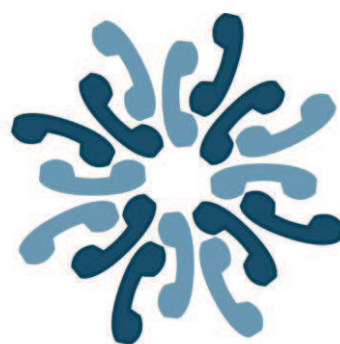


This guide provides a recommended set of standards using established EHR technology to create bi-directional eReferrals between healthcare systems and providers of tobacco cessation counseling.



NORTH AMERICAN
QUITLINE

Guide for Implementing eReferral Using Certified EHRs

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Since 2011 NAQC's eReferral Workgroup, comprised of quitline service providers, state managers and health care institutions, has been engaged in developing capacity to refer smokers from health care institutions to quitlines through the health care institution's electronic health records (EHRs). Members of the workgroup have learned many practical lessons as they have put pilot projects in place. In addition to sharing their knowledge with each other, the workgroup has contributed to an Issue Paper on Referral Programs (2012), developed many web-based resources including 11 case studies on implementing eReferral, offered webinar trainings to NAQC members, and most recently, collaborated in development of this guide. NAQC would like to acknowledge members of the eReferral workgroup for their help in developing the guide, especially for their review of draft versions and feedback and advice on specific technical issues. Workgroup members include:

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TABLE OF CONTENTS

Introduction and Purpose	1
NAQC Workgroup on eReferral Systems.....	1
Purpose of this Guide	2
Intended Audience	3
Summary of Content and Organization.....	4
Summary: Recommended Technical Standards	4
Overview of This Summary	4
NAQC Recommendations and Rationale	5
Section One: Message Structure	7
Overview of Section One	7
Interoperability Goals for Electronic Health Records.....	7
Clinical Document Architecture	10
Common Clinical Data Set.....	11
cCDA Templates for eReferral	13
Section Two: Message Content.....	17
Overview of Section Two	18
NAQC Recommended Data Set for eReferral	18
Structured vs. Unstructured Data	20
Referral Form Data Elements.....	21
Feedback Report Data Elements	31
Section Three: Message Transport.....	36
Overview of Section Three	36
Types of Message Transport	37
Direct Messaging	38
SOAP Protocol.....	40
Health Information Service Providers (HISP)	40
Selecting a Message Transport System.....	40
Section Four: Message Delivery	41
Overview of Section Four	41
Timing of Document Exchange	42

Message Receipt and Use.....	43
Structured Data Storage	45
Section Five: eReferral and Healthcare Measure Sets	45
Overview of Section Five.....	45
Generating Support for eReferrals	46
Meaningful Use of Certified EHRs.....	47
eReferrals and EHR Incentive Program Objectives.....	48
Joint Commission Performance Measure Set	53
Physician Quality Reporting System	56
HEDIS Measures.....	58
Other Measures of Effectiveness	59
Appendix A: Sample Continuity of Care Document	60
Appendix B: Sample Progress Note.....	61
Appendix C: Data Dictionary	62
Appendix D: Common Clinical Data Set.....	78
Appendix E: Checklist for Healthcare Systems	79
Appendix F: Sample Workplan for Healthcare Systems	85
Appendix G: Action Plan for State Quitlines.....	91
Appendix H: HL7 Overview	92
HL7 Overview.....	93
HL7 Version 2.....	94
HL7 Version 3 / CDA	94
Glossary	96
References	105

INTRODUCTION AND PURPOSE

Layman's Introduction to the Guide for Implementing eReferral Using Certified EHRs

Technical guides can be intimidating, but they don't have to be. It is easy to be overwhelmed by all of the health IT terms and acronyms used to describe technology standards. In the spirit of making this guide accessible and understandable by all, we translate the "geek speak" terms for each section into plain English in the table below.

Section	Plain English
<i>Introduction and Purpose</i>	Who should read the guide and why
<i>Summary of Recommendations</i>	If you only want to read two pages, read this section as it summarizes everything else
<i>Message Structure</i>	We picked two standard document templates to use and selected a common machine-readable language
<i>Message Content</i>	From hundreds of possibilities, we picked out the key data required for eReferrals and show how to format it and where to record it in document templates
<i>Message Transport</i>	We picked a form of secure email for sending and receiving messages that is built into certified electronic health records
<i>Message Delivery</i>	We offer suggestions, but leave it to individual healthcare systems to decide how to deliver the mail
<i>Performance Measures</i>	We offer ideas to convince the "suits" that eReferral is an awesome way to meet healthcare performance objectives
<i>Appendices</i>	Look here for sample documents, workplans, checklists and additional details
<i>Glossary of Terms</i>	Find all those healthcare and IT buzzwords defined here

NAQC Workgroup on eReferral Systems

In 2012, the North American Quitline Consortium (NAQC) established a workgroup to help guide efforts to establish electronic referral (eReferral) systems between tobacco quitlines ("quitlines") and healthcare systems. The purpose of the NAQC eReferral workgroup is to develop standards, tools and resources for eReferral systems and to ensure that:

- National standards are developed for bi-directional electronic communication between quitline case management systems and healthcare system electronic health records (EHRs).
- All state quitlines are prepared to implement eReferrals with healthcare systems no later than 2016.
- NAQC has a forum for engaging healthcare systems and EHR vendors in its eReferral activities.
- Healthcare systems have a roadmap for eReferral implementation.

Referral systems are one of three interventions deemed effective at expanding use of quitlines,^A increasing both the use of quitline services and the number of patients who successfully quit using tobacco.¹ Currently, most provider referrals to quitlines use fax referral, a manual and cumbersome process that does not take advantage of advancing EHR technology.

The first report released by the NAQC workgroup, *Quality Improvement Initiative Issue Paper: Quitline Referral Systems*,² explores the current landscape of quitline referral systems, defines standard terminology, describes system components and workflow, and recommends best practices. Readers are encouraged to consult the issue paper for standard definitions, major components of referral systems, and how to create systems change. NAQC also publishes and maintains additional resources for eReferrals, available on its website.^B

Readers are encouraged to refer to the following sections in the NAQC report on Quitline Referral Systems for additional information: *Section Two: Standard Definitions for Referral Systems*, for a definition of eReferral terms used in this guide; and *Section Four: Major Components of Referral Systems*, for a comprehensive discussion of how eReferral forms and reports discussed in this section are used in practice workflow.

This eReferral implementation guide (the "guide") is intended as a companion piece to the initial report, and specifies how to build an effective eReferral system using recommended health IT standards. Technical terms and abbreviations used in this guide are defined as they are introduced in the text, and a glossary of terms is available at the end of this guide.

Purpose of this Guide

This guide provides a recommended set of standards using established EHR technology to create bi-directional eReferrals between healthcare systems and providers of tobacco cessation counseling. While this guide focuses on implementing referral systems between healthcare EHRs and quitlines, the standards have been created to apply to referrals to all types of tobacco cessation services, such as those

^A The Community Preventive Services Task Force found three interventions effective at increasing use of quitlines:

1. Mass-reach health communication interventions that combine cessation messages with a quitline number
2. Provision of free evidence-based tobacco cessation medications for quitline clients interested in quitting
3. Quitline referral interventions for healthcare systems and providers.

^B North American Quitline Consortium. Electronic Referral Systems. Accessed at <http://www.naquitline.org/?page=EQR>. Accessed September 15, 2015.

provided onsite by healthcare systems. As national technical standards are revised or introduced over time, this guide will be updated as feasible to reflect new standards.

The guide is intended to meet the following objectives:

Table 1: Objectives and Rationale for eReferral Implementation Guide

Objective	Rationale
<i>Establish a technical standard for eReferrals that is uniform across healthcare systems, state quitlines, and EHR systems.</i>	Ensures that eReferral systems are interoperable, such that an eReferral system built for communicating between an EHR and a quitline case management system can be easily redirected to a different vendor system.
<i>Adopt the standards set forth in this guide for eReferrals between healthcare systems, quitlines, and other cessation providers.</i>	Integrates with national standards for messaging and electronic exchange of protected health information (PHI); treats referrals for tobacco cessation the same as referrals to other healthcare providers.
<i>Provide guidance to hospitals, clinics and quitlines on how to implement eReferral systems.</i>	Helps to streamline implementation, reducing the time and expense required to set up an eReferral system; helps avoid “recreating the wheel” by sharing case studies, work plans, and other project documents and artifacts.
<i>Share best practices and lessons learned about implementation in various clinical settings.</i>	Offers guidance on how to address technical challenges that may be encountered during an eReferral implementation; suggests alternate approaches for resolving issues.
<i>Promote tobacco cessation with eReferral as an effective way to meet performance measures for the EHR Incentive Program, Joint Commission and PQRS.</i>	Provides decision makers with rationale for funding tobacco treatment programs and eReferral systems; offers methods for evaluating effectiveness of eReferral systems by quitline funders and healthcare systems.
<i>Create specialized registries for tobacco dependence and treatment.</i>	Provides a rich source of longitudinal data that can be used by healthcare systems, state quitlines, public health and others for tobacco cessation research, quality improvement, and other population health initiatives.

Intended Audience

This guide uses health IT standards that are required in EHRs certified for Stage 2 or later of the EHR Incentive Program (formerly known as “Meaningful Use”). This guide is intended primarily for implementation teams that are charged with designing, implementing, testing and maintaining eReferral systems between tobacco quitlines and healthcare system EHRs.

- Healthcare IT executives (e.g., Chief Medical Information Officer, Chief Information Officer, VP Information Systems), to understand overall blueprint, rationale and resource requirements for eReferral systems.

- EHR technical implementation teams, to provide pre-deployment assessment tools, messaging standards (i.e., content, structure and transport mechanisms), and other guidelines for implementation.
- Quitline service provider technical implementation teams, to provide messaging standards (i.e., content, structure and transport mechanisms), and other guidelines for implementation.
- Healthcare systems change teams and physician champions who help facilitate eReferral implementation.
- Quitline funders (primarily state health departments), to share with healthcare providers from their state who want to make electronic referrals to quitlines.
- Health policy leaders, to encourage studies of the impact of eReferral implementation, including analyses of quitline utilization, healthcare utilization, reduction in tobacco-related disease, cost, and cost effectiveness.

Summary of Content and Organization

This guide is organized into a summary of the four recommended technical standards (message structure, content, transport and delivery), explanatory information on each standard, and a discussion of how eReferral can be used to meet healthcare performance measures. Additional resources such as sample documents, data dictionaries, workplan templates, and checklists are provided as Appendices. A Glossary of Terms is provided at the end of the guide.

ACTION PLAN

Each section begins with an action plan which describes how to use the information provided therein. It is suggested that readers first review the explanatory materials in each section, and then return to the action plan to help guide implementation.

SUMMARY OF RECOMMENDATIONS

Overview of This Summary

The purpose of this section is to summarize the NAQC recommendations on the technical standards that should be used to set up a bi-directional eReferral system between an EHR and a quitline case management system or between two EHRs.

This guide is intended for EHRs that are certified for the EHR Incentive Program Stage 2 or later, as these EHRs are required to use the health IT standards recommended in this guide. All healthcare systems participating in the EHR Incentive Program are required to use such EHRs beginning in 2015. The guide includes an important discussion on how eReferral systems can be used by healthcare systems to meet performance measures for the EHR Incentive Program, as well as for the Joint Commission, PQRS and HEDIS.

If a healthcare system is planning to upgrade from a Stage 1 to a Stage 2 certified EHR, it is recommended that the provider wait for an operational Stage 2 EHR before building a bi-directional

eReferral process. This will enable the healthcare provider to take advantage of improved Stage 2 functionality and avoid duplication of cost and effort.

Recommendations include the following health IT standards:^{3 4 5}

- Message Structure
- Message Content
- Message Transport
- Message Delivery

Additional detail and explanatory information can be found in subsequent sections of the guide.

NAQC acknowledges there are methods available to support eReferral systems other than the standards recommended here. Examples include existing technologies, such as CSV files or HL7 version 2 documents, and emerging technologies such as the Fast Healthcare Interoperability Resource (FHIR).^C While these alternate methods may be used to create an effective eReferral system, they are not included in this guide, which sets forth recommendations based on national health IT standards. As national technical standards are revised or introduced over time, this guide will be updated as feasible to reflect new standards.

NAQC Recommendations and Rationale

Standard	Recommendation	Rationale
Message Structure	<p>Adopt HL7 version 3 (HL7v3), also known as Clinical Document Architecture (CDA). Use the consolidated CDA (cCDA) templates for documents.</p> <p>The cCDA General Header template shall be used on all documents to provide identification of patient and provider.</p> <p>The cCDA Continuity of Care Document (CCD) template shall be used to generate referral forms from a provider to a tobacco cessation service.</p> <p>The cCDA Progress Note template shall be used to generate feedback reports from a tobacco cessation service to a provider.</p>	<p>cCDA has been adopted by ONC as the standard for Certified EHR Technology required for the EHR Incentive Program.</p> <p>The Continuity of Care Document description set forth in the CDA implementation guide^D is consistent with the use case for the referral form. The CCD must be used by healthcare systems to meet transmittal of care requirements under the EHR Incentive Program.</p> <p>The Progress Note description set forth in the CDA implementation guide^E is consistent with the use case for the feedback report.</p> <p>ONC was consulted and agreed with these recommendations.</p>

^C Additional information on Fast Healthcare Interoperability Resource is available at <http://www.hl7.org/fhir/>

^D The CCD is a core data set of the most relevant administrative, demographic, and clinical information facts about a patient's healthcare, covering one or more healthcare encounters. It provides a means for one healthcare practitioner, system, or setting to aggregate all of the pertinent data about a patient and forward it to another practitioner, system, or

Standard	Recommendation	Rationale
Message Content	<p>Referral forms shall capture the data elements set forth in this guide, including the Common Clinical Data Set (CCDS) which is required for the EHR Incentive Program. The CCDS describes the basic set of data that clinical documents should contain and is intended to “improve the flow of electronic health information across the care continuum.”⁴</p> <p>Feedback reports shall capture the data elements set forth in this guide, which include the minimum data elements required for Progress Notes.⁵</p> <p>Both referral forms and feedback reports shall use the standards and code sets specified for the CCDS, including use of ICD10CM, SNOMED CT, RxNorm and LOINC codes.</p>	<p>As tobacco use is the leading preventable cause of morbidity and mortality, tobacco cessation services, including quitlines, are integral to the “care continuum” and therefore should receive the Common Clinical Data Set.</p> <p>Quitlines may qualify as a specialized registry under EHR Incentive Program regulations. A specialized registry collects clinical data for public health initiatives, quality improvement efforts, clinical research, and evaluation of treatment effectiveness and at a minimum should include the CCDS.</p> <p>Data elements collected in the Continuity of Care Document and the Progress Note provide a rich source of demographic, clinical and treatment data useful for a specialized registry.</p> <p>Use of standard code sets required for Certified EHR Technology (CEHRT) enables the exchange of discrete data among different health IT systems.</p>
Message Transport	<p>One of three transport standards adopted for healthcare messaging under federal Health IT standards may be used:⁶</p> <ul style="list-style-type: none"> a) Direct messaging using secure email b) Direct messaging using secure email with XDM wrapper c) SOAP messaging using web-services with XDM wrapper 	<p>Use Direct messaging with secure email as the default standard. CEHRTs must have standard a), while b) and c) are optional.</p> <p>Healthcare systems may select a transport method based on their EHR functionality and Health Information Exchange (HIE) strategy.</p> <p>Quitlines should have standard a) and may provide b) and c) as options.</p>

setting to support the continuity of care. The primary use case for the CCD is to provide a snapshot in time containing the pertinent clinical, demographic, and administrative data for a specific patient.

^E A Progress Note is defined by medical dictionaries as 1) “An ongoing record of a patient's illness and treatment. Physicians, nurses, consultants, and therapists record their notes concerning the progress or lack of progress made by the patient between the time of the previous note and the most recent note.”; 2) “Notes made by a nurse, physician, social worker, physical therapist, and other health care professionals that describe the patient's condition and the treatment given or planned.”

Standard	Recommendation	Rationale
Message Delivery	<p>Referral forms should be delivered to a work queue for contacting referred patients.</p> <p>Feedback reports should follow CEHRT requirements for matching, display and storage.</p> <p>Message content shall be accessible as human readable clinical documents and as machine readable discrete data elements per CEHRT functionality.⁷</p>	<p>Message delivery is dependent on workflows established by healthcare systems within their EHRs and by quitlines within their case management systems.</p> <p>Any delivery method that is compliant with CEHRT may be used.</p> <p>Discrete data elements support quality improvement initiatives and reporting requirements for performance measures and health plans.</p>

SECTION ONE: MESSAGE STRUCTURE

Overview of Section One

The purpose of Section One- Message Structure, is to outline the following:

- Interoperability goals for electronic health records (EHRs)
- Types of documents exchanged for tobacco cessation eReferrals
- Introduction to HL7 cCDA Templates
- ONC Common Clinical Data Set
- cCDA Templates for referral forms and feedback reports

Interoperability Goals for Electronic Health Records

Figure 1: ONC Guiding Principles for Interoperability

- Build upon the existing health IT infrastructure
- One size does not fit all
- Empower individuals
- Leverage the market
- Simplify
- Maintain modularity
- Consider the current environment and support multiple levels of advancement
- Focus on value
- Protect privacy and security in all aspects of interoperability

ACTION PLAN

This section will help determine how to set up your EHR (for healthcare systems) or case management system (for quitlines) to send and receive eReferral documents using cCDA templates.

Healthcare Systems

Find out if your healthcare system is currently using or has plans to implement an EHR certified for the EHR Incentive Program Stage 2 or later, as such EHRs are required to have cCDA templates.

Find out if the quitline in your state can accept HL7 v3 (cCDA) messages.

Determine if cCDA Continuity of Care documents are currently being used within your organization to generate referrals to other providers. If yes, what process is being used?

Determine if your EHR is currently accepting Progress Notes generated by a different application. If yes, what process is being used?

Identify which data elements are routinely included in the General Header template generated by your EHR.

Use the checklist provided in Appendix F to record the message structure that you will use for referral forms and feedback reports.

Quitline Service Providers

Obtain the HL7 implementation guide.⁵ Review and prepare a software development plan for sending and receiving message content for the following three templates: 1) General Header, 2) Continuity of Care Document, and 3) Progress Note.

