

Prescription Content Clinical Quality Checklist & Best Practices

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Introduction

E-prescribing is a complex process involving the interaction of multiple human, environmental and technological factors. The benefits of e-prescribing include improved health outcomes and cost savings. The realization of these benefits and future adoption of health information technology requires continuous commitment to ease of workflow and safety, which are inextricably tied to quality. Improving the quality of e-prescribing requires a multi-factorial and a multidisciplinary approach to address these complex interactions and formulate the best possible solutions.

This document has been created to help educate e-prescribing and electronic medical record software vendors about best practices that should be followed and key principles that should be kept in mind as they analyze and implement ways that address reported and recurring clinical and operational quality issues. The document starts with best practices around additional end user training, awareness and educational tips that vendors should incorporate in their training programs to help improve the quality of e-prescriptions. The document then extensively covers application workflow and design related best practices that vendors can adopt to enhance their existing product offering. These best practices are limited to the writing of new e-prescription orders. We believe prescribers, community pharmacists and their staffs will also find this document to be a useful educational resource to ensure success.

The following best practices are based on strategies that have been implemented and proven successful by physician and pharmacy technology providers over the last three years. The focus of this document is on ensuring that e-prescriptions received by pharmacies meet all of the criteria outlined in the Quality Guidelines published earlier by Surescripts. This document should be treated as a companion document to the earlier published Quality Guidelines document.

I. End User Training and Awareness

- When it comes to fixing prescription content quality issues there is no silver bullet solution. However, robust initial training followed by continuous and regular end user training and reinforcement are proven methods that improve the quality of e-prescribing.
- Network participants must develop, implement and sustain a comprehensive end user training and education program to achieve effective and long lasting improvements.
- End User training and education programs should focus on all e-prescribing aspects including, but not limited to, the following:

- Basis e-prescribing 101 that clearly outlines the various stakeholders involved and their engagements across the e-prescribing ecosystem. Important topics such as prescriber and pharmacy directories, network and prescription flows, different message types and their meanings supported by the network, etc. must be clearly addressed.
- Training on e-prescribing workflows, prescription creation process and appropriate escalation protocols that the practices need to follow.
- Patient education on e-prescribing technology, process, pharmacy interactions and expectations.
- Best practices and helpful tips on using certain application features that will result in time savings such as use of favorites list, use of pre-programmed sig codes, creation of complex sigs, etc....
- If practices are required to download and apply updates such as pharmacy or drug database updates then proper protocols to follow in such instances along with the need to allocate dedicated resources for such recurring tasks.
- Training of prescribers and staff on appropriate e-prescribing related roles and responsibilities.
- Vendors should develop a program to proactively monitor and analyze the prescriptions generated by their end users. This useful practice helps identify specific application issues that most likely result in prescriber erroneous behaviors and thus can then be easily rectified by making specific application wide changes that are more effective for the prescriber.
- Vendors must share prescription examples with their prescribers on a regular and ongoing basis. Examples can be prescriber specific or most common occurring prescription content errors. This useful practice helps generate much needed end user awareness around the negative impact of the e-prescription content related problems in the pharmacy and by extension the prescriber office, and the resultant impact on the patient.
- Vendors must also provide their end users with detailed information on proper support protocols to follow when encountered with e-prescription related issues and concerns. Important points include:
 - Monitoring of the e-prescription log queues to check for errors, resultant steps that need to be initiated by practice staff towards achieving resolution.
 - Consistent logging of support tickets and pursuing with them until satisfactory resolution is achieved.
 - The need and importance of logging all support tickets – unless and until all stakeholders in the process are made aware long lasting and permanent changes will not happen.

