singh H. Eight rights of safe electronic health record use. *JAMA* 2009 Sep 9;302(10):1111-3. PubMed: http://www.ncbi.nlm.nih.gov/pubmed/19738098; Sittig D, Singh H. A new socio-technical model for studying health information technology in complex adaptive healthcare systems. *Qual Saf Health Care* 2010 Oct;19(suppl 3):i68-74. PubMed: http://www.ncbi.nlm.nih.gov/pubmed/20959322

EHR = electronic health record.

How Often Does Copy and Paste Occur: A Look at the Literature

Self-Reported Use

- 66% of Northwestern medical students copied their own notes frequently or nearly always (Heiman et al. 2014)

- 90% of physicians use copy and paste to write daily inpatient notes; 78% use copy and paste always or most of the time (O'Donnell et al. 2009)

- 81% of copy/paste users frequently copy notes from other physicians or prior admissions (O'Donnell et al. 2009)

Chart-Based Studies

- 10.8% of outpatient primary care, cardiology, and endocrinology notes contained copy/pasted material (Edwards et al. 2014)

- Roughly 5% of diet, exercise, and weight loss counseling statements were copied from prior notes by the same author (Turchin et al. 2011)

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Empiric Evidence of Risks to Patient Safety— From the Literature

▶ Review of 212,165 office visits over 1 year

- Revealed 190 diagnostic errors resulting in unplanned urgent care within 2 weeks

- In patient documentation around these errors, 7.4% of notes contained copy/pasting. In ~36% of these copy/pasted notes, copy/paste mistakes contributed to the diagnostic error

Singh H, Giardina TD, Meyer AN, et al. Types and origins of diagnostic errors in primary care settings. *JAMA Intern Med* 2013 Mar 25;173(6):418-25. Also available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3690001/ PubMed: http://www.ncbi.nlm.nih.gov/pubmed/23440149

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The Risks and Benefits

Benefits

▶ Time saving

▶ Efficient way to enter complicated data (VHA)

▶ Improves tracking of multiple problems on highly complex patients

▶ Continuity of medical decision making

▶ Completeness of encounter documentation

▶ Reduced transcription error

Patient Safety Risks

▶ Data integrity (outdated, inaccurate)

▶ Inconsistencies

▶ Repetitious or irrelevant information

▶ Interferes with effective communication

▶ Inserts diagnostic bias (Weis & Levy)

▶ Lengthens the record (note bloat)

▶ Overwhelms the reader

▶ Regulatory concerns

▶ Authorship attribution

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Consequences of Inappropriate Copy/Pasting for the EHR
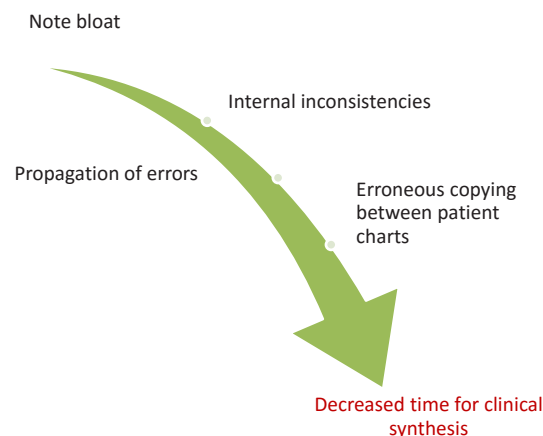
Note bloat

Internal inconsistencies

Propagation of errors

Erroneous copying between patient charts

Decreased time for clinical synthesis

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Safe Practices for Copy and Paste in Your Organization*

- **Recommendation A**–Provide a mechanism to make copy and paste material easily identifiable.
- **Recommendation B**–Ensure that the provenance of copy and paste material is readily available.
- **Recommendation C**–Ensure adequate staff training and education regarding the appropriate and safe use of copy and paste.
- **Recommendation D**–Ensure that copy and paste practices are regularly monitored, measured, and assessed.

* Organizations should evaluate the HIPAA or regulatory implications associated with implementing specific approaches to these recommended practices.

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A. Provide a mechanism to make copy and paste material readily identifiable.

▶ Rationale for practice:
- Clinical documentation must be accurate, reliable, and timely.
- Reusing information allows for time-saving efficiency, with fewer transcription errors.

▶ Ensure accuracy, reliability, and appropriateness.

▶ Ensure that the information is readily visible so that it can be confirmed and validated.

▶ Did not want to specify <u>how</u> to make it easily identifiable.

▶ *Stakeholders impacted:* providers, provider organizations, vendors, patients, professional organizations

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B. Ensure that the provenance of copy and paste material is readily available.