Revise case management system to accept and store the Common Clinical Data Set as part of the CCD record if needed for treatment or for a specialized registry.

Interoperability is one of the three primary objectives established when CMS began the EHR Incentive Program.^F Federal officials believe that by sharing medical records electronically, healthcare systems will improve coordination of care (aka “continuity of care”) among physicians, hospitals, nursing homes, rehabilitation centers, etc., and thereby improve quality. Stage 1 of the EHR Incentive Program regulations focused on implementation and use of EHRs in lieu of paper medical records. Stage 2 of the EHR Incentive Program regulations call on providers to increase the interoperability of health information

^F The three objectives are (i) use of certified EHR technology for electronic exchange of health information to improve quality of health care; (ii) use of certified EHR in a meaningful manner (e.g., e-prescribing); and (iii) use of certified EHR technology to submit clinical quality measures (CQM) and other such measures.

and adopt standardized data formats, such as cCDA. Stage 2 also places a greater emphasis on exchanging clinical data between providers and enabling patient engagement. Stage 3 of the EHR Incentive Program focuses on interoperability and improved outcomes.

The ONC has developed a list of guiding principles in its federal plan for interoperability and health information exchange,⁸ which have been considered in writing this guide (Figure 1).

Interoperability and Tobacco Cessation Services

The purpose of this guide is to create interoperability among referring providers and tobacco cessation services. The goal is to develop a national standard for how referrals are made to quitlines or other tobacco cessation services, and how treatment information is communicated back to referring providers.

Two types of patient-specific reports are exchanged in a bi-directional eReferral system between referring providers and tobacco cessation services:

- **Referral form**
Sent by a referring provider to a tobacco cessation service in order to contact the referred tobacco user and initiate enrollment in cessation services. Similar in clinical workflow to referring a patient to a specialist for additional treatment (e.g., physical therapy).
- **Feedback report**
Sent by a tobacco cessation service to a referring provider to document results of a direct referral. Similar in workflow to receiving a patient progress note from a consulting provider.

Referral forms can be received from any referral source. Feedback reports are only sent to referral sources that are covered entities or business associates authorized to view protected health information (PHI) under HIPAA.

Interoperability and Meaningful Use of EHRs

To achieve interoperability, organizations and health IT systems must abide by a common set of technical standards. The Office of the National Coordinator for Health Information Technology (ONC) is responsible for establishing a set of national standards for interoperability.⁹ The ONC HIT Certification Program issues regulations which set forth the standards, specifications and certification criteria for EHRs certified for Meaningful Use.¹⁰ Providers must use Certified EHR Technology (CEHRT) to participate in the Meaningful Use incentive program, now known as the Medicare and Medicaid Electronic Health Records (EHR) Incentive Programs, or the EHR Incentive Program. (The definition of CEHRT can be found in federal regulations.)¹¹

Two CEHRT interoperability standards form the basis of this eReferral implementation guide:

- Clinical documents should be structured using Clinical Document Architecture (cCDA), also known as HL7 version 3, to enable sharing among healthcare systems, providers, patients, and other authorized entities.

- Clinical documents should contain a basic set of data, known as the Common Clinical Data Set, to improve the flow of information across the care continuum.

Clinical Document Architecture

Clinical Document Architecture (CDA) is a document markup standard that specifies how clinical documents should be structured and encoded so that they can be shared among healthcare providers and patients. CDA provides a standard for the creation of all types of clinical documents, from progress notes to radiology reports to discharge summaries, coded in extensible markup language (XML).

HL7 standards are widely used within health IT to simplify the process of creating interfaces among different healthcare IT systems. Two versions of HL7 are currently in use among EHR systems: HL7 version 2 (v2), and the newer HL7 version 3 (v3). HL7v3 is synonymous with Clinical Data Architecture (CDA), and uses XML coding to tag documents (whereas HL7v2 used pipe and hat coding). For a more in-depth discussion of HL7 standards and versions, see Appendix H: HL7 Overview.

Many of the EHRs certified for Stage 1 of the EHR Incentive Program used HL7v2 standards. As such, the first eReferral systems developed by progressive quitlines such as Wisconsin, California, Texas and Oklahoma, used HL7v2. Beginning in 2014, EHRs certified for Stage 2 or 3 of the EHR Incentive Program must use HL7v3 standards, as first piloted by the Pennsylvania quitline.^{3 4} Therefore, this guide focuses on implementation of eReferral systems using HL7v3 standard document templates known as “consolidated Clinical Document Architecture.”

Consolidated Clinical Document Architecture

Consolidated Clinical Document Architecture (cCDA) is a library of standard templates for nine document types most commonly found in medical records (see figure 2). The “consolidated” part of cCDA refers to the issuance by HL7 of a single implementation guide that brought together CDA documents developed by several different sources. cCDA templates are defined at three levels:

1. Document (e.g., discharge summary, progress note)
2. Section (e.g., vital signs, social history)
3. Entry (e.g., blood pressure, smoking status)

Figure 2: cCDA Document Templates

- Consultation Note - 2.16.840.1.113883.10.20.22.1.4
- **Continuity of Care Document (CCD) - 2.16.840.1.113883.10.20.22.1.2**
- Diagnostic Imaging Report - 2.16.840.1.113883.10.20.22.1.5
- Discharge Summary - 2.16.840.1.113883.10.20.22.1.8
- History and Physical - 2.16.840.1.113883.10.20.22.1.3

With cCDA templates, clinical information such as vital signs is recorded and appears the same whether it is contained in a discharge summary or a progress note.

cCDA document templates are standardized so that they are compatible with any EHR or other healthcare application that uses cCDA messaging standards, regardless of vendor, application type, or software

version. Stage 2 EHRs must demonstrate that they can send and receive cCDA documents.^{3 4} While cCDA document templates are standardized, each health IT application can determine how documents are formatted and displayed. Therefore, cCDA documents are not identical in appearance.

The referral forms and feedback reports used for tobacco cessation eReferrals need to be formatted using cCDA templates. The cCDA templates selected for eReferral systems are:

- Continuity of Care Document for referral forms
- Progress Note for feedback reports

The Continuity of Care Document was selected for referral forms as it is consistent with the use case and description provided in the CDA implementation guide.⁵

The CCD is a core data set of the most relevant administrative, demographic, and clinical information facts about a patient's healthcare, covering one or more healthcare encounters. It provides a means for one healthcare practitioner, system, or setting to aggregate all of the pertinent data about a patient and forward it to another practitioner, system, or setting to support the continuity of care. The primary use case for the CCD is to provide a snapshot in time containing the pertinent clinical, demographic, and administrative data for a specific patient.

In addition, if healthcare systems plan to use tobacco cessation referrals to meet the transition of care objectives under the EHR Incentive Program, the Continuity of Care Document must be used.

The Progress Note was selected for feedback reports as it is consistent with the use case and description set forth in the CDA implementation guide.⁵

A Progress Note is defined by medical dictionaries as 1) "An ongoing record of a patient's illness and treatment. Physicians, nurses, consultants, and therapists record their notes concerning the progress or lack of progress made by the patient between the time of the previous note and the most recent note."; and 2) "Notes made by a nurse, physician, social worker, physical therapist, and other health care professionals that describe the patient's condition and the treatment given or planned."

Health IT officials at ONC and the CDC were consulted and agreed that the recommended cCDA templates were most appropriate for the eReferral use cases. Specific examples of how to use the Continuity of Care and Progress Note templates for eReferrals are shown later in this section.

Common Clinical Data Set

Stage 2 of the EHR Incentive Program includes a Summary of Care core measure for both hospitals and eligible professionals (typically, ambulatory care providers) which includes a Common Clinical Data Set (CCDS) (See Appendix D: Common Clinical Data Set). This data set provides the key information that ONC has determined should be shared among providers during transitions of care, and with patients themselves. All transitions of care, such as a tobacco cessation referral, should contain the CCDS.

The Common Clinical Data Set is included in the Continuity of Care Document template that is to be used for referrals to quitlines and other tobacco cessation services. Tobacco cessation services should therefore accept and store the common clinical data set as part of their electronic health record.

HIPAA Minimum Necessary Standard

Some healthcare professionals have questioned whether quitlines may receive all information contained in the Continuity of Care Document due to the “minimum necessary standard”.¹²

The minimum necessary standard, a key protection of the HIPAA Privacy Rule, is derived from confidentiality codes and practices in common use today. It is based on sound current practice that protected health information should not be used or disclosed when it is not necessary to satisfy a particular purpose or carry out a function. The minimum necessary standard requires covered entities to evaluate their practices and enhance safeguards as needed to limit unnecessary or inappropriate access to and disclosure of protected health information.

The Privacy Rule generally requires covered entities to take reasonable steps to limit the use or disclosure of, and requests for, protected health information to the minimum necessary to accomplish the intended purpose. The minimum necessary standard does not apply to:^G

- *Disclosures to or requests by a healthcare provider for treatment purposes*
- *Disclosures to the individual who is the subject of the information*
- *Uses or disclosures made pursuant to an individual’s authorization*

The NAQC eReferral workgroup believes that tobacco cessation service providers, including quitlines, should have access to all clinical information contained in the CCD, for the following reasons:

- A referral to a tobacco cessation service is a disclosure to a health care provider for treatment purposes, and therefore the minimum necessary standard does not apply.
- A referral to a tobacco cessation service is a transition of care as defined under the EHR Incentive Program regulations, and should therefore include the Common Clinical Data Set.
- ONC has determined that information contained in a CCD is the minimal data set required “to aggregate all of the pertinent data about a patient and forward it to another practitioner, system, or setting to support the continuity of care”, and tobacco cessation services are part of the continuum of care.
- Information contained in the CCD, including certain clinical and mental health conditions, medications and allergies, is already being collected and used by quitlines during intake and coaching calls.
- Quitlines have begun to pair tobacco treatment with management of other chronic diseases, such as asthma, COPD, diabetes and obesity, for which a full clinical picture is needed.

^G This is a partial list of exceptions that are relevant to this use case.

- Information collected through electronic health records is likely to be more complete and accurate than information self-reported by patients.
- Quitlines may qualify as a specialized registry as defined in EHR Incentive Program regulations.^H Specialized registries are intended to collect key clinical information about registry patients for public health initiatives, quality improvement efforts, clinical research, and evaluation of treatment effectiveness and at a minimum should include the Common Clinical Data Set.

It is ultimately up to each healthcare system to determine compliance with HIPAA privacy rules. If healthcare systems do not wish to send, or quitlines do not wish to receive, a complete CCD, modifications include: 1) EHRs may have options to produce documents that omit unwanted sections (e.g., procedures) from the CCD; and 2) quitline case management systems can design their interface to extract only the data they deem necessary for tobacco cessation services.

cCDA Templates for eReferral

This guide stipulates use of three cCDA templates for eReferral documents:

- 1) **General Header** (aka US Realm Header) is required as part of all cCDA document templates. It contains basic information required to identify a patient (including key demographics), document an episode of care, and provide provider contact information.
- 2) **Continuity of Care Document** (CCD) is used to send referral forms from an EHR to a tobacco cessation service. This template fits the clinical workflow used by health care providers and conforms to the use case for patient referrals to various clinical settings.
- 3) **Progress Note** is used by tobacco cessation services to send feedback reports to referring providers. This template fits the clinical workflow and information flow for feedback reports, and is consistent with use of progress notes in other clinical settings.

Healthcare systems using Certified EHR Technology (2014 edition or later^{3 4}) should have these templates built into their EHR, and ***little or no further software development should be required.***

Quitline service providers will need health IT systems that can send and receive these cCDA templates using HL7v3 standards. Each of these cCDA templates has required and optional sections, as shown in the following summary table. Refer to the *HL7 Implementation Guide for CDA® Release 2*⁵ for detailed guidance on how to build cCDA documents. cCDA template sections are listed in the order in which they appear in the HL7 guide.

^H Quitlines interested in declaring as a specialized registry under the EHR Incentive program can find guidance documents about the process at <http://www.phconnect.org/group/ph-reporting-task-force>

Table 2: cCDA Templates Used for eReferrals

cCDA Template	Required Sections	Optional Sections
<i>General Header</i> Template ID 2.16.840.1.113883.10.20.22.1.1	US Realm Header Record Target (Patient) Patient ID Patient Address Patient Phone Patient Name Gender Date of Birth Clinical Document Code Documentation of Service Event Author (person or device) Custodian (document steward)	Record Target (Patient) Race Ethnicity Guardian Birthplace Language Communication Provider Organization Data Enterer Informant Information Recipient Legal Authenticator Authenticator Participant Support In Fulfillment Of Authorization / Patient Consent Encounter (Component Of)
<i>Continuity of Care Document (CCD)</i> Template ID 2.16.840.1.113883.10.20.22.1.2	Medication Medication Allergies Problem List Procedures Results	Advance Directives Encounters Family History Functional Status Immunizations Medical Equipment Payers Plan of Care Social History Vital Signs
<i>Progress Note</i> Template ID 2.16.840.1.113883.10.20.22.1.9	Assessment and Plan -or- Assessment Plan of Care*	Allergies Chief Complaint Instructions Interventions Medications Objective Physical Exam Problem List Results

cCDA Template	Required Sections	Optional Sections
		Review of Systems Subjective Vital Signs

*Section marked by an asterisk is optional for CCDs and may not be available for all EHR vendors.

Continuity of Care Document Template for Referral Forms

This table provides a crosswalk between the message content identified by NAQC as important for a referral form and the corresponding cCDA template and section. Some cCDA template sections used for NAQC message content are not required for CEHRT, and may not be available through all EHR vendors. cCDA template sections are listed in the order in which they appear in the HL7 guide. See Section Two: Message Content, for a detailed explanation of the NAQC data elements. A sample in human-readable format is shown in Appendix A: Sample Continuity of Care Document.

Table 3: Crosswalk from NAQC Referral Form to Continuity of Care Document

Template	Template Section	NAQC Message Content
General Header	US Realm Header (main section)	Document ID Document Time and Date
	Record Target	Patient ID Patient Address Primary Phone Secondary Phone
	Patient	Patient Name Gender Date of Birth (DOB) Race* Ethnicity*
	Language Communication*	Preferred Language
	Consent Code*	Patient Consent
	Provider Organization*	Provider ID Provider Name Provider Phone Number Provider Fax Number Provider Address
	Documentation of Service Event	Care Team Members

Template	Template Section	NAQC Message Content
	Author	Author (person, quitline, or IT system)
	Custodian	Custodian (document steward)
Continuity of Care Document (CCD)	Assessment and Plan, under Care Plan goals and instructions*	Best Time to Call Best Day to Call NRT Authorization
	Assessment and Plan, under Care Plan goals and instructions*	Patient Consent
	Encounters*	Encounter ID Encounter Date
	Social History*	Smoking Status
Continuity of Care Document (CCD)	When the Common Clinical Data Set is used to meet EHR Incentive Program measures, the following data elements should also be recorded.	
	Allergies	Medication Allergies
	Medications	Medication
	Problems	Problem List
	Procedures	Procedures
	Results	Laboratory Tests Laboratory Values / Results
	Vital Signs*	Vital Signs (height, weight, BP, BMI)

* Sections marked by an asterisk are optional for CCDs and may not be available for all EHR vendors.

Progress Note Document Template for Feedback Reports

This table provides a crosswalk between the message content identified by the NAQC workgroup as important for a feedback report and the corresponding cCDA template and section. Some cCDA template sections used for NAQC message content are not required for CEHRT, and may not be available through all quitline service vendors. cCDA template sections are listed in the order in which they appear in the HL7 guide. See Section Two: Message Content for a detailed explanation of the NAQC data elements. A sample in human-readable format is shown in Appendix B: Sample Progress Note.

Table 4: Crosswalk from NAQC Feedback Report to Progress Note

Template	Template Section	NAQC Message Content
General Header	US Realm Header	Document ID Document Time and Date

Template	Template Section	NAQC Message Content
	Record Target	Patient ID Patient Address Primary Phone Secondary Phone
	Patient	Patient Name Gender Date of Birth (DOB) Race* Ethnicity*
	Quitline or Provider Organization*	Quitline/Provider ID Quitline/Provider Name Quitline/Provider Phone Number Quitline/Provider Fax Number Quitline/Provider Address
	Author	Author (person, quitline, or IT system)
	Custodian	Custodian (document steward)
<i>Progress Note</i>	Assessment	Enrollment Status NRT Status
	Encounters*	Encounter ID Encounter Date
	Plan of Care	Include any narrative notes on plans or results of tobacco cessation intervention
	Medications* ^	Medication List
	Intervention*	Program Status Treatment Status
	Social History*	Smoking Status

* Sections marked by an asterisk are optional for CEHRT and may not be available for all EHR vendors.

^ CEHRTs must store only three data elements from the Progress Note as discrete data: medications, problems and allergies.

SECTION TWO: MESSAGE CONTENT

Overview of Section Two

The purpose of Section Two- Message Content - is to describe the following:

- Recommended data elements for referral forms and feedback reports
- Referral form data, definitions and use
- Feedback report data, definitions and use

ACTION PLAN

This section will help you understand what data should be exchanged between a healthcare system and a tobacco cessation service, including quitlines.

Healthcare Systems

Look over the required data elements, as these will be collected for all eReferral systems. Speak with the quitline services provider for your state to learn what other data elements are routinely collected.

Review the list of optional data elements and decide which ones your organization wants to use. Most data elements are included within the recommended cCDA templates.

For some data elements, such as best day and time to call, decide whether to collect the data, and if so, should it be captured in a free text field or as discrete data.

Determine whether referring providers will want to include narrative notes in the care plan.

Use the checklist provided in Appendix F to record the data elements that you will send and receive for message content.

Quitline Service Providers

Create a crosswalk between the recommended data elements and the data fields in your case management so that discrete data can be imported and exported.

Review the list of optional data elements and decide which ones your organization will collect and store. Most data elements are included within the recommended cCDA templates.

Determine whether to include narrative notes in the plan of care.

NAQC Recommended Data Set for eReferral

The NAQC data set includes data elements that contain important information to be shared among referring providers and tobacco cessation services. NAQC has categorized data elements as required or

optional. Much of the information contained in the NAQC data set is readily available in cCDA documents within the EHR or captured by quitline case management systems. Each quitline funder, quitline service provider, and healthcare system should review the required and optional data elements to determine how readily each data element can be collected and stored.