II. Prescription Creation – Application and Workflow Best Practices

A. Drug Descriptions

- Please refer to complete Drug Description guidance listed under category II-A of the Surescripts Quality Guidelines document.
- Prescriber technology vendors should communicate regularly with their Drug Database vendors to seek specific guidance on proper drug description naming conventions and the steps they need to take to send complete, accurate and unambiguous drug description strings in the e-prescription messages.
 - Over the past year, Surescripts has been actively engaged with all commercially available Drug Database vendors and collaborating with them on clinical quality issues. We hope that one of the primary outcomes of this ongoing dialogue will result in Drug Database vendors creating customer specific guidance so that physician and pharmacy technology vendors both can better implement the drug database product within their software systems and thus comply with the Surescripts Quality Guidelines.
 - We are happy to report that MediSpan has already put such a document together that has been made available to their customer base. MediSpan customers will need to contact the MediSpan customer service team to obtain this documentation.

B. Drug Description Qualifiers

1. NDC numbers: Inappropriate NDC numbers sent in the prescription message can lead to patient safety and workflow issues downstream at the pharmacy. Please refer to representative NDC number related guidance listed under category II-D-2 of the Surescripts Guidelines document. Best practices around NDC numbers include:
 - Regularly update drug database(s) at central and client site locations (if applicable) to ensure correct NDC numbers are sent.
 - Regular updating of such historic records can also prevent NDC related discrepancies e.g. Prescriber favorite lists or patient record entries might include inaccurate NDC numbers associated with old drug description entries.
 - Limit the ability of prescribers to only use pre-formatted drug description strings provided by the application.
 - Do not send NDC numbers if the application allows the prescriber to free text drug descriptions. In higher versions of the Surescripts standard, the use of NDC number is mandated. In such cases, if the prescriber wishes to free text a prescription for compound medication or a medical supply then the appropriate fields must be checked to ensure compliance.

- If the application allows the prescriber to modify any portion of the drug description string presented from the drug database then system checks should be put in place to ensure accurate NDC number associated with that drug description string is sent in the message.
2. RxNorm Clinical Terminology Qualifier (RxCUI) Surescripts highly recommends that network participants begin to send the RxNORM RxCUI as the second qualifier in addition to the NDC number they currently send. RxNorm Clinical Terminology can be accessed through the Drug Database vendor or directly from the National Library of Medicine website. Sending this important additional drug description qualifier has multiple benefits including:
- RxNorm RxCUIs can be used to conduct additional validation checks within the pharmacy and prescriber application system to prevent patient safety incidents.
 - RxCUIs can also be used for mapping the incoming message drug description to existing patient records in the application.

C. Drug Database Vendor Updates

- We highly recommend vendors, at a minimum, perform monthly updates to their drug databases.
- For client server model installations, we strongly suggest that drug database updates be proactively passed downstream to end user sites on a regular monthly and prescheduled basis.

D. Sig Instructions

- Please refer to complete Sig Instructions guidance listed under category II-B of the Surescripts Quality Guidelines document.
- A few best practice recommendations:
 - When possible allow prescribers to use pre-formatted sig instruction strings if available by the Drug Database vendor.
 - If a Sig Builder tool is employed, make every effort to ensure that it can accommodate complex sig instructions. Comprehensive end user testing must be done before implementation.
 - Limitations of the Sig Builder tool are well documented; allow prescribers to enter free text sig instructions if needed that can then get appended to the sig instructions generated by the Sig Builder tool from within this tool.
 - The use of key stroke accelerators that expand into plain English is suggested if use of Latin abbreviations is desired; however, this expanded plain text English must be made visible to the prescriber.
 - Prompt users on proper usage and sig instruction creation when possible.

E. Notes to the Pharmacist

- Please refer to complete Notes to the Pharmacist guidance listed under category II-B of the Surescripts Quality Guidelines document.
- Best practice recommendations include:
 - Clearly label the Notes field e.g. “Notes to the Pharmacist”, “Pharmacist Notes”, etc...
 - While designing the application, attempt to make this field not readily available for end user usage. If this field is made readily available then prescribers tend to use it to include information meant to be accommodated in one of the structured fields.
 - Include a cautionary watermark to educate the prescriber on proper usage and deter erroneous behaviors.
 - Do not programmatically input information meant to be populated in one of the designated fields in the Notes field. Information like Days Supply, Quantity, Quantity Qualifiers, Drug Descriptions, Patient Directions, Brand / Generic information, Days Supply and patient insurance must be populated in the appropriate designated fields.