▶ Rationale for practice:
- Knowing the source, context, author, time, and date from which the source information was copied is important in ensuring the accuracy, reliability, and appropriateness of information relied upon.

▶ Relying on information from an unknown source that may be inaccurate, out of date, or from an inappropriate source negatively impacts patient care.

▶ *Stakeholders impacted*: vendors, providers, provider organizations, and other professionals

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C. Ensure adequate staff training and education regarding the safe use of copy and paste.

▶ Rationale for practice: Inadequate training and education results in inappropriate uses of copy and paste, resulting in inaccurate, inappropriate, or outdated information being used in clinical decision making.

▶ Outlining proper procedures for copying and pasting information can standardize the process to:

  ▪ Ensure that all staff are following appropriate and best practice guidelines.

  ▪ Facilitate regulatory compliance.

▶ *Stakeholders impacted*: provider organizations, providers, regulators, insurers, legal counsel

D. Ensure that copy and paste practices are regularly monitored, measured, and assessed.

▶ Rationale for practice: Audit trails identify those key activities that are helpful in detecting the improper or unsafe use of copy and paste.

▶ Implementation of an audit policy will allow:

  ▪ Monitoring of copy and paste use at organization and provider level.

  ▪ Identification of safety issues and opportunities for feedback and improvement.

  ▪ Way to ensure that the identified solutions are appropriate and effective.

▶ *Stakeholders impacted*: providers, provider organizations, vendors, professional organizations

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Are you aware of available alternatives to the use of copy and paste?

▶ Yes

▶ No

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Are you working with your vendor to develop alternatives to the use of copy and paste?

▶ Yes

▶ No

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Proposed EHR Modifications Derived from the Literature

Suggestion	Potential Benefits
Alter display of copied material	• Allows easy identification of copied material • Could facilitate author attribution
Create linkages between reference text and referring note	• Decreases *en bloc* copying of referenced material • Could decrease note bloat
Allow portions of the note to be hidden with toggle function	• Allows the note to remain a complete repository of information, while allowing users to customize display
Display relatively stable sections of the note separately from parts requiring frequent updating	• For instance, problem list versus HPI • Potential to eliminate redundant documentation of stable parts of the note

HPI = history of present illness

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Proposed EHR Modifications Derived from the Literature, *cont'd*

Suggestion	Potential Benefits
Allow editing of chart by multiple authors	• Potential for increased accuracy if each topic expert owns responsibility for documentation in his or her area • Promotes team-based approach
Create audit capacity	• Allows identification of "high utilizers" • Supports organizational oversight of copy/paste use and consequences

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Organizational Responsibilities

- Only 24% of hospitals have a copy/paste policy in place
  —2013 Office of Inspector General

Develop professional standards

Specify consequences for violation

Provide ongoing education and feedback

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Are you able to track the use of copy and paste?

▶ Yes

▶ No

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Are you monitoring practices put into place that make copy and paste safer?

▶ Yes
▶ No

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Health IT Safe Practices: Toolkit for the Safe Use of Copy and Paste

Ensuring Safe Uses of Copy and Paste

Educational materials, checklists, references, and resources

Recommendations identified for individual stakeholder groups

Evidence-based literature review

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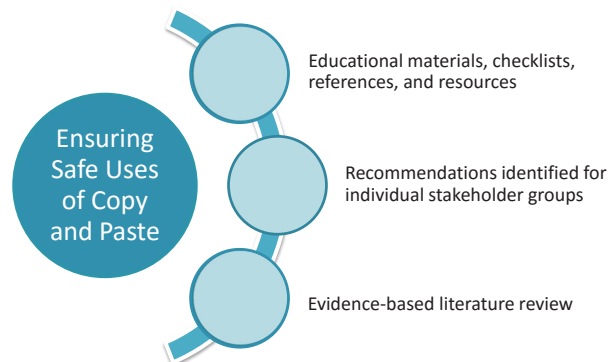
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Appendices

Appendix 1: Copy and Paste Events

The following events were submitted to the *Partnership* between 2013 and 2015. The data was collected using the Agency for Healthcare Research and Quality's (AHRQ) Common Formats* for health IT and from Hazard Manager** reporting. While the *Partnership* additionally collects data from alerts, root-cause analyses, and help desk logs, none of the events reported below were derived from those sources. All of the information submitted by these entities to the *Partnership* is presented in a deidentified manner.