Required data elements include the minimal information required for a tobacco cessation service to identify a unique patient, contact the patient by phone or email, and send basic feedback reports to the referring provider by mail, fax or electronic submission. Also included are all data elements required within cCDA templates.

Optional data elements within the referral form are useful for provision of services but are not required for initial patient contact. Most of these data elements are captured in cCDA templates. NAQC recommends that they be imported from the EHR where readily available. This has two practical benefits: 1) it reduces the time required to complete a quitline intake, which increases caller satisfaction and decreases barriers to enrollment; and 2) it eliminates manual data entry during intake, which increases quitline productivity and reduces the potential for input errors. Optional data elements within the feedback report contain information that referring providers may find useful, but not essential.

The NAQC data set for eReferral is different from, and should not be confused with, the NAQC minimal data set (MDS) ¹³ that quitlines are required to collect from all participants.

Table 5: NAQC eReferral Data Set

	Referral Form	Feedback Report
<i>cCDA Template</i>	Continuity of Care Document	Progress Note
<i>Required Data Elements</i>	cCDA General Header required data CCD required data (See Table 2)	cCDA General Header required data Progress Note required data (See Table 2) Enrollment Status Program Status Medications Dispensed Treatment Status
<i>Optional Data Elements</i>	Gender Race Ethnicity Medication List Patient Consent Best Time to Call Best Day to Call NRT Authorization	NRT Status Smoking Status Narrative notes on treatment plans or outcomes

	Referral Form	Feedback Report
	Smoking Status Narrative notes on goals for treatment	

Structured vs. Unstructured Data

Patient information can be stored in EHRs as either “structured” or “unstructured” data. Both types of data are important in telling a patient’s health story. This guide recommends where to document each type of data within the appropriate cCDA document template. .

The following examples compare how patient information might appear in unstructured vs. structured (SNOMED codes) format.

Unstructured (Narrative) Data	Structured (Discrete) Data	
Jennifer was contacted and agreed to enroll in tobacco cessation services.	384742004 55561003	Smoking cessation assistance Active
Jennifer declined treatment, as she has some family issues and is not ready to enroll.	395700008 439495000	Referral to smoking cessation advisor Counseling declined
Called 5 times over last two weeks but have been unable to reach Jennifer for scheduled coaching calls.	384742004 275694009	Smoking cessation assistance Patient defaulted from follow-up

Structured data are easily read and interpreted by a computer, and can be queried and extracted. Examples include discrete data fields that record a patient’s date of birth, diagnoses (ICD-10 or SNOMED codes), medications (RxNorm codes), or lab results (LOINC codes). Structured data are typically collected using forms and processes within the EHR such as checkboxes, dropdown menus and standard vocabularies.

Structured data are designed to facilitate searching, sorting, and reporting. For example, healthcare systems may want to aggregate and report on tobacco cessation services provided to their patients, and therefore fields such as enrollment status, treatment status and medications are reported using discrete data. It is less likely that data elements such as “best day or time to call” will be searched or reported on in aggregate, so this data can be entered as free text.

Unstructured data are not easily read or interpreted by a computer, and are more difficult to query and extract without more extensive software tools (e.g., natural language processing). Examples of unstructured data include a narrative note (“*patient reports feeling less stress dealing with her teenage son*”), a patient email, or a consult report that has been scanned in PDF format. Unstructured data are typically collected in free text fields or included as an attachment to a patient’s EHR record.

Unstructured, or narrative data, is very important for telling the patient’s health story in their own words. Such data are helpful to care team members and tobacco cessation service counselors in communicating the nuances of patient care.

This guide includes options for how and where to record both structured and unstructured data on referral forms and feedback reports. It is important to consider the following:

1. Structured data is more easily searched, aggregated and reported on, important for evaluating an eReferral program and for quality performance reporting by the healthcare system.
2. Use of structured data types built into CEHRT eliminates the need for any custom software development, which saves significant time and money and complies with national standards for interoperability.
3. Healthcare providers and cessation counselors may be able to add narrative notes to free text fields located within cCDA document templates, depending on their EHR functionality.

Referral Form Data Elements

This table sets forth the data elements which are part of referral forms. It includes data that are captured in both the General Header and Continuity of Care Document templates. Formats for all data elements captured on cCDA templates shall conform to the standards contained in the *HL7 Implementation Guide for CDA*.⁵ Entries are listed in alphabetical order. A sample in human-readable format is shown in Appendix A: Sample Continuity of Care Document. Note that each EHR vendor develops its own format for the CCD, so CCDs are not identical in appearance.

Table 6: Referral Form Data Elements

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
Assessment <i>Continuity of Care Assessment and Plan Care Plan section</i>	Represents clinical conclusions or working assumptions that guide treatment of the patient Optional for cCDA Optional for NAQC	Used to provide free text narrative notes about the referral for tobacco cessation services (e.g., <i>patient is ready to quit tobacco after his last hospitalization</i>).
Author <i>General Header Author section</i>	Creator of a clinical document: may be a device or a person. Required for cCDA Optional for NAQC	Used in cCDA to identify the originator of a document. The name of the EHR that generates the Continuity of Care Document is typically listed as the author.
Best Time to Call <i>Continuity of Care Assessment and Plan Care Plan section</i>	Time of day that patient prefers to be called to initiate enrollment in the quitline Not available in cCDA Optional for NAQC	Used by quitlines to increase chances of reaching a referred patient. This data element does not have a corresponding cCDA field, which makes collection difficult in the EHR.

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
		<p>Some quitlines use a predictive dialer to make outbound calls at various times throughout the day in an effort to contact referred patients within 24 to 48 hours of receiving a referral.</p> <p>This data element is optional. If desired, enter as free text within the care plan or set up a coded entry. See Appendix C: Data Dictionary for the value set for this data element.</p>
<i>Best Day to Call</i> <i>Continuity of Care Assessment and Plan Care Plan section</i>	<p>Day of week that patient prefers to be called to initiate enrollment in the quitline</p> <p>Not a field in CCD</p> <p>Optional for NAQC</p>	<p>Used by quitlines to increase chances of reaching a referred patient.</p> <p>This data element does not have a corresponding cCDA field, which makes collection difficult in the EHR.</p> <p>Some quitlines do not operate seven days a week, and some call within the first 24 to 48 hours of receiving a referral.</p> <p>This data element is optional. If desired, enter as free text within the care plan or set up a coded entry. See Appendix C- Data Dictionary for the value set for this data element.</p>
<i>Care Team Members</i> <i>General Header Documentation of Service Event section</i>	<p>For transfers of care, lists the healthcare providers involved in the current or pertinent historical care of the patient</p> <p>Optional for cCDA</p> <p>Optional for NAQC</p>	<p>Used to identify individual providers, such as referring provider, primary care physician (PCP), consultants, therapists and counselors. Used within EHRs to route feedback reports to the appropriate care team members.</p> <p>Used by quitlines to track and report on high-volume referral sources.</p> <p>This data element may have a one-to-many relationship with the patient.</p>

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
Care Team IDs <i>General Header</i> <i>Documentation of Service</i> <i>Event section</i>	<p>Unique NPI identifier for each care team member</p> <p>Optional for cCDA</p> <p>Optional for NAQC</p>	<p>Unique identifier for each provider.</p> <p>CDA uses the National Provider Identifier (NPI) to identify healthcare systems and providers. NPIs are assigned to both organizations (e.g., hospital, clinic) and individual providers (e.g., physician, therapist).</p> <p>This data element may have a one-to-many relationship with the patient.</p>
Custodian <i>General Header</i> <i>Custodian section</i>	<p>The entity responsible for maintaining a clinical document; typically the healthcare system</p> <p>Required for cCDA</p> <p>Optional for NAQC</p>	<p>Used in cCDA to identify the organization that is in charge of maintaining a document. The custodian is the steward that is entrusted with the care of the document. The custodian may be the document originator, a health information exchange, or other responsible party.</p> <p>See Provider Organization fields below.</p>
Date of Birth (DOB) <i>General Header</i> <i>Patient section</i>	<p>Patient date of birth</p> <p>Required for cCDA</p> <p>Required for NAQC</p>	<p>Used to confirm the identity of each unique patient and to establish patient age.</p>
Document ID <i>General Header</i> <i>US Realm Header section</i>	<p>A globally unique identifier for the document</p> <p>Required for cCDA</p> <p>Optional for NAQC</p>	<p>Used to identify each unique document generated by an EHR. The document date and time created is also typically shown.</p>
Encounter ID <i>Continuity of Care</i> <i>Encounters Section</i>	<p>Unique identifier to link a referral to a specific patient encounter</p> <p>Optional for cCDA</p> <p>Optional for NAQC</p>	<p>Used to identify each unique referral for cessation treatment, and to link the referral to a specific patient encounter (e.g., a hospital stay or clinic visit). The encounter date is also typically shown.</p> <p>Patients may be referred for cessation services on multiple occasions over time, and therefore, a unique ID is needed to identify each sequential referral.</p>

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
Ethnicity <i>General Header</i> <i>Patient section</i>	Patient's ethnic / cultural group as self-identified Optional for cCDA Optional for NAQC	Used to tailor cessation interventions and to track tobacco use by ethnicity. Ethnic minorities are disproportionate users of tobacco products. This data element should be imported from the EHR when available. Otherwise, it can be collected by the quitline during intake. This data element is part of the NAQC minimal data set. See Appendix C: Data Dictionary for the CDA value set for this data element.
Gender <i>General Header</i> <i>Patient section</i>	Patient's gender. Required for cCDA Optional for NAQC	Used to track tobacco use by gender. Note that patient gender is different from sexual orientation, which is often collected by quitlines during intake. Sexual orientation is important for cessation services, as the LGBTQ community is a disproportionate user of tobacco products. This data element should be imported from the EHR when available. Otherwise, it can be collected by the quitline during intake. This data element is part of the NAQC minimal data set. See Appendix C: Data Dictionary for the CDA value set for this data element.
Medication <i>Continuity of Care Document</i> <i>Medications section</i>	Lists all current medications for a patient Required for cCDA Optional for NAQC	Used to identify any cessation medications that have been ordered for a patient so use can be discussed during cessation counseling. May also be used to assist a referred patient in obtaining their prescription. Includes NRT in various forms, Chantix (Varenicline) and Wellbutrin (bupropion). See Appendix C: Data Dictionary for the RxNorm codes used for this data element. This data element may have a one-to-many relationship with the patient.

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
Medication Allergies <i>Continuity of Care Allergies section</i>	<p>A list of medications to which a given patient has known allergies or an indication that the patient has no known medication allergies</p> <p>Required for cCDA Optional for NAQC</p>	<p>One of the data fields required in the Common Clinical Data Set for The EHR Incentive Program transitions of care.</p> <p>This data field should be collected by healthcare systems using cessation referrals to meet either transition of care or specialized registry measures, and by quitlines participating in a specialized registry.</p> <p>See Appendix C: Data Dictionary for the RxNorm codes used for this data element. This data element may have a one-to-many relationship with the patient.</p>
NRT Authorization <i>Continuity of Care Assessment and Plan Care Plan section</i>	<p>Authorization from a licensed prescriber approving a patient to receive nicotine replacement therapy from a quitline for certain conditions</p> <p>Not available in cCDA Optional for NAQC</p>	<p>Quitlines must comply with FDA package labeling requirements for over-the-counter NRT products provided to enrolled participants. NRT package warnings vary by manufacturer, but state that a physician should be consulted before using NRT if patient is under age 18 or for conditions such as: pregnant, breast-feeding, heart disease, recent heart attack, angina (chest pain), irregular heartbeat, uncontrolled high blood pressure; allergy to adhesive tape.</p> <p>This data element does not have a corresponding cCDA field. If desired, enter as a narrative note within the care plan. Ensuring NRT authorization eliminates a potential barrier to quitline enrollment.</p>
Patient Address <i>General Header Record Target section</i>	<p>Patient's home address</p> <p>Required for cCDA Optional for NAQC</p>	<p>Used by quitlines to send information packets, follow-up letters, and/or NRT.</p> <p>This data should be imported from the EHR. If not available, address information can be collected by the quitline during intake.</p>

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
Patient Consent <i>General Header Authorization/Consent section -or- Continuity of Care Assessment and Plan Care Plan section</i>	Documents that patient has given consent to be contacted for tobacco dependence treatment Optional for cCDA Optional for NAQC	<p>The determination of whether patient consent is required varies from state to state, and is often decided on an institutional basis. See the NAQC issue paper² for discussion.</p> <p>Some providers use informed patient consent as a prerequisite for generating a referral form and document it elsewhere in the patient record. Other providers have elected to document informed patient consent in a narrative note, including permission to leave a voice message.</p> <p>This data element is optional. If desired, patient consent can be recorded as discrete data in the General Header or input as a free text in the CCD. If recorded as discrete data, use status code “completed” to indicate patient has given consent.</p>
Patient ID <i>General Header Record Target section</i>	Unique identifier for each patient, such as the medical record number (MRN) Required for cCDA Required for NAQC	<p>Used to identify each referred individual. Because patient MRNs are not the same across all healthcare systems, quitline service providers should try to link an MRN to a specific provider ID number. Quitlines will need to have a quality control process in place to avoid creating duplicate patient records where a patient is referred from multiple healthcare systems.</p> <p>Pediatric providers may refer parents or other caregivers of pediatric patients. Different approaches are being tested by healthcare systems to generate eReferrals for this use case.</p>
Patient Name <i>General Header Patient section</i>	Patient first name, last name and middle initial per medical record Required for cCDA Required for NAQC	Used to identify each unique patient.

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
Patient Phone(s) <i>General Header</i> <i>Record Target section</i>	<p>Provides one or more phone numbers for contacting patient: primary home, workplace, mobile contact, vacation home</p> <p>Required for cCDA (at least 1)</p> <p>Required for NAQC (at least 1)</p>	<p>Used to initiate contact with a referred patient and to set up text messaging as available.</p> <p>See Appendix C: Data Dictionary for the CDA value set for this data element. This data element may have a one-to-many relationship with the patient.</p>
Preferred Language* <i>General Header</i> <i>Language Communication section</i>	<p>Patient's preferred language for verbal and/or written communication</p> <p>Optional for cCDA</p> <p>Optional for NAQC</p>	<p>Used by quitlines to provide services in the patient's preferred language. Most quitlines have bilingual Spanish staff and translation services for other languages. A national Asian quitline offers cessation services in four languages: Cantonese, Mandarin, Korean, and Vietnamese.</p> <p>This data element should be imported from the EHR when available. Otherwise, it can be collected by the quitline during intake.</p> <p>See Appendix C: Data Dictionary for the CDA value set for this data element.</p>
Problem List <i>Continuity of Care</i> <i>Body Constraints</i> <i>Problem section</i>	<p>An up-to-date problem list of current and active diagnoses</p> <p>Required for cCDA</p> <p>Optional for NAQC</p>	<p>One of the required data fields in the Common Clinical Data Set for The EHR Incentive Program transitions of care.</p> <p>At a minimum, all pertinent current and historical problems for which a patient is being treated should be included.¹⁴ Providers are encouraged to include Nicotine Dependence in the list of problems when patients are referred for tobacco cessation.</p> <p>Tobacco cessation services require knowledge of certain medical conditions, such as heart disease, pregnancy, mental illness, and chronic conditions, to tailor patient interventions.</p> <p>This data field should be collected by healthcare systems using cessation referrals to meet either transition of care or specialized registry measures, and by quitlines participating in a specialized registry.</p>

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
		This data element should be imported from the EHR when available. Otherwise, it can be collected by the quitline during intake. This data element may have a one-to-many relationship with the patient.
Procedures <i>Continuity of Care</i> <i>Body Constraints</i> <i>Procedures section</i>	List of all interventional, surgical, diagnostic, or therapeutic procedures Optional for cCDA Optional for NAQC	One of the optional data fields in the Common Clinical Data Set for transitions of care under the EHR Incentive Program. This data field should be collected by healthcare systems using cessation referrals to meet either transition of care or specialized registry measures, and by quitlines participating in a specialized registry. This data element is optional and includes any procedures or treatments pertinent to the patient historically. This data element may have a one-to-many relationship with the patient.
Provider Organization <i>General Header</i> <i>Custodian section</i> <i>-or-</i> <i>General Header</i> <i>Record Target</i> <i>Patient section</i>	Name of hospital, clinic, or physician practice at which patient is seen Required for cCDA (Custodian) Optional for cCDA (Record Target) Required for NAQC	Used to route feedback reports to the health system making the referral. Also used by quitlines to track and provide aggregate level reports on frequency of quitline referrals by provider organization. Useful for planning outreach activities and measuring the impact of eReferral implementations. The Custodian section of the cCDA header (see above) typically lists the Provider Organization. If the Custodian is an entity other than the health system (e.g., an HIE), then use the Provider Organization field within the Record Target, Patient section.

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
Provider Organization ID <i>General Header</i> <i>Custodian section</i> -or- <i>General Header</i> <i>Record Target</i> <i>Patient section</i>	Unique NPI identifier for each provider organization Required for cCDA (Custodian) Optional for cCDA (Record Target) Required for NAQC	Used to identify the hospital, clinic or physician practice from which the referral is originating. Used by quitlines to send feedback reports to the referring provider organization. CDA uses the National Provider Identifier (NPI) to identify healthcare systems and providers. NPIs are assigned to both organizations (e.g., hospital, clinic) and individual providers (e.g., physician, therapist).
Provider Phone Number <i>General Header</i> <i>Custodian section</i> -or- <i>General Header</i> <i>Record Target</i> <i>Patient section</i>	Phone number of referring provider Required for cCDA (Custodian) Optional for cCDA (Record Target) Required for NAQC	Used by quitlines to contact a referring provider in case of questions about a referral. See Appendix C: Data Dictionary for the CDA value set used for this data element.
Provider Fax Number <i>General Header</i> <i>Custodian section</i> -or- <i>General Header</i> <i>Record Target</i> <i>Patient section</i>	Fax number of referring provider Optional for cCDA (Custodian) Optional for cCDA (Record Target) Optional for NAQC	Used by quitlines to send feedback reports by electronic or paper fax if bi-directional eReferral system is not operational. See Appendix C: Data Dictionary for the CDA value set used for this data element.
Race <i>General Header</i> <i>Patient section</i>	Patient's racial group as self-identified Optional for cCDA Optional for NAQC	Used to tailor cessation interventions and to track tobacco use by race. Racial minorities are disproportionate users of tobacco products. This data element should be imported from the EHR when available. Otherwise, it can be collected by the quitline during intake. This data element is part of the NAQC minimal data set. See Appendix C: Data Dictionary for the CDA value set for this data element.