F. Sig Instructions and Notes to Pharmacist information discrepancies

- Inclusion of conflicting or supplementary patient directions in the Notes to the field is a major pharmacy concern. At worst, it can result in a potential patient safety incident if missed completely by the pharmacy. At a minimum, it causes workflow disruptions at the pharmacy and the prescribers’ office (because of phone calls for clarification purposes).
- Inflexibility of the Sig Builder tool seems to be the root cause.
- Best practice recommendations to prevent such erroneous behavior include:
 - Allow the prescriber to append free text sig instructions to the structured sig created from the Sig Builder tool from within this tool.
 - If the prescriber is still unable to create the desired sig instruction using the Sig Builder tool and the free text option, then enable the user to create a complete free text sig string by providing the functionality to disable the Sig Builder tool and then require use of the free text option to create the sig they desire to communicate to the pharmacy
 - Example sig instructions that can be employed during end user testing include –
 - “Take one tablet every day except Monday and Tuesday”
 - Sig for a prednisone taper.
 - Sig for a cream or an ointment “Apply sparingly to affected areas at bedtime”, “Apply a pea-size amount topically to affected area twice a day. Gently wash and pat area dry prior to application”
 - Insulin sliding scale

G. Quantity / Quantity Qualifiers

- Please refer to complete Quantity Qualifier guidance listed under category II-D-3 & II-D-4 of the Surescripts Quality Guidelines document.
- Best practice recommendations include:
 - Clinical decision support system tool should be implemented to prevent erroneous quantity values to be sent in the e-prescription message.
 - Quantity Qualifiers must be appropriately mapped to the “Units of Measure” table or the appropriate “FMT” code list. Please refer to the Surescripts Implementation Guides for additional details.
 - Sending of non-metric qualifier can result in confusion at the receiving pharmacy and has the potential to result in pharmacy audit problems e.g. “1” “Bottle” instead of specifying “150” “ml” especially when the particular formulation comes in different packaging sizes. Map drug description entries to metric qualifiers.
 - Prepopulate the Quantity Qualifier list with select values upon selection of the drug description by the prescriber. Example: prescriber selects amoxicillin 250 mg /5 ml Oral Suspension. The application then (behind the scene) limits the available quantity and quantity qualifier choices for prescriber selection. The application now displays the following choices in the quantity field for selection - 80, 100 and 150 and the quantity qualifier will be limited to "ml" only. The prescriber is now aware of all the possible choices this specific medication is commercially available and hence can easily make their pick. This will also prevent erroneous selections.
 - Check with the drug database vendor to see if they provide mappings and implement their recommendations.

H. Days Supply

- Please refer to complete Days Supply guidance listed under category II-D-5 of the Surescripts Quality Guidelines document.
- Best practice recommendations include:
 - Pre-populate the Days Supply field when possible to prevent an additional end user click
 - Implement clinical decision support tool to prevent erroneous values from being sent in the e-prescription message.

I. Diagnosis

- Please refer to related guidance on Diagnosis listed under category II-B-10 of the Surescripts Quality Guidelines document.

- Most if not all EHR systems capture patient diagnosis information. A few best practices include:
 - Pre-program the system to send Diagnosis codes when available in the designated Diagnosis fields of the e-prescription message as it provides additional validation at the pharmacy from a patient safety perspective.
 - Display the textual description of the Diagnosis code being sent in the e-prescription to the end user in the final review summary screen.