In order to clearly identify the impact of the reported events, they were assessed based on the reporting method (e.g., the AHRQ Common Formats or Hazard Manager) and using the health IT classification system developed by Magrabi et al.*** Through the analysis of these case examples, the workgroup began to correlate events and their impact on patients, providers, provider organizations, vendors, and other stakeholders. A sampling of those reported events appears in "Table 2. Copy and Paste Events Submitted to the *Partnership for Health IT Patient Safety* for Analysis and Categorization."

Immediately evident is that no one care area or specialty dominates in the use of copied and pasted materials. Copy and paste is used in lab orders, imaging results, discharge summaries, and other places in the medical record in which efficiently reusing information is common. Copying and pasting is used for expediency, efficiency, and to capture complete information. The outcomes of using copied materials included having incorrect or incomplete information, untimely data, conflicting narratives, and delayed reporting. While human safeguards prevented patient harm in the examples below, the inability to distinguish copied material and increased reliance on this method of reusing previously documented information may impede these "good catches" in the future. As such, developing and implementing good practices until new methods or technologies are developed is just one way to enhance patient safety.

---

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*** Magrabi F, Ong MS, Runciman W, et al. An analysis of computer-related patient safety incidents to inform the development of a classification. *J Am Med Inform Assoc* 2010 Nov-Dec;17(6):663-70. Also available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3000751/
PubMed: http://www.ncbi.nlm.nih.gov/pubmed/20962128

Table 2. Copy and Paste Events Submitted to the *Partnership for Health IT Patient Safety* for Analysis and Categorization

The events below are derived from materials submitted to the *Partnership* and may reflect areas and processes where copy and paste are used as well as the consequences of the use of copy and paste in the clinical setting.

Reports, Hazards, and Events Where Copy and Paste Appear	System	Analysis Categories*					
		Data Entry or Selection	Data Does Not Match Patient	Incorrect Test Results	Magrabi Tagging 1.2.1	Magrabi Tagging 1.2.3	Magrabi Tagging Methodology 1.2.4
Correct rate for IV medication—under the comments section there was an incorrect dose and medication information; the pharmacist forgot to copy and paste new comments into RX comments so that correct label could be printed. Incorrect label was printed.	Pharmacy	X				Failure to update data	
Pt. had bilateral surgical biopsy. Sample 1 was marked left and sample 2 was also marked left. Nurse routinely copies information from one order to the next but forgot to change the specimen designation in the description.	CPOE	X			Wrong input		
Antibiotics ordered twice a day to be given at 9:00 a.m. and 9:00 p.m. The a.m. dose was not showing in pt. record. An audit revealed that the pt. received 3 doses the previous day because staff administered the next upcoming dose early. The order as written was cancelled and a new order was copied and pasted into the record.	CPOE	X			Wrong input		
Pt. was registered and blood was drawn correctly as ordered in one application; the order was then incorrectly copied into another application, resulting in tests being run under an incorrect account.	CPOE	X	X				Failure to communicate or carry out task

* Taxonomy groupings based on Agency for Healthcare Research and Quality. Common formats [online] [cited 2015 Aug 21]. https://www.pso.ahrq.gov/common; and on Magrabi F, Ong MS, Runciman W, et al. An analysis of computer-related patient safety incidents to inform the development of a classification. J Am Med Inform Assoc 2010 Nov-Dec;17(6):663-70. Also available at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3000751/ PubMed: http://www.ncbi.nlm.nih.gov/pubmed/20962128

Reports, Hazards, and Events Where Copy and Paste Appear	System	Analysis Categories					
		Data Entry or Selection	Data Does Not Match Patient	Incorrect Test Results	Magrabi Tagging 1.2.1	Magrabi Tagging 1.2.3	Magrabi Tagging Methodology 1.2.4
Lab information was identified but copied into the incorrect chart.	Lab information system	X	X	X	Wrong input		
X-ray report copied and pasted into the correct record after order was mistakenly written on the wrong patient chart, but correct patient x-rayed.	Radiology/ emergency department		X	X	Wrong test results		
Physician copies and pastes admissions information, imaging study reports, and labs from previous day's notes into progress notes, making note "difficult to follow and interpret."	Clinical documentation	X					
Note not completed in timely fashion; discrepancies noted; note contains information that appears to be copied and pasted from previous visits.	Clinical documentation	X					
Consultant copies and pastes information from primary team notes. Inaccurate documentation included in the copied materials combined with new information then changes the diagnosis and management of the pt.	Clinical documentation	X					
Communication by email in pt. portal contains information pasted from another patient's chart.	Patient portal	X					
Vital signs copied and pasted from previous visits into history and physical exams.	Clinical documentation	X					

Appendix 2: Vendor Functionalities

Copy and paste is a product of the electronic environment. In many aspects, copy and paste is a shortcut and an alternative method for providers wanting efficient, time-saving, and complete documentation. While it is unrealistic to eliminate the practice of copy and paste, vendors have sought and are providing alternatives for the reuse of information (some of which may still be in development).