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
Results <i>Continuity of Care</i> <i>Body Constraints</i> <i>Results section</i>	<p>Results of observations generated by lab tests, imaging and other procedures such as ECG or EEG</p> <p>Required for cCDA Optional for NAQC</p>	<p>One of the required data fields in the Common Clinical Data Set for the EHR Incentive Program transitions of care.</p> <p>This data field should be collected by healthcare systems using cessation referrals to meet either transition of care or specialized registry measures, and by quitlines participating in a specialized registry.</p> <p>This data element includes notable results such as abnormal values or relevant trends, and may contain all results for the period of time being documented. This data element may have a one-to-many relationship with the patient.</p>
Smoking Status <i>Continuity of Care</i> <i>Social History section</i>	<p>Records the patient's tobacco use status (e.g., light tobacco smoker, heavy tobacco smoker) at a specific point in time</p> <p>Optional for cCDA Optional for NAQC</p>	<p>Used to record the patient's current tobacco use status. ("Smoking Status" is a CDA field name; this field is generally used to document any type of tobacco use.)</p> <p>Healthcare providers are required to document smoking status in the EHR under the EHR Incentive Program Stage 1 and 2. This data element can be imported from the EHR when available or collected by the quitline during intake.</p> <p>See Appendix C: Data Dictionary for the CDA value set for this data element.</p>
Vital Signs <i>Continuity of Care Document</i> <i>Body Constraints, Vital Signs section</i>	<p>Relevant vital signs for the context and use case of the referral, such as blood pressure, heart rate, respiratory rate, height, weight, body mass index, head circumference, or pulse oximetry.</p> <p>Optional for cCDA Optional for NAQC</p>	<p>One of the optional data fields in the Common Clinical Data Set for The EHR Incentive Program transitions of care.</p> <p>This data field should be collected by healthcare systems using cessation referrals to meet either transition of care or specialized registry measures, and by quitlines participating in a specialized registry.</p> <p>This data element should include notable vital signs such as the most recent, maximum and/or</p>

REFERRAL FORM (Continuity of Care Document)		
Data Element and cCDA Location	Definition	Use and Notes
		minimum, baseline, or relevant trends. This data element may have a one-to-many relationship with the patient.

Feedback Report Data Elements

This table sets forth the data elements which are part of feedback reports. It includes data that are captured in both the General Header and Progress Note templates. Formats for all data elements captured on cCDA templates shall conform to the standards contained in the *HL7 Implementation Guide for CDA*.⁵ Entries are listed in alphabetical order. A sample in human-readable format is shown in Appendix B: Sample Progress Note. Note that each EHR vendor or quitline service provider develops its own format for the Progress Note, so Progress Notes are not identical in appearance.

Table 7: Feedback Report Data Elements

FEEDBACK REPORT (Progress Note)		
Data Element and cCDA Location	Definition	Use and Notes
<i>Assessment</i> <i>Progress Note</i> <i>Body Constraints</i> <i>Assessment section</i> <i>-or-</i> <i>Assessment and Plan section</i>	Represents clinical conclusions or working assumptions that guide treatment of the patient Required for cCDA Required for NAQC	Used to document the following tobacco cessation data elements in structured format: Enrollment Status NRT Status See entries below for documentation notes. Progress Notes must include either an Assessment section and a Plan of Care section, or a combined Assessment and Plan section, but not both.
<i>Author</i> <i>General Header</i> <i>Author section</i>	Creator of a clinical document: may be a device or a person Required for cCDA Optional for NAQC	Used in cCDA to identify the originator of a document. The name of the EHR or quitline case management system that generates the Progress Note is typically listed as the author.

FEEDBACK REPORT (Progress Note)		
Data Element and cCDA Location	Definition	Use and Notes
<i>Custodian</i> <i>General Header</i> <i>Custodian section</i>	<p>The entity responsible for maintaining a clinical document; typically the tobacco cessation service</p> <p>Required for cCDA Required for NAQC</p>	<p>Used in cCDA to identify the organization that is in charge of maintaining the document. The custodian is the steward that is entrusted with the care of the document. The custodian may be the document originator, a health information exchange, or other responsible party.</p>
<i>Date of Birth (DOB)</i> <i>General Header</i> <i>Patient section</i>	<p>Patient date of birth</p> <p>Required for cCDA Required for NAQC</p>	<p>Used to confirm the identity of each unique patient and to establish patient age.</p>
<i>Document ID</i> <i>General Header</i> <i>US Realm Header section</i>	<p>A globally unique identifier for the document</p> <p>Required for cCDA Required for NAQC</p>	<p>Used to identify each unique document generated by an EHR or quitline case management system. The document date and time created is also typically shown.</p>
<i>Encounter ID</i> <i>Continuity of Care</i> <i>Encounters Section</i>	<p>Unique identifier to link a referral to a specific patient encounter</p> <p>Optional for cCDA Optional for NAQC</p>	<p>Used to identify each unique referral for cessation treatment, and to link the referral to a specific patient encounter (e.g., a hospital stay or clinic visit). The encounter date is also typically shown.</p> <p>Feedback report will return the original values from the CCD.</p>
<i>Enrollment Status</i> <i>Progress Note</i> <i>Body Constraint,</i> <i>Assessment section</i>	<p>Result of attempt to contact and enroll a patient following an eReferral</p> <p>Not Required for cCDA Required for NAQC</p>	<p>Used by tobacco cessation services to document efforts to reach a patient following a direct referral, and to record whether the patient accepted or declined enrollment for tobacco cessation service services.</p> <p>See Appendix C: Data Dictionary for the value set options for this data element. This data element may have a one-to-many relationship with the patient.</p>

FEEDBACK REPORT (Progress Note)		
Data Element and cCDA Location	Definition	Use and Notes
Gender <i>General Header</i> <i>Patient section</i>	Patient's gender .Required for cCDA Optional for NAQC	Used to confirm the identity of each unique patient. See Appendix C: Data Dictionary for the CDA value set for this data element.
Medications <i>Progress Note</i> <i>Body Constraints</i> <i>Medications section</i>	Lists all current medications for a patient Required for cCDA Required for NAQC	Used by tobacco cessation services to inform a referring provider of any NRT medications dispensed to the patient (type, quantity, dosage). This data element is required if the quitline provides NRT. See Appendix C: Data Dictionary for the RxNorm codes used for this data element. This data element may have a one-to-many relationship with the patient.
NRT Status <i>Progress Note</i> <i>Body Constraints</i> <i>Assessment section</i>	Used to indicate whether NRT was provided to patient Optional for cCDA Optional for NAQC	Used by tobacco cessation services to document whether NRT was provided to the patient, contraindicated, or refused by the patient. See Appendix C: Data Dictionary for the CDA value set for this data element.
Patient ID <i>General Header</i> <i>Record Target section</i>	Unique identifier for each patient, such as the medical record number (MRN) Required for cCDA Required for NAQC	Used to identify each referred individual so that the feedback report can be matched to the correct patient record in the EHR. Feedback report will return the original values from the CCD.
Patient Name <i>General Header</i> <i>Patient section</i>	Patient first name, last name and middle initial per medical record Required for cCDA Required for NAQC	Used to identify each unique patient.
Patient Phone(s) <i>General Header</i> <i>Record Target section</i>	Provides one or more phone numbers for contacting patient: primary home, workplace, mobile contact, vacation home.	Used to initiate contact with a referred patient and to set up text messaging as available. See Appendix C: Data Dictionary for the CDA value set for this data element. This data element

FEEDBACK REPORT (Progress Note)		
Data Element and cCDA Location	Definition	Use and Notes
	Required for cCDA (at least 1) Required for NAQC (at least 1)	may have a one-to-many relationship with the patient.
Plan of Care <i>Progress Note</i> <i>Body Constraint,</i> <i>Plan of Care section</i> <i>-or-</i> <i>Assessment and Plan of Care section</i>	May include pending orders, appointments, interventions, or other events of clinical significance to the current care of the patient; may also contain information about ongoing care of the patient, goals and clinical reminders Required for cCDA Optional for NAQC	Used to provide free text narrative notes about the patient's quit attempt (e.g., <i>patient completed two coaching calls but did not set a quit date</i>). Progress Notes must include either an Assessment section and a Plan of Care section, or a combined Assessment and Plan section, but not both.
Program Status <i>Progress Note</i> <i>Body Constraint</i> <i>Intervention section</i>	Last known status of a patient who has enrolled in tobacco cessation services Optional for cCDA Required for NAQC	Used by tobacco cessation services to report on the status of a referred patient, such as whether the patient actively participated in coaching sessions, disengaged or disenrolled, or completed the cessation program. This data element is only used for participants for whom Enrollment Status is recorded as "Accepted". See Appendix C: Data Dictionary for the value set options for this data element. This data element may have a one-to-many relationship with the patient.
Provider Organization <i>General Header</i> <i>Custodian section</i> <i>-or-</i> <i>General Header</i> <i>Record Target</i> <i>Patient section</i>	Name of hospital, clinic, or physician practice at which patient is seen Required for cCDA (Custodian) Optional for cCDA (Record Target) Required for NAQC	Used to route feedback reports to the health system making the referral. Also used by quitlines to track and provide aggregate level reports on frequency of quitline referrals by provider organization. Useful for planning outreach activities and measuring the impact of eReferral implementations. The Custodian section of the cCDA header (see above) typically lists the Provider Organization. If the Custodian is an entity other than the health

FEEDBACK REPORT (Progress Note)		
Data Element and cCDA Location	Definition	Use and Notes
		<p>system (e.g., an HIE), then the Provider Organization field within the Record Target, Patient section, should be used.</p> <p>Feedback report will return the original values from the CCD.</p>
<i>Provider Organization ID</i> <i>General Header</i> <i>Custodian section</i> -or- <i>General Header</i> <i>Record Target, Patient section</i>	<p>Unique NPI identifier for each provider organization</p> <p>Required for cCDA (Custodian)</p> <p>Optional for cCDA (Record Target)</p> <p>Required for NAQC</p>	<p>Used to identify the hospital, clinic or physician practice from which the referral is originating.</p> <p>Used by tobacco cessation services to send feedback reports to the referring provider organization.</p> <p>CDA uses the National Provider Identifier (NPI) to identify healthcare systems and providers. NPIs are assigned to both organizations (e.g., hospital, clinic) and individual providers (e.g., physician, therapist).</p> <p>Feedback report will return the original values from the CCD.</p>
<i>Provider Phone Number</i> <i>General Header</i> <i>Custodian section</i> -or- <i>General Header</i> <i>Record Target, Patient section</i>	<p>Phone number of referring provider</p> <p>Required for cCDA (Custodian)</p> <p>Optional for cCDA (Record Target)</p> <p>Required for NAQC</p>	<p>Used by tobacco cessation services to contact a referring provider in case of questions about a referral.</p> <p>See Appendix C: Data Dictionary for the CDA value set used for this data element.</p> <p>Feedback report will return the original values from the CCD.</p>
<i>Smoking Status</i> <i>Progress Note</i> <i>Social History section</i>	<p>Records the patient's tobacco use status (e.g., light tobacco smoker, heavy tobacco smoker) at a specific point in time</p> <p>Optional for Progress Note</p> <p>Optional for NAQC</p>	<p>Used to record the patient's current tobacco use status. ("Smoking Status" is a CDA field name; this field is generally used to document any type of tobacco use.)</p> <p>This data element is used by cessation services to record outcomes data at a specific point in time, such as the NAQC-recommended endpoint at 6 months post-intervention.</p> <p>See Appendix C: Data Dictionary for the CDA</p>

FEEDBACK REPORT (Progress Note)		
Data Element and cCDA Location	Definition	Use and Notes
		value set for this data element.
<i>Treatment Status</i> <i>Progress Note</i> <i>Body Constraint</i> <i>Interventions section</i>	Lists the cessation services which the patient received Optional for Progress Note Required For NAQC	This field is used to document the type of cessation service in which the patient enrolled (counseling with or without online services, online services only), and for counseling, dates of all coaching sessions completed. See Appendix C: Data Dictionary for the CDA value set for this data element. This data element may have a one-to-many relationship with the patient.

SECTION THREE: MESSAGE TRANSPORT

Overview of Section Three

The purpose of Section Three- Message Transport - is to outline the following:

- Message transport standards used for protected health information
- Role of Health Information Service Providers (HISPs)

- Factors to consider in selecting a message transport system

ACTION PLAN

This section will help determine how you will send and receive eReferral documents electronically using a system that meets privacy and security requirements.

Healthcare Systems

Speak with your information technology group about their plans for interoperability and health information exchange. Which transport method(s) are they planning to use?

If your organization currently uses an EHR certified for the EHR Incentive Program Stage 2 or later, find out which of the three approved messaging standards are available within your EHR. (Direct messaging using secure email is required; the other two standards are optional.)

Find out if your organization has an accredited HISP to provide Direct messaging, either through an EHR vendor, regional HIE, or an independent group. Will you transport messages directly from your EHR, or route through an HIE?

Find out what message transport methods the quitline service provider for your state is using. Are they currently operational or is development required?

Find out which accredited HISP the quitline service provider in your state is using for Direct messaging. What is the Direct email address and NPI for the quitline?

Use the checklist provided in Appendix F to select the secure transport system(s) you will use to send and receive messages.

Quitline Service Providers

Contract with an accredited HISP to provide Direct messaging services.

Build capability to use the minimum message transport standard of Direct with SMTP. Assess whether you need to build optional standards to connect with large institutions.

Types of Message Transport

Several types of standard message transport mechanisms are available for eReferral. Each of these may be used by healthcare systems to send and receive PHI in a secure, HIPAA-compliant environment.

Under the EHR Incentive Program Stage 2 requirements, one of three message transport standards may be used:^{15 16}

- **Direct protocol for message transport using standard, secure email (SMTP)**
CEHRTs are required to have this message transport type as a minimum standard
(see [ONC Applicability Statement for Secure Health Transport](#) for implementation guides)
- **Direct protocol for message transport using email with metadata (XDM)**
CEHRTs may offer this message transport type as an option.
(See [ONC XDR and XDM for Direct Messaging Specification](#) for implementation guides)
- **SOAP (Simple Object Access Protocol)-based protocol for message transport**
CEHRTs may offer this message transport type as an option.
(See [ONC Transport and Security Specification](#) for implementation guides)

These standards are intended to provide flexibility of choice in how to deploy health information exchange within a certified EHR. Healthcare systems will have one or more of these options available in EHRs certified for Stage 2 or later of the EHR Incentive Program. Quitline service providers will need to accept Direct messages using secure email as a minimum.¹

Direct Messaging

Direct messaging is an encrypted, HIPAA-compliant email system, where users have an email address, and are connected through a private internet system. Only authorized users of PHI are allowed to have an email address or use Direct messaging. Direct users can send and receive information from any other Direct user without any required interface.

Direct messaging is being promoted by the ONC as the minimal standard for health information exchange required to comply with the EHR Incentive Program. EHRs certified for Stage 2 are required to show that they can 1) create and transmit a summary of care record using Direct, and 2) receive a summary of care record using Direct. All of the cCDA document types are considered to be a “summary of care record”.

Direct messaging is being used by providers to send PHI for use cases such as:

Referrals between providers (including quitlines)
Continuity of care summaries among providers
Lab and radiology reports to ordering physician
Specialist consult notes to referring physician
Hospital discharge summaries to primary care physician
Surveillance data to public health organizations

Direct messaging can transmit unstructured messages (e.g., simple text or PDF files), semi-structured text (e.g., CSV files), or more highly structured messages and documents with well-defined vocabularies such as cCDA. Direct messaging by itself does not ensure semantic interoperability, but helps to support data

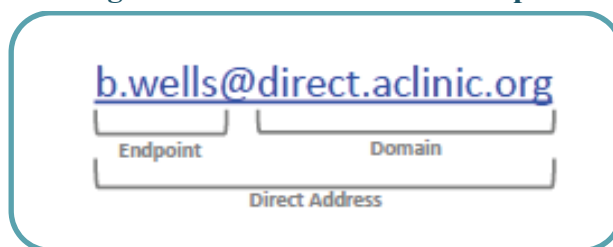
¹ A good reference for organizations such as quitlines that must build a message transport system is [Practical Guidance to Implement Meaningful Use Stage 2: Secure Health Transport for Certification and Meaningful Use](#)

exchange by creating a common transport method. Using the eReferral standards in this guide for message structure and content, in combination with Direct messaging, results in end-to-end semantic interoperability.

Direct Addresses

The principal objective of Direct messaging is to enable secure transport of PHI. Direct messaging uses an email address of the intended recipient, where one known endpoint (a provider) pushes health information to another known endpoint (another provider or quitline) in a secure manner. Direct addresses look like email addresses, and are used to route information to the intended recipient. An individual could have multiple Direct addresses, such as a physician who practices at more than one healthcare system.

Figure 3: Direct Address Example



Direct addresses may route to an inbox of a person, a task or workflow queue handled by one or more people, a data repository or registry, or other types of endpoints. Each organization must decide whether they will establish individual Direct addresses for each person, or whether they will use a single Direct address for the organization and then route messages to individual provider inboxes.

Direct Protocol with SMTP

This protocol uses secure email technology to send and receive messages. With Direct with SMTP, each email is sent as a separate message using Simple Mail Transfer Protocol (SMTP) an internet standard for email transmission. Emails must be encrypted using the S-MIME (Secure/Multipurpose Internet Mail Extensions) standard for encryption.⁶ All EHRs certified for Stage 2 or later of the EHR Incentive Program must demonstrate the ability to send and receive a message using this transport standard.

The main benefits of this approach are that it is required for CEHRTs as the minimum standard, is easy to implement, and works well for cCDA documents.

Direct Protocol with XDM

This protocol uses secure email technology to send and receive messages. This protocol is similar to Direct with SMTP, except that email messages can be bundled and sent together. Messages are zipped in an XDM wrapper along with metadata on each email included in the bundle. This approach is optional for EHRs certified for Stage 2 or later of the EHR Incentive Program.