J. Brand / Generic Substitution Code List

- Please refer to the complete guidance regarding Brand and Generic Substitution Code List shown under Category I of the Surescripts Quality Guidelines document
- Best practice recommendation:
 - Pre-populate this field with the generic code to prevent additional prescriber click

K. Final Prescription Review Screen

- The display of the prescription summary review screen to the end user for final review and check before the prescription is transmitted to the pharmacy is a Surescripts certification requirement. Appropriate integration of this screen into the e-prescribing workflow can help prevent e-prescription message inconsistencies.
- Proper integration of this final review screen into existing workflows will result in time savings down the road and reduced support workload.

III. Prescription Creation – Prescriber Information

- Please refer to the complete guidance on Prescriber related information listed under Category I of the Surescripts Quality Guidelines document. A few best practices include:
 - Always ensure that prescriber name and their detailed demographic information sent in the messages exactly matches the information registered in the Surescripts Prescriber Directories created during initial prescriber registration.
 - As required by state laws and regulations and where applicable, e-prescriptions written by ancillary providers, such as nurse practitioners and physician assistants, must include the supervising prescriber's information
 - Apart from sending the necessary prescriber qualifiers, sending of the NPI number is highly recommended in the e-prescription message.
 - Display the prescriber name and demographic information on the end user screen as an additional safety check.

- Ensure that prescribers are accurately registered in the Surescripts directory and enabled for e-prescribing and accurate service levels are associated with each prescriber location. Frequently, prescribers are not aware that their prescriptions are getting routed via facsimile leading to confusion at the pharmacy.

IV. Prescription Creation – Pharmacy Information

- Please refer to the complete guidance on Pharmacy related information listed under Category I of the Surescripts Quality Guidelines document. A few best practices include:
 - Allow the prescriber to search area pharmacies based on name, phone number and zip codes.
 - Restrict search to specific geographic locations to avoid misrouting of prescriptions except in the case of routing to mail order pharmacies.
 - If possible, pre-populate the patient’s choice of pharmacy during patient registration to reduce prescriber workload.
 - Confirm patient pharmacy choice during patient visit. This is needed if the system is designed to save patient’s favorite pharmacy and if the system defaults to this pharmacy location or to the last pharmacy location serviced by the patient.
 - If the application allows the pharmacy to rename local area pharmacies then care must be taken to ensure that accurate backend mapping occurs to prevent misrouting of prescription.
 - Ensure local pharmacy directory information gets updated and mapped to the Surescripts pharmacy directory records on a regular and prescheduled basis.

V. Prescription Creation – Patient Information

- Please refer to the complete guidance on Patient related information listed under Category I of the Surescripts Quality Guidelines document. A few best practices include:
 - Include patient full name and key demographic fields on all e-prescribing screens.
 - Confirm patient insurance benefit, choice of pharmacy and other demographic information during patient registration and sign in.
 - Set appropriate expectations with the patient; all e-prescriptions make it to the pharmacy within minutes but the pharmacy typically needs time to process and fill them. As a general rule, patients should expect to wait for 45 minutes before visiting the pharmacy.
 - If the patient has multiple prescriptions, make every effort to send them all at once and preferably via the same mode of communication. Do not batch prescription messages.

VI. Conclusion:

E-prescribing promises to improve the safety, quality and efficiency of the prescribing process in the U.S. In order for the technology to deliver on this promise, e-prescribing systems must be designed correctly by vendors and used properly by prescribers and their staffs. Poor training and usability of EHR applications is widely believed to have substantial negative effects on clinical efficiency and data quality. Adhering to the best practices above should assist the users of e-prescribing technology to generate prescription information properly, thereby delivering on the promises and supporting success for all involved.

Finally, this is meant to be a living document that reflects the changing needs of the e-prescribing industry over time. As such, Surescripts welcomes any comments, constructive criticisms, and updates that readers would like to share for potential inclusion in future versions. Please forward any such input to quality@surescripts.com. Thank you.