Understanding why providers copy and paste and developing technologies to address those needs that may reduce the risks to patient safety is important. New and revised technologies should take into consideration recommendations such as those set forth by the American College of Physicians for clinical documentation in order to address the risks associated with the reuse of information by copying or by other means of reproduction and to facilitate the cognitive processes associated with diagnosis, treatment, and communication as documented in the record.*

The functionalities outlined in "Table 3. Vendor Available for the Reuse of Information" were shared among workgroup members. Some of these methods are best suited to particular areas (e.g., administrative tasks) or to particular categories of information (e.g., allergies, surgical history). It is important to remember that health IT is continually evolving, so while this list is accurate as of the date of this publication, newer alternatives may become available in the future.

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* Kuhn T, Basch P, Barr M, et al. Clinical documentation in the 21st century: executive summary of a policy position paper from the American College of Physicians. *Ann Intern Med* 2015 Feb 17;162(4):301-3. PubMed: http://www.ncbi.nlm.nih.gov/pubmed/25581028

Table 3. Vendor Functions Available for the Reuse of Information

Functionality	Area of Use	Why Used	Additional Information
Copy forward	Dates of disease onset	Items never or rarely change	• Data can be copied forward for the current encounter, and information should be reviewed and updated. • Used for structured data that is captured elsewhere; the ability to update that information exists where appropriate (if updated, is it visible to all, not only visible in the note). • Organization should determine settings and configuration control for which sections are copied forward.
	Medical/surgical history		
	Family/social history		
	Problems		
	Medications/pharmacy list		
	Vaccinations		
	Allergies/adverse reactions		
	List of providers seen		
Autopopulate	Medication lists	To avoid errors; information rarely changes	
	Allergies	To avoid errors; information does not change or rarely changes	
Default phrases that can be reused on command	Anywhere	To avoid errors; time saving	
Order sets	Anywhere	To avoid errors; time saving; to ensure all items included	Order sets can be customized.
Tools/templates	Anywhere	To avoid errors; time saving	Text templates for common observations and diagnoses allow for the most current data to be pulled in (not information from previous notes).
Pull forward	History of present illness	To avoid errors; time saving; to avoid having to retype items that rarely change during a course of treatment	The most current information is updated with information from a previous encounter.
	Review of symptoms		Information may need to be selected prior to a pull forward.
	Physical exam		
	Previous plan and assessment		
	Procedure documentation		
	Orders		Facilitates ordering for similar encounters.
	Weight-based dosing		Most recent weight pulls forward with the date that weight was recorded.
Copy and mark area as "reviewed"	Notes, results	To avoid errors	Information is not changed, it is reviewed.
Codified items as chart components		To avoid errors; time saving; compliance	Information is pulled from the database so it is the most recent and up-to-date information; users can edit this information (e.g., discharge instructions derived from note sections with clinician review).
Features in development		To avoid errors; to enhance safety; to avoid other identified risks	Evaluating: Look for continued developments in audit logs, and identifying copied text.

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Appendix 3:

EXEMPLAR 1: ONE ORGANIZATION'S METHOD OF ADDRESSING COPY AND PASTE

The following information was submitted by *Partnership* members as examples of how their healthcare organizations use copy and paste precautions.

One organization's ground rules for copying and pasting information:

- Never copy the signature block of a completed note into a new note.

- Never copy data or information that identifies a healthcare provider as involved in care that the healthcare provider is not involved in.

- Do not copy entire laboratory findings, radiology reports, and other information in the health record verbatim into progress notes, consults, or discharge summaries when it is not specifically addressed or clearly pertinent to the care provided.

- Do not reenter previously recorded data unless specifically required for the assessment of a specific patient problem.

How Copy/Paste Functionality Works

Capturing the Copy or the Paste

The first step in identifying whether copied information is pasted into the EHR requires capturing metadata on the copied information and then using the metadata to identify pasted text. Whenever a user copies information, specific metadata is captured and stored to be used later when pasted into the application. This metadata can help identify things such as a note's title and author, where the patient information was copied from, when the copying took place, and more.

The other part of the process is pasting. When information is pasted and its source was within an application that has copy and paste tracking, we can use the metadata to help identify important information. When a user views a document with pasted text and the required viewing criteria are met, the pasted information panel is visible and the copy and paste details are displayed.