The main benefits of this approach are that multiple documents can be sent together, and the metadata makes it easier to manage/route a document without having to open it.⁶ The drawbacks to this approach are that it requires additional software development, and cCDA documents don't require the metadata functionality.

SOAP (Simple Object Access Protocol)

This protocol uses web services instead of email to send and receive messages. This protocol is similar to Direct with XDM, except that it uses web services instead of email. Messages are zipped in an XDM wrapper along with metadata on each email included in the bundle. This method is optional for EHRs certified for Stage 2 or later of the EHR Incentive Program.

Web services are designed to allow applications built using different technologies to communicate with each other over a network. Web services use a network address accessed over the internet to enable information exchange at any time (as compared to batch data transmissions). Standard web services use SOAP to define the communication and structure of messages and XML as the data format.

The main benefits of this approach are that messages can be sent without using a HISP/HIE, and it is easier to share documents within an HIE.⁶ The drawbacks to this approach are that it requires additional software development, web-services requires a point-to-point interface, and cCDA documents don't require the metadata functionality.

Health Information Service Providers (HISP)

A Health Information Service Provider (HISP) is essential for managing security and transport for Direct messages. A HISP operates much like an internet email provide such as Gmail, Yahoo or Comcast mail, It differs from common email providers in that it complies with all of the HIPAA privacy and security requirements for PHI. HISPs serve as a “trust agent” to establish a trust relationship between a sender and receiver before a secure email is exchanged.

HISPs may be accredited by the Electronic Healthcare Network Accreditation Commission (EHNAC)^J and DirectTrust^K but accreditation is not required in order to provide Direct messaging services. So long as the HISP is using SMTP or XDR it is creating the trusted exchange that we are seeking. Some HISPs are operated by EHR or other health IT vendors, while other HISPs are independent. Direct Trust is an independent non-profit trade association created by and for participants in the Direct community. A current list of Direct-accredited HISPs can be found on the EHNAC and DirectTrust websites.^{17 18}

Healthcare systems will likely have aHISP available through their EHR, HIE, or internal IT department. Quitline service providers will need to contract with a HISP in order to participate in Direct messaging. HISPs are typically required to have a business associate agreement (BAA) with HIPAA covered entities to send and receive personally identifiable information (PII),.

Selecting a Message Transport System

Many large healthcare systems have an interoperability plan as part of their health IT and EHR Incentive Program strategy. Each healthcare system will likely have a preferred method for message transport. eReferrals should use the message transport system that has been selected for all HIE messages.

^J www.ehnac.org

^K www.directtrust.org

Guidance for Healthcare Systems

Direct with SMTP is the easiest method to implement as it is required in CEHRTs. If a transport method other than Direct with SMTP is used, confirm that tobacco cessation service can accept messages delivered using an optional transport standard (Direct with XDM or SOAP).

Healthcare systems will likely have an accredited HISP available through their EHR, HIE, or internal IT department. The process of setting up a trust relationship between two healthcare systems, or between a healthcare system and a quitline, is straightforward. Typically, the two entities need to exchange the following:

- Name of accredited HISP for each party
- Direct email address(es) to be used for message delivery
- National Provider Identifier (optional)

CEHRTs, at a minimum must be able to receive a message and then either parse the structured information to populate fields within the EHR, or represent it as an image (e.g., PDF) within the EHR.

Guidance for Quitlines

Each quitline service provider should be able to transport messages using the Direct with STMP standard, as this is the minimum requirement for EHRs certified for the EHR Incentive Program Stage 2 or later.

Quitline service providers will need to set up a trust relationship with each healthcare system as described in the previous section. Quitlines should also review local conditions to determine if either of the optional transport standards are required to meet the needs of large healthcare systems or HIEs in their service area. Quitlines should also contact regional or statewide HIEs to learn their capabilities for message transport.

Quitline service providers may want to establish the ability to forward eReferral messages to other quitline service providers using Direct messaging. This would be useful if a quitline erroneously receives a referral for a patient that is served by a different quitline service provider. For example, a patient from Camden NJ is seen at a Philadelphia hospital and referred to the PA quitline. Under this use case, the PA quitline could forward the referral electronically to the NJ quitline.

SECTION FOUR: MESSAGE DELIVERY

Overview of Section Four

The purpose of Section Four- Message Delivery- is to outline the following:

- Timing of document exchange
- Message receipt, delivery and use
- Message delivery to care team members

- Structured data storage in EHR

ACTION PLAN

This section will help you determine how eReferral messages (and other PHI documents) are received, routed to the care team, and stored in the patient electronic record.

Healthcare Systems

Speak with your IT department to determine how the EHR receives, routes and stores incoming cCDA documents and other PHI messages. Are they delivered to a common inbox and then manually assigned to providers, or are messages automatically routed to each provider's inbox?

Find out the process for how incoming documents are matched and stored with a patient record. Are providers required to acknowledge receipt before a document is permanently stored?

Decide which healthcare team members should receive feedback reports and develop a work step to ensure they are listed as care team members in the cCDA header.

Determine if your EHR has the capability to route messages to healthcare providers (such as a PCP) who have a different EHR or HIE (such as with Direct messaging). How will this occur in the workflow?

Speak with your IT team to find out if your EHR can store discrete data for cCDA sections other than those required by Meaningful Use.

Use the workplan checklist provided in Appendix F to select who will receive feedback reports and to identify cCDA sections that can be stored as discrete data.

Quitline Service Providers

Determine how to import and queue referral forms electronically within the case management system. Decide who will monitor the queue to make sure referrals are being contacted and to troubleshoot any delivery issues.

Decide how many feedback reports will be sent and at what time intervals.

Timing of Document Exchange

Referral forms are sent by the referring healthcare provider once a patient has consented to a referral. Most quitlines try to contact a patient within 24 to 48 hours after receiving a referral.

For outpatients, the referral form is typically completed concurrent with the outpatient visit. For inpatients, the referral form may be sent during the hospital stay (if the patient can be contacted while

hospitalized) or upon hospital discharge. The decision of when to submit the referral form may be governed by hospital workflow, by accessibility of the patient, or when required data elements (such as a summary of care) are available to transmit as part of the referral form. Inclusion of required elements on the CCD may allow the referral to be counted as a transition of care performance measure under the EHR Incentive Program.

Feedback reports may be sent at various intervals as determined by the tobacco cessation service. NAQC advises that feedback reports be limited to a maximum of three to avoid inundating clinicians with information. Practicing clinicians have identified the information that they would like to receive from tobacco cessation services:

Did patient enroll in the tobacco cessation service?

Did patient receive NRT or other cessation medications? If yes, quantity and dosing.

Did patient complete coaching calls or online program? If yes, how many calls?

What was the outcome of the cessation intervention? Did patient quit or reduce tobacco use?

Feedback reports should be sent by the tobacco cessation service to the referring entity. The following schedule is suggested, but is ultimately governed by funding and service level agreements:

First feedback report: sent after patient contact is initiated, and if patient enrolls, after completion of first coaching session (≈20 to 30 days after a referral form is received). The main purpose of this report is to let the referring provider know if the patient enrolled in tobacco cessation services and if any medications were dispensed.

Second feedback report: sent after completion of tobacco cessation treatment, (≈90 to 120 days after enrollment). The main purpose of this report is let the referring provider know what cessation services were provided to the patient and current tobacco use status.

Third feedback report: sent after survey to assess outcome of quit attempt, (≈ 7 months after patient enrollment). This is an optional report, as outcomes may only be collected on a random sample, and not all cessation services collect this data. The main purpose of this report is to let the referring provider know the patient's quit status at six months post intervention.

Message Receipt and Use

EHR Incentive Program regulations governing EHR message receipt and delivery allow for more flexibility and choice than those for message structure, content and transport. An EHR certified for Stage 2 or later must be able to successfully receive, display and incorporate an incoming message, including the following functionality:

- Receive a summary of care document (such as a progress note) from another EHR
- Display the document in human readable format
- Match the document to the correct patient
- Incorporate discrete data contained in a minimum of three sections: Medications, Problems, and Medication Allergies

- Extract and display additional sections (along with the header) contained in cCDA documents (such as the Header, Assessment and Plan, Interventions)

eReferral Forms

eReferral forms are routed to the cessation service EHR or quitline case management system. Typically, these messages are placed into a central queue for processing by staff. Many quitlines have service level agreements that require a patient be contacted within 24 to 48 hours of receiving a provider referral, and that at least 3 to 5 attempts be made before deeming a patient unreachable.

Feedback Reports

Feedback reports from a tobacco cessation service conform to the workflow process often used by EHRs for routing and delivery of any PHI message. Incoming documents (which can come via Direct, HIE, eFax, or internal network) are either delivered to a central inbox at the healthcare system and then routed to providers, or delivered directly to a provider inbox. The provider is alerted to a new message and acknowledges receipt of the document. If the healthcare team lists multiple providers, each will receive a copy of the message. The document is electronically signed and dated, after which it becomes part of the patient's electronic record.

Patient electronic records typically contain a “documents tab”, where incoming documents are stored for retrieval and use. The human-readable form of a cCDA document will appear within this documents tab.

As part of workflow development, the healthcare institution will determine what options are available in the EHR for routing feedback reports to care team members. The table below identifies care team members that could receive feedback reports and the pros and cons of each. Generally, this is a straightforward decision for routine outpatient visits, where the referring provider is the PCP or treating provider. The complexity increases with hospitalized patients who could be seen by a treating physician, a hospitalist, and a tobacco treatment service, among others. The message delivery options described below are not universal to all EHRs.

Table 8: Distribution of Feedback Reports

Care Team Member	Pros	Cons
<i>Referring Provider</i>	Confirms that an eReferral has been received Provides feedback on result of the cessation referral and any treatment provided	May not have patient contact beyond a specific visit or intervention
<i>Primary Care Provider (PCP)</i>	Enables continuity of care, one of the primary objectives of the EHR Incentive Program	PCP may be on a different EHR system than the referring provider

Care Team Member	Pros	Cons
<i>Treating Provider, Hospitalist</i>	Provides feedback on result of the cessation intervention	May not have patient contact beyond a specific visit or intervention
<i>Other Care Team Members</i>	Provides feedback on result of the cessation intervention	May not have any patient responsibilities related to cessation

Structured Data Storage

Referral forms and feedback reports will contain both structured (discrete) and unstructured (narrative) data. Each healthcare system or quitline service provider will need to decide which structured data to store in their EHR or quitline case management system.

Tobacco cessation services should review the Continuity of Care Document to determine which data elements from the referral form should be stored for counseling and cessation services. For example, tobacco cessation services may elect to store problem lists in their case management system, as they provide useful information on co-existing health conditions, but elect not to store procedure lists. Quitlines that intend to qualify as specialized registries should store, at a minimum, all data elements in the Common Clinical Data Set.

Healthcare systems should review the Progress Note to determine which data elements from the feedback report should be stored for reporting purposes. CEHRTs are only required to incorporate discrete data for three sections of a cCDA document: Problems, Medications, and Medication Allergies. This means that key structured data contained in the Progress Note sections for Assessment, Plan of Care, and Interventions, may not be available as discrete data within the EHR. Some EHRs store only the minimum required data, while others will enable the entire cCDA data set to be stored and used.

The lack of uniform capabilities among EHRs and quitline case management systems points to the need for uniform standards for specialized tobacco registries. Specialized registries will allow healthcare systems, quitlines, public health groups, researchers, and others in the tobacco cessation community to access uniform data across quitlines containing the Common Clinical Data Set and tobacco treatment outcomes for all patients referred to quitlines.

SECTION FIVE: USING EREFERRAL TO SATISFY HEALTHCARE MEASURE SETS

Overview of Section Five

The purpose of Section Five- eReferral and Healthcare Measure Sets, is to outline the following:

- eReferral and EHR Incentive Program objectives
- eReferral and Joint Commission measures
- eReferral and PQRS reporting
- eReferral and HEDIS reporting

- Other measures of effectiveness for tobacco treatment programs

ACTION PLAN

This section will help healthcare systems determine what quality and performance measures, if any, to meet through a comprehensive tobacco treatment program with eReferral.

Healthcare Systems

Review the list of EHR Incentive Program objectives in this section (there are different lists for eligible professionals and hospitals). Which of these objectives would you like to meet?

For hospitals, assess whether you want to satisfy the Joint Commission measure set in this section.

For physicians and other providers, review the PQRS list of CQMs in this section. Which of these objectives would you like to meet?

Identify any changes to provider workflows that would be required to meet the EHR Incentive, Joint Commission, and/or PQRS measure sets.

Determine whether your EHR can meet the measurement and reporting requirements for the objectives you have chosen.

Identify other data sources that might be used to meet the measurement and reporting requirements for the objectives you have chosen.

Use the workplan checklist provided in Appendix F to select any performance measures that you will use for tobacco cessation and eReferral.

Quitline Service Providers

Determine whether you will obtain certification as a specialized registry (as defined by the EHR Incentive Program) for tobacco dependence and treatment.

Generating Support for eReferrals

A common barrier identified by healthcare systems interested in eReferral is how to generate support and funding from administrators and medical staff leadership. Healthcare systems are faced with a multitude of projects and tasks that must be prioritized and implemented to provide care to their patients, as well as to meet requirements of external regulatory and licensing bodies such the Centers for Medicare and Medicaid Services (CMS)^L and the Joint Commission (JC).^M

^L <http://www.cms.gov/>

Healthcare systems that have implemented eReferral report that commitment is strengthened when tobacco cessation programs are used to meet broader performance objectives such as the EHR Incentive Program, Joint Commission, or Physician Quality Reporting System (PQRS) measures. Some healthcare systems have suggested that a strong inpatient program could also help raise inpatient satisfaction ratings (by addressing nicotine withdrawal) and reduce readmission rates (by initiating quit attempts), both important measures for hospitals.

This section identifies performance measures that can be satisfied using a bi-directional eReferral system for four of the most widely-used performance measurement systems affecting hospitals, physicians and health plans. (For a more in-depth discussion of tobacco treatment measures, see the white paper *Assessing Tobacco Use-The National Landscape*.)¹⁹

Meaningful Use of Certified EHRs

The HITECH Act²⁰ created financial incentives for hospitals and health care providers to adopt, implement, and demonstrate meaningful use of certified electronic health record (EHR) technology, now known as the EHR Incentive Program.

Two sets of regulations govern the EHR Incentive Program, one that instructs hospitals, physicians and other care providers on how to earn incentive payments by using a certified EHR,^{21,22} and one that provides EHR vendors with the criteria required to certify an EHR.^{23,24,25}

Figure 4: ONC Meaningful Use Defined

Meaningful Use is using certified electronic health record (EHR) technology to:

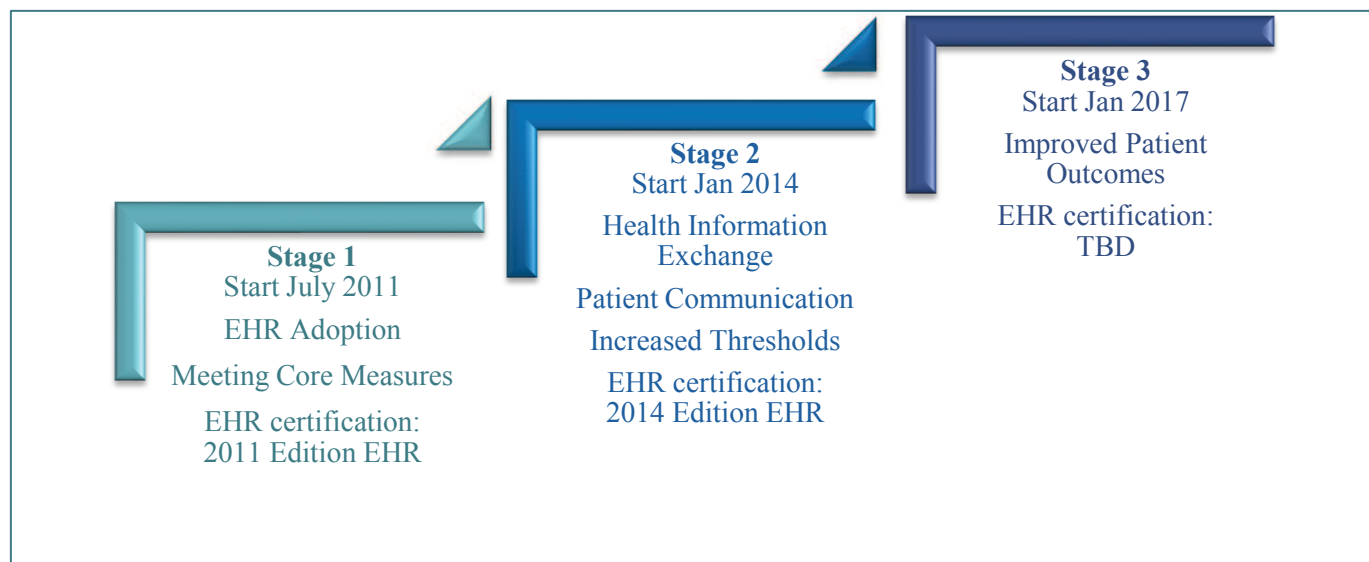
- Improve quality, safety and efficiency, and reduce health disparities
- Engage patients and family
- Improve care coordination, and population and public health
- Maintain privacy and security of patient health information

Ultimately, it is hoped that Meaningful Use compliance will result in:

- Better clinical outcomes
- Improved population health outcomes
- Increased transparency and efficiency
- Empowered individuals
- More robust research data on healthcare systems

The EHR Incentive Program sets specific objectives that hospitals and eligible professionals must achieve in order to receive CMS incentive payments and avoid financial penalties. These objectives are being rolled out in three stages over a multi-year time frame. Each stage is focused on a different set of objectives.

^M <http://www.jointcommission.org/>



EHR Certification

Of importance to this eReferral implementation guide is that Stage 2 of the EHR Incentive Program is focused on Health Information Exchange. EHRs that are certified for Stage 2 (the 2014 Edition EHR certification criteria) have improved functionality for interoperability of patient records. Key functionality required of these EHRs make it easier for healthcare systems to approach “plug and play” eReferrals, including:

Built-in cCDA document templates (HL7 v3) (data portability measure)²⁶

Built-in Direct message transport (transitions of care measure)²⁷

Ability to receive, display, and incorporate transition of care/referral summaries (transitions of care measure)²⁷

EHRs certified using the 2011 certification criteria cannot be used once the EHR Incentive Program Stage 2 standards are fully in effect. ONC states that all hospitals and eligible professionals participating in the EHR Incentive Program shall upgrade to Stage 2 (2014 Edition) EHR technology, regardless of the EHR Incentive Program stage they intend to meet.²⁸

eReferrals and EHR Incentive Program Objectives

Hospitals and eligible professionals must attest that they have met required core objectives and certain menu objectives using a certified EHR in order to receive their financial incentive payments. A well designed and executed tobacco cessation protocol that includes eReferral to tobacco cessation services can be used to meet several types of objectives for the EHR Incentive Program:

Tobacco screening

Transitions of care

Clinical quality measures (CQMs)

Clinical decision support

Public health reporting

Specialized registries

Interoperability / HIE

To encourage hospitals and eligible providers to implement eReferrals as a way to meet EHR Incentive Program measures, this guide includes suggestions for how to collect and report on the required data elements. The tables below show selected EHR Incentive Program objectives and measures that relate to tobacco cessation programs and eReferral for eligible professionals and hospitals. These examples should be viewed as suggestions; their use in a specific healthcare institution will be subject to the characteristics of the institution's EHR.

Eligible Professionals (Ambulatory EHRs)

Table 9: EHR Incentive Program Objectives for eReferrals -Eligible Professionals

Objective	Measure	eReferral Notes
Record smoking status for patients 13 years old or older (Stages 1 and 2). Core Measure	More than 50% (Stage 1) or 80% (Stage 2) of patients have smoking status recorded in EHR.	Use Smoking Status field within EHR to document screening for tobacco use. This is a required data element for the EHR Incentive Program and is routinely collected and stored in provider EHRs.
The EP who transitions his patient to another setting of care or provider of care or refers his patient to another provider of care should provide a summary of care record for each transition of care or referral (Stages 1 and 2). Core Measure	Provide a summary of care record for more than 50% of transitions of care and referrals (Stages 1 and 2). Provide a summary of care record for 10% of transitions and referrals either a) electronically transmitted to a recipient using CEHRT or b) where the recipient receives the summary of care record via an ONC approved message transport system (such as Direct)(Stage 2). Either a) conduct one or more successful electronic exchanges with a recipient using technology that was designed by a different EHR developer than the sender's, or b) conduct one or more	Count the number of CCDs sent electronically to quitlines and other tobacco cessation services. Since tobacco users make up about 20% of the patient population, cessation referrals could provide significant patient volume towards meeting the 10% threshold. ^N Note that referrals must use a Continuity of Care Document to meet the requirements for a transition of care.

^N Conversations between NAQC and ONC public health officials confirmed that an eReferral to a quitline is a good use case and should qualify as a transition of care for Meaningful Use. A referral can either be counted as a transition of care or specialized registry submission, but not both.

Objective	Measure	eReferral Notes
	successful tests with the CMS-designated test EHR during the EHR reporting period (Stage 2).	
Capability to identify and report specific cases to a specialized registry (Stage 2). Menu Set Measure	Identify and report specific cases to a specialized registry (other than a cancer registry), except where prohibited, and in accordance with applicable law and practice (Stage 2).	Count the number of Continuity of Care Documents sent electronically to quitlines where the quitline either qualifies as or participates in a specialized registry for tobacco use and dependence. ^o (Note that this measure is only for EPs. There is no corresponding measure for hospital inpatients).
Report clinical quality measures (CQMs) to CMS or the States (Stage 1). Core Measure While no longer a separate objective, providers must still submit CQMs to CMS or the States in order to achieve meaningful use (Stage 2).	Electronically submit 3 core clinical quality measures and 3 additional quality measures. One of the core quality measures for EPs is the Preventive Care and Screening Measure Pair: Tobacco Use Assessment, and Tobacco Cessation (Stage 1). Electronically submit CQMs to CMS (Stage 2).	Use Smoking Status or Problem List (tobacco dependence) to identify tobacco users. Use the feedback report to track the following information: <ul style="list-style-type: none"> • Enrollment Status to indicate that a patient was referred, and either accepted or refused counseling • Program Status to capture patients who received counseling • Treatment Status to note what type of counseling was received See PQRS section for details on how to submit CQM reports.
Implement one clinical decision support rule relevant to specialty or high clinical priority along with the ability to track compliance with that rule	Implement one clinical decision support rule (Stage 1). Use clinical decision support to improve performance on high-priority health conditions: 1) Implement 5 clinical	Tobacco dependence is a high priority health condition. Create an EHR order set for tobacco use that is triggered by Smoking Status or Problem List (tobacco dependence).

^o The California Dept. of Public Health recently affirmed that the California Smokers' Helpline qualifies as a specialized registry for purposes of meeting Meaningful Use Stage 2 requirements, on the basis that (1) CMS criteria for specialized registries are purposefully broad and only explicitly exclude cancer registries, which are dealt with in a separate category; (2) the Helpline is able to receive eReferrals from eligible providers; (3) specific reported cases are not only followed up for individual treatment but also become part of a database used for public health research and comparative study; (4) the Helpline is specifically designed to improve population and public health; (5) the Helpline is sponsored or maintained by a Public Health Agency (CDPH); and (6) the Helpline is an active member of a national specialty society (NAQC) that is working to establish a national standard for eReferrals.

Objective	Measure	eReferral Notes
(Stage 1). Use clinical decision support to improve performance on high-priority health conditions (Stage 2). Core Measure	decision support interventions related to 4 or more clinical quality measures, and 2) enable functionality for drug-drug and drug-allergy interaction checks (Stage 2).	Implement one of the CQMs for tobacco use. Generate a tobacco cessation referral. A tobacco cessation service eReferral meets the requirements for this measure as it satisfies the CQMs for tobacco use and the requirement that the intervention be evidence-based.
Generate lists of patients by specific conditions to use for quality improvement, reduction of disparities, research, or outreach (Stages 1 and 2). Core Measure	Generate at least one report listing patients of the EP with a specific condition (Stages 1 and 2).	Use Smoking Status or Problem List (tobacco dependence) to identify tobacco users. Use demographic data to identify tobacco users from disparate use populations. Send a promotional letter as a form of outreach.
Use certified EHR technology to identify patient-specific education resources and provide those resources to the patient if appropriate (Stages 1 and 2). Core Measure	More than 10% of all unique patients seen by the EP are provided patient-specific education resources (Stage 1). Patient-specific education resources identified by CEHRT are provided to patients for more than 10% of all unique patients with office visits seen by the EP during the EHR reporting period (Stage 2).	Use Smoking Status or Problem List (tobacco dependence) to identify tobacco users. Provide tobacco users with educational resources on tobacco use and cessation services (resources may be electronic or printed).

Hospitals (Hospital EHRs)

Table 10: EHR Incentive Program Objectives for eReferrals- Hospitals

Objective	Measure	eReferral Notes
Record smoking status for patients 13 years old or older (Stages 1 and 2). Core Measure	More than 50% (Stage 1) or 80% (Stage 2) of patients admitted to inpatient and emergency departments have smoking status recorded in EHR.	Use Smoking Status field within EHR to document screening for tobacco use. This is a required data element for the EHR Incentive Program and is routinely collected and stored in provider EHRs.
The hospital that transitions their patient to another setting of care or provider of care or refers their patient to another	Provide a summary of care record for more than 50% of transitions of care and referrals (Stages 1 and 2). Provide a summary of care record for 10% of transitions and referrals either a)	Count the number of CCDs sent electronically to quitlines and other tobacco cessation services. Since tobacco users make up about 20% of the patient population, cessation

Objective	Measure	eReferral Notes
<p>provider of care should provide a summary of care record for each transition of care or referral (Stages 1 and 2).</p> <p>Core Measure</p>	<p>electronically transmitted to a recipient using CEHRT or b) where the recipient receives the summary of care record via an ONC approved message transport system (such as Direct)(Stage 2).</p> <p>Either a) conduct one or more successful electronic exchanges with a recipient using technology that was designed by a different EHR developer than the sender's, or b) conduct one or more successful tests with the CMS-designated test EHR during the EHR reporting period (Stage 2).</p>	<p>referrals could provide significant patient volume towards meeting the 10% threshold.^P</p> <p>Note that referrals must use a Continuity of Care Document to meet the requirements for a transition of care.</p>
<p>Report clinical quality measures (CQMs) to CMS or the States (Stage 1).</p> <p>Core Measure</p> <p>While no longer a separate objective, providers must still submit CQMs to CMS or the States in order to achieve meaningful use (Stage 2).</p>	<p>Provide aggregate numerator, denominator, and exclusions through attestation or electronically through the Hospital Reporting Pilot (Stage 1).</p> <p>Electronically submit CQMs to CMS (Stage 2).</p>	<p>See PQRS (section 5) for details on how to submit CQM reports.</p>
<p>Implement one clinical decision support rule relevant to specialty or high clinical priority along with the ability to track compliance with that rule (Stage 1).</p> <p>Use clinical decision support to improve performance on high-priority health conditions (Stage 2).</p> <p>Core Measure</p>	<p>Implement one clinical decision support rule (Stage 1).</p> <p>Use clinical decision support to improve performance on high-priority health conditions: 1) Implement 5 clinical decision support interventions related to 4 or more clinical quality measures, and 2) enable functionality for drug-drug and drug-allergy interaction checks (Stage 2).</p>	<p>Tobacco dependence is a high priority health condition. Create an EHR order set for tobacco use that is triggered by Smoking Status or Problem List (tobacco dependence).</p> <p>Implement one of the CQMs for tobacco use. Generate a tobacco cessation referral.</p> <p>A tobacco cessation service eReferral meets the requirements for this measure as it satisfies the CQMs for tobacco use and the requirement that the intervention be evidence-based.</p>

^P Conversations between NAQC and ONC public health officials confirmed that an eReferral to a quitline is a good use case and should qualify as a transition of care for Meaningful Use.

Objective	Measure	eReferral Notes
Generate lists of patients by specific conditions to use for quality improvement, reduction of disparities, research, or outreach (Stages 1 and 2). Core Measure	Generate at least one report listing patients of the EP with a specific condition (Stages 1 and 2).	Use Smoking Status or Problem List (tobacco dependence) to identify tobacco users. Use demographic data to identify tobacco users from disparate use populations. Send a promotional letter as a form of outreach.
Use certified EHR technology to identify patient-specific education resources and provide those resources to the patient if appropriate (Stages 1 and 2). Core Measure	More than 10% of all unique patients admitted to inpatient and emergency departments are provided patient-specific education resources (Stage 1). More than 10% of all unique patients admitted to inpatient and emergency departments are provided patient-specific education resources identified by Certified EHR Technology (Stage 2).	Use Smoking Status or Problem List (tobacco dependence) to identify tobacco users. Provide tobacco users with educational resources on tobacco use and cessation services (resources may be electronic or printed).

Joint Commission Performance Measure Set

Hospitals that are accredited by the Joint Commission (JC) must select four performance measure sets from a list of fourteen options. A tobacco treatment measure set is one of the options.

A new measure set released in 2012 mandates comprehensive, evidence-based tobacco treatment, during hospitalization and upon discharge. However, many hospitals are not selecting the tobacco treatment measure set as one of their four measure sets, because it requires greater effort and resources than the other measure sets,²⁹ even though such interventions have been proven effective. Counseling that begins in the hospital and continues at least one month after discharge can increase the odds of quitting by 37%. Beginning nicotine replacement therapy in the hospital is associated with higher NRT use two-weeks post discharge and increases the odds of quitting when combined with intensive counseling.³⁰

Figure 5: Joint Commission Core Measure Sets

1. Acute Myocardial Infarction
2. Children's Asthma Care
3. Emergency Department
4. Heart Failure
5. Hospital Outpatient Department
6. Hospital-Based Inpatient Psych Services
7. Immunization
8. Perinatal Care
9. Pneumonia Measures
10. Stroke
11. Substance Use
12. Surgical Care Improvement Project
- 13. Tobacco Treatment**
14. Venous Thromboembolism

To encourage hospitals to use the tobacco treatment measure set, this guide includes suggestions on how to collect and report on the required data elements in the table below. These examples should be viewed

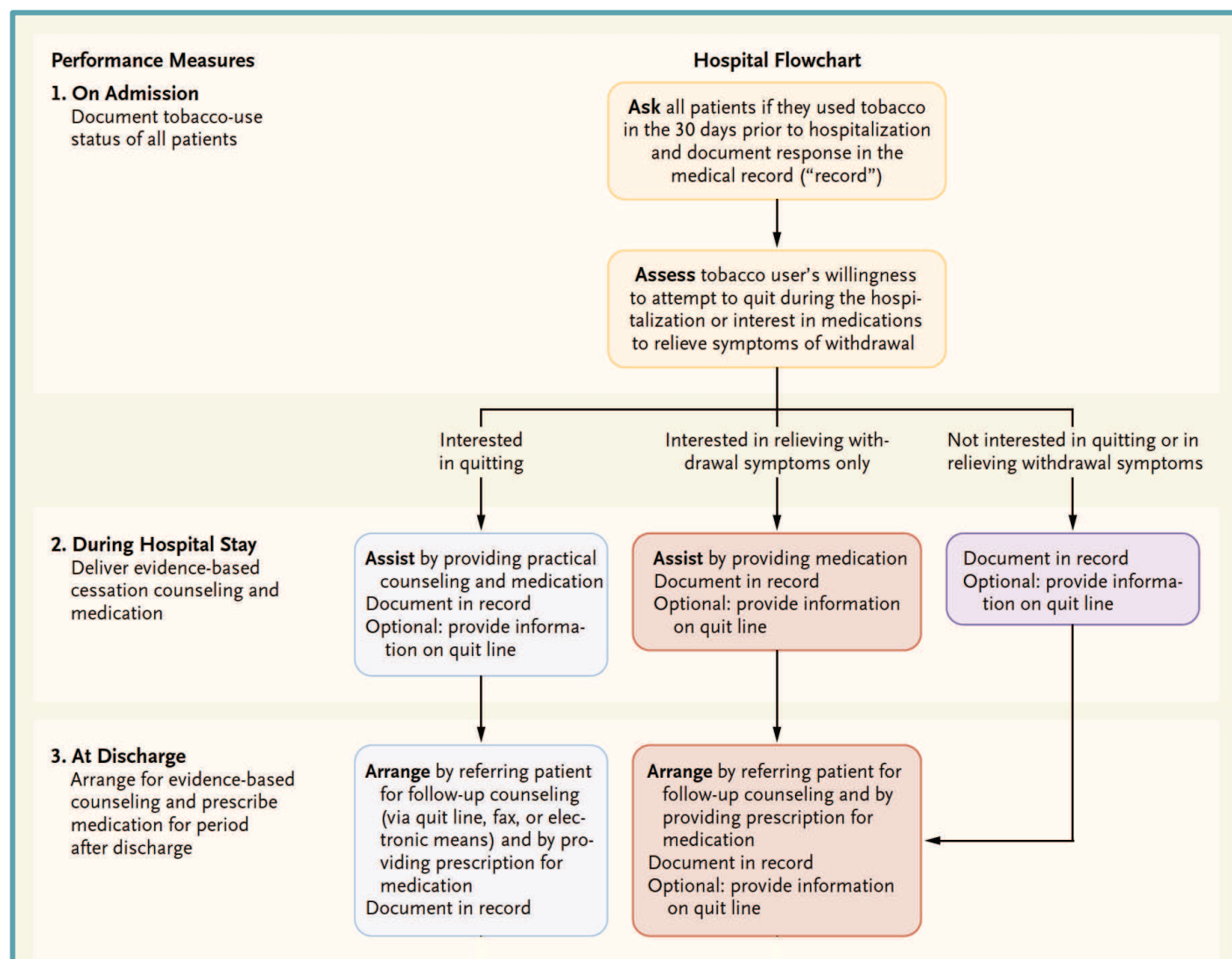
as suggestions; their use in a specific healthcare institution will be subject to the characteristics of the institution's EHR.

Table 11: Joint Commission Tobacco Treatment Measure Set

Set ID#	Set Name	Description	eReferral Notes
TOB-1	Tobacco Use Screening	Hospitalized patients who are screened within the first three days of admission for tobacco use (cigarettes, smokeless tobacco, pipe and cigars) within the past 30 days.	Use Smoking Status field within EHR to document screening for tobacco use. This is a required data element for the EHR Incentive Program and is routinely collected and stored in provider EHRs.
TOB-2	Tobacco Use Treatment Provided or Offered	Patients identified as tobacco product users within the past 30 days who receive or refuse practical counseling to quit AND receive or refuse FDA-approved cessation medications during the first three days after admission.	Use Smoking Status or Problem List (tobacco dependence) to identify tobacco users. Create an inpatient order set that provides the ability to track the following information: <ul style="list-style-type: none"> • SNOMED codes from Enrollment Status to indicate that a patient was referred and either accepted or refused counseling • SNOMED codes from Program Status to capture patients who received counseling during their hospital stay • SNOMED codes from Treatment Status to note what type of counseling was received • SNOMED codes from NRT Status to indicate whether NRT was provided, refused or contraindicated • RxNorm codes from Medications to record any cessation medications provided
TOB-2A	Tobacco Use Treatment	Patients who received counseling AND medication as well as those who received counseling and had reason for not receiving the medication during the first three days after admission.	Create an inpatient order set that provides the ability to track the following information: <ul style="list-style-type: none"> • SNOMED codes from Patient Status to capture patients who received counseling during their hospital stay • SNOMED codes from Treatment Status to note what type of counseling was received • SNOMED codes from NRT Status to indicate whether NRT was provided,

Set ID#	Set Name	Description	eReferral Notes
			<p>refused or contraindicated</p> <ul style="list-style-type: none"> RxNorm codes from Medications to record any cessation medications provided
TOB-3	Tobacco Use Treatment Provided or Offered at Discharge	Patients identified as tobacco product users within the past 30 days who were referred to or refused evidence-based outpatient counseling AND received or refused a prescription for FDA-approved cessation medication upon discharge.	<p>Use Smoking Status or Problem List (tobacco dependence) to identify tobacco users.</p> <p>Use the feedback report to track the following information:</p> <ul style="list-style-type: none"> Enrollment Status to indicate that a patient was referred and either accepted or refused counseling Patient Status to capture patients who received counseling after their hospital stay Treatment Status to note what type of counseling was received NRT Status to indicate whether NRT was provided, refused or contraindicated Medications to record any cessation medications provided at or after discharge
TOB-3a	Tobacco Use Treatment at Discharge	Patients who were referred to evidence-based outpatient counseling AND received a prescription for FDA-approved cessation medication upon discharge as well as those who were referred to outpatient counseling and had reason for not receiving a prescription for medication.	<p>Use the feedback report to track the following information:</p> <ul style="list-style-type: none"> Enrollment Status to indicate that a patient was referred and either accepted or refused counseling Treatment Status to note what type of counseling was received NRT Status to indicate whether NRT was provided, refused or contraindicated Medications to record any cessation medications provided at or after discharge

Figure 6: Flowchart of the Joint Commission Tobacco Treatment Measure Set



Graphic provided courtesy of the author amended from an original publication in the NEJM.²⁹

Physician Quality Reporting System

The Physician Quality Reporting System (PQRS) is a voluntary Medicare reporting program that uses negative payment adjustments to promote reporting of quality information by physicians and other eligible professionals (EPs). Beginning in 2015, providers who do not participate in PQRS are subject to a 2% reduction in their Medicare Part B (i.e., outpatient) fee-for-service payments, plus an additional “value modifier penalty” which varies by practice group size.³¹

Providers can elect to participate as individuals or as part of a PQRS group practice. To participate, they must report on at least 9 measures across at least 3 of the 6 National Quality Strategy (NQS) domains. The good news is that CMS has aligned the EHR Incentive Program with the PQRS reporting program.