How Pasted Text Is Displayed

Every author who pastes data into a note will have cues indicating what parts of the document originated elsewhere until the note is signed and/or cosigned. If a cosigner is specified, then the information is visible to that cosigner until it is signed. Each user has the option of setting personal preferences for the visual cues as either **BOLD**, *Italics*, <u>Underline</u>, and/or Highlight. When highlighted is chosen as a user preference, the user may also designate a choice of highlight color. The user must have at least one of his or her property preferences selected; by default, the information is highlighted and underlined. There can also be special user classes with the ability to always view copy and paste information, such as Health Information Management, clinical staff supervisors, and those users responsible for performing health record reviews.

Monitoring Copy and Paste Activities

In addition to capture of the metadata for copied text and display of visual indications during paste operations, effective monitoring includes decisions for defining parameters for tracking. With the high prevalence and often necessary use of copying, a facility will need to determine the minimum number of words to activate tracking of the copied text that will be monitored for reporting purposes. This can be as little as a string of a few words to allowances for 10 or more words. The tracking of copied text occurs only when a user copies an amount of text containing at least a minimum number of words.

To identify whether copied text was changed after the process, consideration should include the ability to monitor the percentage of changed text. These settings allow for identifying records to review for potential inappropriate use of copy and paste while still accepting a degree of use. Storage of copied text for a set number of days provides a means for matching to pasted text and can be an effective tool for reviewing records. As noted during display, users with access privileges are authorized to always be able to view any note for the presence of copied text.

Another consideration is whether certain documents are excluded from the copy and paste procedures. Certain reports or procedures routinely have large amounts of text that are commonly repetitive. In these cases, a review for appropriateness of copy and paste use must be performed, and if use is proven appropriate, these can be excluded to identify other areas of higher risk. However, if information is copied from these notes, it can still be tracked in another note that is not marked as excluded.

The complete process also includes audit reports that will track within a defined time period the clinic or provider and the rate of paste activity. These can be either summary reports of number of pastes per provider over a time period or a detailed report showing patient information and types of documents with paste activity. These types of reports are useful to target process changes for areas of concern and perhaps for training awareness.

EXEMPLAR 2: AN ORGANIZATION'S GUIDELINES FOR THE USE OF COPY AND PASTE*

a. Copy Paste and Copy Forward

   i. The "Copy Paste" and "Copy Forward" functions should be used with **extreme care**.

   ii. Copying from one patient chart to another **is prohibited** (unless it is necessary to transfer information from the incorrect record to the correct record or from a mom to baby record).

   iii. **Never** copy information in a manner that could make it appear that you provided services that you did not personally provide. Ensure that services are clearly attributable to the individual who performed the work.

   iv. **Never** copy information that you have not read and that you have not edited as necessary for accuracy.

   v. Do not copy information if it is not pertinent to the current encounter.

   vi. If you do copy information from a previous note, key information for the current encounter should be highlighted or otherwise emphasized and outdated information should be updated or deleted. Without careful editing, such copying creates the risk of inconsistencies and inaccuracies (e.g., Review of Systems conflicting with Exam), jeopardizing the credibility of the entire note.

   vii. Do not copy elements of a previous note that contribute to a billable service (e.g., History of Present Illness; Review of Systems; Past Family Social History; Physical Exam; A/P) unless the service is reperformed as medically necessary and the copied documentation is appropriately revised.

     1. If there are no changes from the previous information, affirmatively state as such so it is clear that all the information applies to the current encounter.

   viii. Previous history or other information that is important to longitudinal care may be copied, but it should be clearly distinguished from documentation for the current encounter and from medical decisions made that day.

     1. For example, with an established patient, the copied history should be distinguished from the interval history or history of present illness (HPI) for the current encounter with a separate header such as "Forwarded History" (to provide clarity for the reader and to prevent inappropriate use of the copied history in determining the level of service).

     2. In problem-oriented A/Ps, summaries or histories for a given medical problem should be clearly differentiated from medical decisions made that day (e.g., with bulleted or bolded action items such as medication changes or new plans).

     3. Other copied information that is not separately updated or revised for the current encounter should be distinguished from new information in some manner (e.g., use bold or italics for new information; note the source, date of copied information).

   ix. Do not copy or insert macros for clinical values (e.g., labs, vitals) unless the values are set to refresh and update automatically for the current date of service.

     1. In Epic, macros that are set to refresh are highlighted with teal-blue coloring.

     2. Be aware that the refreshing function works only with Copy Forward (not with Copy Paste).

   x. Do not copy or insert lists into a progress note (e.g., problems, allergies, medications, immunizations), unless it is necessary and the information is verified.

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* This is another organization's example of copy and paste guidelines.