Providers who use their EHR to report on their PQRS measures will be deemed to have satisfied the requirements for Clinical Quality Measures (CQM) under the EHR Incentive Program.

There are 255 PQRS measures available in calendar year 2015, of which three can be satisfied with a bi-directional eReferral system: two for tobacco screening and interventions in adult and adolescent populations, and one for receiving a feedback report.³² Since reporting for PQRS and CQMs measures are aligned, the table below shows the reference ID number for each measure set.

Table 12: Clinical Quality Measures for eReferral

Set #	Set Name	Description	eReferral Notes
PQRS #226 CMS #138v3	Preventive Care and Screening: Tobacco Use: Screening and Cessation Intervention NQS Domain: Community/Population Health	Percentage of patients aged 18 years and older who were screened for tobacco use one or more times within 24 months AND who received cessation counseling intervention if identified as a tobacco user.	Referral to a tobacco cessation service using Ask-Advise-Refer will meet this requirement. Cessation intervention is defined as brief tobacco counseling of 3 minutes or less and/or pharmacotherapy. PQRS measures are reported using CPT or HCPCS codes typically available through the EHR.
PQRS #374 CMS #50v3	Closing the Referral Loop: Receipt of Specialist Report Domain: Care Coordination	Percentage of patients with referrals, regardless of age, for which the referring provider receives a report from the provider to whom the patient was referred.	Feedback reports received from a tobacco cessation service count towards this requirement. Use number of CCDs to track referrals sent and number of Progress Notes to track reports received.
PQRS #402	Tobacco Use and Help with Quitting Among Adolescents NQS Domain: Community/Population Health	The percentage of adolescents 12 to 20 years of age with a primary care visit during the measurement year for whom tobacco use status was documented and received help with quitting if identified as a tobacco user.	Referral to a tobacco cessation service using the 5A's or Ask-Advise-Refer will meet this requirement. Cessation intervention is defined as one of the following: advice given to quit smoking or tobacco use, counseling on the benefits of quitting smoking or tobacco use, assistance with or referral to external smoking or tobacco cessation support programs, or current enrollment in smoking or tobacco use cessation program. PQRS measures are reported using CPT or HCPCS codes typically available through the EHR.

HEDIS Measures

HEDIS (Healthcare Effectiveness Data and Information Set) is a performance measurement tool that is coordinated and administered by NCQA (National Committee for Quality Assurance)^Q and used by CMS for monitoring the performance of managed care organizations. Managed care organizations request information from healthcare systems to assist them in reporting on HEDIS measures. There are 85

Altogether, HEDIS consists of 81 measures across 5 domains of care, including a measurement set for tobacco cessation services. While this measure is not specific to providers, many health plans include requirements for HEDIS reporting in their contracts with healthcare systems.

Set #	Set Name	Description	eReferral Notes
#0027 (ASTQ)	Medical Assistance With Smoking and Tobacco Use Cessation (MSC) ³³	Advising Smokers and Tobacco Users to Quit: A rolling average represents the percentage of patients 18 years of age and older who were current smokers or tobacco users and who received advice to quit during the measurement year.	This is an indirect measure of provider performance, as it collected on a CAHPS survey of health plan members. A Patient Satisfaction Survey is sent quarterly to a randomly selected group of individuals covered under Medicare, Medicaid and Commercial insurance. Members must report on whether they received advice to quit.
#0027 (DSCM)	Medical Assistance With Smoking and Tobacco Use Cessation (MSC)	Discussing Cessation Medications: A rolling average represents the percentage of patients 18 years of age and older who were current smokers or tobacco users and who discussed or were recommended cessation medications during the measurement year.	This is an indirect measure of provider performance, as it collected on a CAHPS survey of healthplan members. A Patient Satisfaction Survey is sent quarterly to a randomly selected group of individuals covered under Medicare, Medicaid and Commercial insurance. Members must report on whether they had a discussion on cessation medications.
#0027 (DSCS)	Medical Assistance With Smoking and Tobacco Use Cessation (MSC)	Discussing Cessation Strategies: A rolling average represents the percentage of patients 18 years of age and older who were current smokers or tobacco users who discussed or were	This is an indirect measure of provider performance, as it collected on a CAHPS survey of healthplan members. A Patient Satisfaction Survey is sent quarterly to a randomly selected group of individuals covered under Medicare, Medicaid and Commercial insurance. Members must report on whether they had a discussion on cessation

^Q <http://www.ncqa.org/HEDISQualityMeasurement.aspx>

Set #	Set Name	Description	eReferral Notes
		provided smoking cessation methods or strategies during the measurement year.	methods or strategies.

Other Measures of Effectiveness

Healthcare systems and quitlines may find it useful to include additional measures of effectiveness for their tobacco cessation programs beyond the measure sets used by regulatory, licensing and accrediting bodies. Some ideas for measuring the effectiveness of eReferral implementation include:

Measure proportion of patients who accept an eReferral during a clinical encounter

Measure proportion of patients who are reached and enroll in tobacco cessation services after an eReferral

Measure number of patients who receive a tobacco cessation intervention pre- and post-implementation of eReferrals

Measure number of inpatients who receive NRT or prescription medications during their inpatient stay to manage nicotine withdrawal symptoms

Measure number of patients who receive a prescription for NRT or other cessation medications pre- and post-implementation of eReferrals

Document number of direct referrals from provider to tobacco cessation service pre- and post-implementation of eReferrals

Document number of direct referrals from provider to other cessation services pre- and post-implementation of eReferrals

Assess medical and clinical staff knowledge pre- and post-implementation using a standardized survey tool

Assess outcomes measures of cessation interventions, including reach, engagement and quit rates, using data collected by the quitline

APPENDIX A: SAMPLE CONTINUITY OF CARE DOCUMENT

This is an example of a Continuity of Care Document for eReferral displayed in human-readable format. Note that each EHR system uses its own CCD format, and not all data elements contained in the cCDA template may be displayed in human-readable format.

Figure 7: Use Case- Referral to Quitline for Tobacco Cessation Services

Community Health and Hospitals: Health Summary	
Patient	Mavis Jones
Date of Birth	October 23, 1969
Sex	F
Race	White
Patient Contact Info	1357 Big Elk Drive Littleton, CO 80127 Tel: 720-494-7737
Patient ID	998991 2.16.840.1.113883.19.5.99999.2
Document ID	TT988 2.16.840.1.113883.19.5.99999.1
Document Created	September 16, 2014, 19 MDT
Care Team Members	Leighton Day, MD Rebecca Frankel, RN
Contact Info	8900 Crescent Drive Denver, CO 80219 Tel: 303-979-7000
Author	My EHR
Document Maintained By	Community Health and Hospitals
Contact Info	8900 Crescent Drive Denver, CO 80219 Tel: 303-979-7000
Assessment and Plan	Patient accepted referral for tobacco cessation services. States she is ready to quit in order to feel better.
Medication Allergies	None
Medications	1. Lisinopril 10 MG Oral Tablet 314076 2. Aspirin 81 MG Oral Tablet 243670
Problems	1. Essential (primary) hypertension I10 2. Nicotine dependence, cigarettes, uncomplicated F17.210
Social History	Heavy Tobacco Smoker 428071000124103
Vital Signs	Blood Pressure 145/88 mmHG Sep 15, 2014

APPENDIX B: SAMPLE PROGRESS NOTE

This is an example of a Progress Note for eReferral displayed in human-readable format. Note that each EHR system and quitline service provider uses its own Progress Note format, and not all data elements contained in the Progress Note template may be displayed in human-readable format.

Figure 8: Use Case- Progress Note Following Treatment by Quitline

Quitline Progress Note			
Patient	Mavis Jones		
Date of Birth	October 23, 1969		
Sex	F		
Race	White		
Patient Contact Info	1357 Big Elk Drive Littleton, CO 80127 Tel: 720-494-7737		
Patient ID	998991 2.16.840.1.113883.19.5.99999.2		
Document ID	1578391 2.16.840.1.113883.3.552.1.3.11.14.9.999362		
Document Created	November 14, 2014, 11:15 MST		
Author	CO Quitline		
Document Maintained By	National Jewish Health		
Contact Info	1400 Jackson St. Denver, CO 80206 Tel 855-372-0044		
Assessment	09/16/2014	Referral to smoking cessation advisor	395700008
	09/16/2014	Accepted	1459824015
	09/21/2014	Smoking cessation assistance	384742004
	09/21/2014	Active	55561003
	09/25/2104	Nicotine replacement therapy provided free	390905006
Plan of Care	PT set quit date and was not using tobacco as of last coaching call. Reported a slip while on vacation. Completed 3 calls of 5 call program.		
Social History	07/14/2015	Light Tobacco Smoker	428061000124105
Medications	09/23/2014	Nicoderm 21 MG transdermal patch, 4 weeks	351429
	09/23/2014	Nicorette 4 MG chewing gum, 2 weeks	105071

Interventions	09/21/2014	Behavior modification education guidance counseling	410273004
		Telephone encounter	185317003
	09/21/2014	Web based application software	706690007
	10/04/2014	Behavior modification education guidance counseling	410273004
		Telephone encounter	185317003
	10/18/2014	Behavior modification education guidance counseling	410273004
		Telephone encounter	185317003r
	12/07/2014	Smoking cessation assistance	384742004
	12/07/2014	Treatment completed	182992009

APPENDIX C: DATA DICTIONARY

This Appendix provides a list of vocabulary standards used to code certain data elements in accordance with CDA value sets. Entries are presented in alphabetical order.

See the [Standards Hub](#) website maintained by ONC for a list and supporting documentation for all standards used in Certified EHRs 2014 Edition, including the value sets presented here.

Best Time and Day to Call

Record as a narrative note, or if coded data is desired, use this value set to record patient's preferred time of day to receive a phone call from the tobacco cessation service.

Best Time to Call	NAQC Code
Early Morning	2
Morning	3
Early Afternoon	5
Late Afternoon	7
Evening	8
Late Evening	9

Record as a narrative note, or if coded data is desired, use this value set when recording patient's preferred day of the week to receive a phone call from the quitline.

Best Day to Call	NAQC Code
Anytime	1
Weekdays	2
Weekends	3

Enrollment Status

Use paired SNOMED codes to record whether the patient accepted enrollment for cessation services or did not enroll for one of several reasons. SNOMED codes are used by CEHRTs.

Enrollment status changes once a determination is made as to whether a patient enrolls for cessation services. For example, if the patient has not been successfully contacted at the time of the first referral report (i.e., progress note), the enrollment status will be shown as “recruiting”.

The second feedback report generated weeks later will record whether the patient enrolled, and if not, for what reason.

Use “referral to smoking cessation advisor” for referrals to a quitline and “referral to stop-smoking clinic” for referral to another cessation service.

Free text in the Progress Note Plan of Care section may be used to provide additional narrative notes on enrollment status. It should be used as an adjunct, and not a substitute, to this structured data element.

NAQC Concept	SNOMED Description	SNOMED Code	Use
Recruiting Patient contact initiated but not yet reached by tobacco cessation service	Referral to smoking cessation advisor	395700008	OR
	Referral to stop-smoking clinic	315232003	AND
	Planned telephone contact	183631005	
Not Reached Patient was not reached after multiple attempts by tobacco cessation service	Referral to smoking cessation advisor	395700008	OR
	Referral to stop-smoking clinic	315232003	AND
	Unable to reach	676359013	OR
Information Only Patient reached by tobacco cessation service, declined enrollment but accepted cessation info	Referral to smoking cessation advisor	395700008	OR
	Referral to stop-smoking clinic	315232003	AND
	Patient given information	166876011	
Accepted Patient reached by tobacco cessation service, accepted enrollment	Referral to smoking cessation advisor	395700008	OR
	Referral to stop-smoking clinic	315232003	AND
	Accepted	1459824015	
Ineligible Patient reached by tobacco cessation service, deemed ineligible for covered benefits	Referral to smoking cessation advisor	395700008	OR
	Referral to stop-smoking clinic	315232003	AND
	Not entitled to benefits	224194003	
Declined Patient reached by tobacco cessation service, declined enrollment	Referral to smoking cessation advisor	395700008	OR
	Referral to stop-smoking clinic	315232003	AND
	Counseling declined	439495000	

Ethnicity

This value set is the standard included in Certified EHRs 2014 Edition.

Ethnicity Categories	CDA Code
Hispanic or Latino	2135-2
Not Hispanic or Latino	2186-5

Gender

This value set is the standard included in Certified EHRs 2014 Edition.

Use “undifferentiated” when gender cannot be uniquely defined as male or female. Note that this field is distinct from information on sexual orientation, which is often collected by quitlines during intake.

Patient Gender	HL7 Code
Female	F
Male	M
Undifferentiated	UN

Medications

This value set is a subset of the standard included in Certified EHRs 2014 Edition. Included are two tables, one for NRT and one for prescription cessation medications. EHRs will contain RxNorm codes for all drug types.

The table below can be used as a reference table for documenting, in the feedback report, the type of cessation medications that were provided by the quitline or other tobacco cessation service. It includes the most common manufacturers and product lines. Quitline service providers will need to ensure that their case management systems can report RxNorm codes for the brand names, dosages and quantities of any cessation medications dispensed.

Quitline service providers will also need to decide whether to ingest, store and/or display medication lists reported in the Continuity of Care Document.

Table 13: RxNorm Codes for NRT

RxNorm Label	RxNorm Code
GENERIC	
Nicotine Chewing Gum	154906
24 HR Nicotine 0.583 MG/HR Transdermal Patch	198029
24 HR Nicotine 0.875 MG/HR Transdermal Patch	198030
24 HR Nicotine 0.292 MG/HR Transdermal Patch	198031
24 HR Nicotine 0.458 MG/HR Transdermal Patch	311972
24 HR Nicotine 0.917 MG/HR Transdermal Patch	311973
Nicotine 4 MG Chewing Gum	311975

RxNorm Label	RxNorm Code
Nicotine 2 MG Chewing Gum	314119
Nicotine 2 MG	328867
Nicotine 4 MG	330548
Nicotine 0.875 MG/HR	342903
Nicotine 0.625 MG/HR	343656
Nicotine 0.938 MG/HR	343657
Nicotine 0.583 MG/HR	345785
Nicotine 0.917 MG/HR	345786
Nicotine 0.292 MG/HR	345787
Nicotine 0.458 MG/HR	345793
Nicotine 2 MG Oral Lozenge	359817
Nicotine 4 MG Oral Lozenge	359818
Nicotine Inhalant Solution	377546
Nicotine Oral Lozenge	379040
24 HR Nicotine 0.625 MG/HR Transdermal Patch	419168
Nicotine 0.313 MG/HR	486162
Nicotine Transdermal Patch	721638
{ 14 (24 HR Nicotine 0.292 MG/HR Transdermal Patch) / 14 (24 HR Nicotine 0.583 MG/HR Transdermal Patch) / 28 (24 HR Nicotine 0.875 MG/HR Transdermal Patch) } Pack	892244
Nicotine Metered Dose Inhaler	896066
Nicotine Nasal Inhaler	896099
24 HR Nicotine 0.313 MG/HR Transdermal Patch	1046847
24 HR Nicotine 0.938 MG/HR Transdermal Patch	1046858
Nicotine Inhalant Product	1158678
Nicotine Nasal Product	1158679
Nicotine Oral Product	1158680

RxNorm Label	RxNorm Code
Nicotine Topical Product	1158682
Nicotine Lozenge Product	1294869
Nicotine Chewable Product	1295188
Nicotine Transdermal Product	1295678
<i>ACTUAT Inhaler</i>	
Nicotine 4 MG/ACTUAT Inhalant Solution	250983
Nicotine 4 MG/ACTUAT	337329
Nicotine 0.5 MG/ACTUAT	896098
200 ACTUAT Nicotine 0.5 MG/ACTUAT Nasal Inhaler	896100
Nicotine 0.5 MG/ACTUAT [Nicotrol]	896101
200 ACTUAT Nicotrol 0.5 MG/ACTUAT Nasal Inhaler	896103
168 ACTUAT Nicotine 4 MG/ACTUAT Metered Dose Inhaler	966531
Nicotine 4 MG/ACTUAT [Nicotrol]	966532
Nicotine 4 MG/ACTUAT [Nicotrol Inhaler]	1189284
168 ACTUAT Nicotrol Inhaler 4 MG/ACTUAT Metered Dose Inhaler	1189287
<i>COMMIT</i>	
Commit Lozenge	354001
Commit Oral Lozenge 2 MG Oral Lozenge	404421
Commit Oral Lozenge 4 MG Oral Lozenge	404422
Nicotine Oral Lozenge [Commit Lozenge]	405967
Nicotine 2 MG [Commit Lozenge]	576382
Nicotine 4 MG [Commit Lozenge]	576383
Commit Lozenge Oral Product	1167400
Commit Lozenge Lozenge Product	1296667
<i>HABITROL</i>	
Habitrol	203781
Habitrol 0.583 MG/HR 24 HR Transdermal Patch	207712

RxNorm Label	RxNorm Code
Habitrol 0.875 MG/HR 24 HR Transdermal Patch	207716
Habitrol 0.292 MG/HR 24 HR Transdermal Patch	207734
Nicotine 0.583 MG/HR [Habitrol]	568457
Nicotine 0.875 MG/HR [Habitrol]	568461
Nicotine 0.292 MG/HR [Habitrol]	568479
Habitrol Topical Product	1176088
Habitrol Transdermal Product	1296142
NICODERM	
Nicoderm C-Q 0.583 MG/HR 24 HR Transdermal Patch	351427
Nicoderm C-Q 0.875 MG/HR 24 HR Transdermal Patch	351429
Nicoderm C-Q 0.292 MG/HR 24 HR Transdermal Patch	351433
Nicoderm C-Q	352799
Nicotine 0.292 MG/HR [Nicoderm C-Q]	685559
Nicotine Transdermal Patch [Nicoderm C-Q]	685560
Nicotine 0.875 MG/HR [Nicoderm C-Q]	685562
Nicotine 0.583 MG/HR [Nicoderm C-Q]	685563
Nicoderm C-Q Topical Product	1183366
Nicoderm C-Q Transdermal Product	1296791
NICORELIEF	
Nicorelief	605815
Nicotine 2 MG [Nicorelief]	605816
Nicotine Chewing Gum [Nicorelief]	605817
Nicorelief 2 MG Chewing Gum	605818
Nicotine 4 MG [Nicorelief]	605819
Nicorelief 4 MG Chewing Gum	605820
Nicorelief 2 MG Oral Lozenge	748051
Nicorelief 4 MG Oral Lozenge	748052

RxNorm Label	RxNorm Code
Nicorelief Oral Product	1183373
Nicorelief Lozenge Product	1295831
Nicorelief Chewable Product	1295858
NICORETTE	
Nicorette Plus 4 MG Chewing Gum	105071
Nicorette Plus	152112
Nicorette	203808
Nicorette 2 MG Chewing Gum	209326
Nicotine Chewing Gum [Nicorette Plus]	385259
Nicotine 2 MG [Nicorette]	569940
Nicotine 4 MG [Nicorette Plus]	685553
Nicotine Chewing Gum [Nicorette]	706023
Nicotine Oral Lozenge [Nicorette]	968848
Nicorette 2 MG Troche	968849
Nicotine 4 MG [Nicorette]	968850
Nicorette 4 MG Oral Lozenge	968851
Nicorette Oral Product	1183374
Nicorette Plus Oral Product	1183375
Nicorette Chewable Product	1296194
Nicorette Lozenge Product	1296535
Nicorette Plus Chewable Product	1296668
NICOTROL	
Nicotrol	218734
Nicotine Transdermal Patch [Nicotrol]	367448
Nicotine 0.938 MG/HR [Nicotrol]	568460
Nicotine Nasal Inhaler [Nicotrol]	896102
Nicotrol 15 MG per 16 HR Transdermal Patch	1046863

RxNorm Label	RxNorm Code
Nicotine Inhalant Solution [Nicotrol]	1046919
Nicotrol 4 MG/ACTUAT Inhalant Solution	1046920
Nicotrol Inhalant Product	1183379
Nicotrol Nasal Product	1183380
Nicotrol Topical Product	1183381
Nicotrol Inhaler	1189283
Nicotine Metered Dose Inhaler [Nicotrol Inhaler]	1189285
Nicotrol Inhaler Inhalant Product	1189286
Nicotrol Transdermal Product	1296353
THRIVE	
Thrive Chewable Product	367457
Thrive 4 MG Chewing Gum	748050
Thrive 2 MG Chewing Gum	1011867
Nicotine 2 MG [Thrive]	1011868
Nicotine Chewing Gum [Thrive]	1011869
Thrive 2 MG Chewing Gum	1011870
Nicotine 4 MG [Thrive]	1011871
Thrive 4 MG Chewing Gum	1011872
Thrive Chewable Product	1297084

Table 14: Rx Norm Codes for Cessation Meds

RxNorm Label	RxNorm Code
BUPROPION (generic)	
Bupropion	42347
Bupropion Hydrochloride	203204
Bupropion Oral Tablet	378233

RxNorm Label	RxNorm Code
Bupropion Extended Release Oral Tablet	378354
Bupropion Extended Release Oral Tablet [Wellbutrin	491056
Bupropion Hydrochloride 100 MG	993502
12 HR Bupropion Hydrochloride 100 MG Extended Release Oral Tablet	993503
Bupropion Hydrochloride 150 MG	993517
12 HR Bupropion Hydrochloride 150 MG Extended Release Oral Tablet	993518
Bupropion Hydrochloride 200 MG	993532
12 HR Bupropion Hydrochloride 200 MG Extended Release Oral Tablet	993536
24 HR Bupropion Hydrochloride 150 MG Extended Release Oral Tablet	993541
Bupropion Hydrochloride 300 MG	993556
24 HR Bupropion Hydrochloride 300 MG Extended Release Oral Tablet	993557
Bupropion Hydrochloride 100 MG Oral Tablet	993687
Bupropion Hydrochloride 75 MG	993690
Bupropion Hydrochloride 75 MG Oral Tablet	993691
Bupropion Oral Product	1151365
Bupropion Pill	1151366
CHANTIX	
Chantix	636230
Varenicline Oral Tablet [Chantix]	637187
Chantix 0.5 MG Oral Tablet	637188
Varenicline 1 MG [Chantix]	637189
Chantix 1 MG Oral Tablet	637190
Chantix Continuing Months Of Therapy 1 MG Pack	795735
Chantix Starting Month PAK	795737
Chantix Oral Product	1167380
Chantix Pill	1167381
VARENICLINE (generic)	

RxNorm Label	RxNorm Code
Varenicline	591622
Varenicline 0.5 MG	636669
Varenicline Oral Tablet	636670
Varenicline 0.5 MG Oral Tablet	636671
Varenicline 1 MG	636675
Varenicline 1 MG Oral Tablet	636676
Varenicline 0.5 MG [Chantix]	637186
{11 (Varenicline 0.5 MG Oral Tablet) / 42 (Varenicline 1 MG Oral Tablet) } Pack	749289
{56 (Varenicline 1 MG Oral Tablet) } Pack	749788
Varenicline Oral Product	1164567
Varenicline Pill	1164568
WELLBUTRIN	
Wellbutrin	42568
Bupropion Oral Tablet [Wellbutrin]	94591
Bupropion Hydrochloride 100 MG [Wellbutrin]	993510
12 HR Wellbutrin 100 MG Extended Release Oral Tablet	993511
Bupropion Hydrochloride 150 MG [Wellbutrin]	993527
12 HR Wellbutrin 150 MG Extended Release Oral Tablet	993528
Bupropion Hydrochloride 200 MG [Wellbutrin]	993534
12 HR Wellbutrin 200 MG Extended Release Oral Tablet	993537
24 HR Wellbutrin 150 MG Extended Release Oral Tablet	993545
Bupropion Hydrochloride 300 MG [Wellbutrin]	993563
24 HR Wellbutrin 300 MG Extended Release Oral Tablet	993564
Wellbutrin 100 MG Oral Tablet	993688
Bupropion Hydrochloride 75 MG [Wellbutrin]	993692
Wellbutrin 75 MG Oral Tablet	993693
Wellbutrin Oral Product	1187946

RxNorm Label	RxNorm Code
Wellbutrin Pill	1187947

NRT Status

Use SNOMED codes to record NRT status when NRT is provided free as part of cessation services. SNOMED codes are built in to CEHRT.

This information is useful to document why a patient was not provided NRT when offered.

Free text in the Progress Note Plan of Care section may provide additional narrative notes on NRT status. It should be used as an adjunct, and not a substitute, to this structured data element.

NAQC Concept	SNOMED Description	SNOMED Code
NRT provided	Nicotine replacement therapy provided free	390905006
NRT contraindicated	Nicotine replacement therapy contraindicated	395174005
NRT refused	Nicotine replacement therapy refused	315022003

Preferred Language

This value set is the standard included in Certified EHRs 2014 Edition. The languages most commonly spoken in the US are shown in the table below. A complete list of this value set can be found at the Library of Congress, ISO Standards.³⁴

ISO 639-2 is the alpha-3 code in Codes for the Representation of Names of Languages-Part 2. Multiple codes assigned to the same language are to be considered synonyms. Only alpha-3 codes that also have a corresponding alpha-2 code are used by ONC.

English Name of Language	ISO 639-2 Code
Arabic	ara
Chinese	chi, zho
English	eng
French	fre, fra
German	ger, deu
Italian	ita
Japanese	jpn
Korean	kor
Russian	rus

English Name of Language	ISO 639-2 Code
Spanish	spa
Tagalog	tgl
Vietnamese	vie

Preferred and Secondary Phone Numbers

This value set is the standard included in Certified EHRs 2014 Edition. This value set applies to both patient phone numbers and provider phone numbers.

*For patient numbers, use the CDA code to designate which type of phone number.
For provider numbers, use the CDA code “WP”. Within the body of the CDA, use the value “Tel xxx-xxx-xxxx” for a phone number and :Fax xxx-xx-xxxx” for a fax number.*

Phone Use	CDA Code
Primary Home	HP
Work Place	WP
Mobile Contact	MC
Vacation Home	HV

Program Status

Use paired SNOMED codes to record patient status in the cessation program. This field is only used for participants for whom Enrollment Status is recorded as “Accepted”. SNOMED codes are built in to CEHRT.

Program status may change over the course of a cessation treatment. For example, a patient may be actively participating at the time of the first referral report (i.e., progress note), and the program status will show as “active”. The second feedback report generated weeks later will record the patient status at the conclusion of cessation services, such as “disengaged”, “disenrolled” or “program completed”.

Free text in the Progress Note Plan of Care section may provide additional narrative notes on program status. It should be used as an adjunct, and not a substitute, to this structured data element.

NAQC Concept	SNOMED Description	SNOMED Code	Use
Active Patient currently enrolled and participating in cessation services	Smoking cessation assistance Active	384742004 55561003	AND
Deceased Patient died before cessation services could be completed	Smoking cessation assistance Patient status determination, deceased	384742004 746150010	AND
Disengaged Patient became unreachable after enrolling in cessation services	Smoking cessation assistance Patient defaulted from follow-up	384742004 275694009	AND
Disenrolled Patient declined further cessation services or was disenrolled for cause	Smoking cessation assistance Counseling declined	384742004 439495000	AND
Program Completed Patient completed all cessation treatments	Smoking cessation assistance Treatment completed	384742004 182992009	AND

Race

This value set is the standard included in Certified EHRs 2014 Edition.

Race Categories	CDA Code
American Indian or Alaska Native	1002-5
Asian	2028-9
Black or African American	2054-5
Native Hawaiian or Other Pacific Islander	2076-8
White	2106-3
Other	2131-1

Smoking Status

This value set is the standard included in Certified EHRs 2014 Edition.

Smoking Status is a CDA field name; this field is typically used in EHRs to document any type of tobacco use. *ONC final rules clarify that an EHR or quitline case management system does not*

have to display the exact SNOMED descriptors shown here, as long the appropriate concept is captured.

For the EHR Incentive Program, smoking (tobacco) status should be recorded at least annually for all patients 13 years and older, and included in transition of care documents such as the CCD. This same value set can be used by tobacco cessation services to report back on the outcomes of patients referred for cessation treatment.

Free text in the Progress Note Plan of Care section may provide additional narrative notes on smoking status. It should be used as an adjunct, and not a substitute, to this structured data element.

SNOMED Descriptor	ONC Description	SNOMED Code
Current every day smoker	An individual who has smoked at least 100 cigarettes during his/her lifetime and still regularly smokes every day	449868002
Current some day smoker	An individual who has smoked at least 100 cigarettes during his/her lifetime and still regularly smokes periodically, yet consistently	428041000124106
Former smoker	An individual who has smoked at least 100 cigarettes during his/her lifetime but does not currently smoke	8517006
Never smoker	An individual who has not smoked 100 or more cigarettes during his/her lifetime	266919005
Smoker, current status unknown	An individual who has smoked at least 100 cigarettes during his/her lifetime, but whether they currently still smoke is unknown	77176002
Unknown if ever smoked	Unknown if an individual has ever smoked	266927001
Heavy tobacco smoker	An individual who smokes more than 10 cigarettes per day, or an equivalent (but less concretely defined) quantity of cigar or pipe smoke	428071000124103
Light tobacco smoker	An individual who smokes less than 10 cigarettes per day, or an equivalent (but less concretely defined) quantity of cigar or pipe smoke	428061000124105

Treatment Status

Use the appropriate SNOMED code to record cessation services received by patient. This field is only used for participants for whom Enrollment Status is recorded as “Accepted”. SNOMED codes are built in to CEHRT.

Record a SNOMED code and date each time a counseling session is completed. If a patient enrolls in web-based services only, record the code and date of enrollment. If patient enrolls in both counseling and web-based services, record both codes.

Free text in the Progress Note Plan of Care section may provide additional narrative notes on treatment status. It should be used as an adjunct, and not a substitute, to this structured data element.

NAQC Concept	SNOMED Description	SNOMED Code	Use
Group Counseling	Support group education, guidance, and counseling	410318000	
In Person Counseling Program	Behavior modification education, guidance, and counseling	410273004	
Phone Counseling Program	Behavior modification education, guidance, and counseling Telephone encounter	410273004 185317003	AND
Online Program	Smoking cessation assistance Web-based application software	384742004 706690007	

APPENDIX D: COMMON CLINICAL DATA SET

The Common Clinical Data Set (formerly known as the Common MU Data Set) defined by ONC in federal regulations includes the data elements listed below. A summary of care record must include the following elements for Stage 2 or later of the EHR Incentive Program.^{35 36}

See the [Standards Hub](#) website maintained by ONC for a list and supporting documentation for all standards used in Certified EHRs 2014 Edition, including these data elements.

Care plan field, including goals and instructions

Care team including the primary care provider of record and any additional known care team members beyond the referring or transitioning provider and the receiving provider

Current medication allergy list

Current medication list

Current problem list (may also include historical problems at user discretion)

Demographic information (preferred language, sex, race, ethnicity, date of birth)

Discharge instructions (hospitals only)

Encounter diagnosis

Functional status, including activities of daily living, cognitive and disability status

Immunizations

Laboratory test results

Patient name

Procedures

Reason for referral (eligible professionals only)

Referring or transitioning provider's name and office contact information
(eligible professionals only)

Smoking status

Vital signs (height, weight, blood pressure, BMI)

APPENDIX E: CHECKLIST FOR HEALTHCARE SYSTEMS

This checklist is intended to help healthcare systems conduct an inventory of their EHR functionality to include EHR vendor and version, message transport and delivery protocols, method for adding order sets, and other details required for eReferral implementation.

Record information about your EHR that will be used to establish bi-directional eReferral

EHR SYSTEM	
EHR Vendor Name	_____
EHR Product Name	_____
EHR Version No.	_____
EHR Certified for 2014 Edition EHR?	<input type="checkbox"/> Yes <input type="checkbox"/> No
EHR HISP Name	_____
Provider Direct email Address	_____
Provider NPI (for HISP)	_____
Notes on EHR: 	

Confirm that your EHR can send and receive cCDA document templates.

Message Structure	
Required	Function
<input type="checkbox"/> General Header, US Realm	Send and receive
<input type="checkbox"/> Continuity of Care Document	Send (receive if also providing tobacco cessation services)
<input type="checkbox"/> Progress Note	Receive (send if also providing tobacco cessation services)

Notes on Message Structure:

Record information about the quitline with which you will be establishing bi-directional eReferral. This information will be used to set up Direct messaging.

QUITLINE CASE MANAGEMENT SYSTEM

Quitline Name	_____
Quitline Service Provider (QSP) Name	_____
QSP Contact Name	_____
QSP Contact Phone	_____
QSP Contact email	_____
eReferral Technical Standards implemented?	<input type="checkbox"/> Yes <input type="checkbox"/> No
QSP HISP Name	_____
QSP Direct Email Address	_____
QSP NPI	_____

Notes on Quitline

Review the list of required data elements and confirm that they are included on a standard CCD created by your EHR. Select the optional data elements that you would like to collect and send on referral forms. Note that optional data elements may not be available in all EHRs. Discuss this list with the quitline service provider for your quitline, as they may have reporting requirements or restrictions. Data Elements are in alphabetical order; those contained in the CCD are *italicized*, all others are part of the General Header.

Message Content- Referral Forms

Required	Optional
<input checked="" type="checkbox"/> Author	<input type="checkbox"/> <i>Best Day to Call</i>

<input checked="" type="checkbox"/> Care Team Members <input checked="" type="checkbox"/> Custodian <input checked="" type="checkbox"/> Date of Birth (DOB) <input checked="" type="checkbox"/> Document ID <input checked="" type="checkbox"/> Document Time and Date <input checked="" type="checkbox"/> Gender <input checked="" type="checkbox"/> <i>Medication Allergies</i> <input checked="" type="checkbox"/> <i>Medications</i> <input checked="" type="checkbox"/> Patient Address <input checked="" type="checkbox"/> Patient ID <input checked="" type="checkbox"/> Patient Name <input checked="" type="checkbox"/> Primary Phone <input checked="" type="checkbox"/> <i>Problem List</i> <input checked="" type="checkbox"/> <i>Procedures</i> <input checked="" type="checkbox"/> Provider Address <input checked="" type="checkbox"/> Provider ID <input checked="" type="checkbox"/> Provider Name <input checked="" type="checkbox"/> Provider Phone Number <input checked="" type="checkbox"/> <i>Results</i>	<input type="checkbox"/> <i>Best Time to Call</i> <input type="checkbox"/> <i>Encounter Date</i> <input type="checkbox"/> <i>Encounter ID</i> <input type="checkbox"/> Ethnicity <input type="checkbox"/> <i>NRT Authorization</i> <input type="checkbox"/> Patient Consent <input type="checkbox"/> <i>Patient Consent (free text)</i> <input type="checkbox"/> Preferred Language <input type="checkbox"/> Race <input type="checkbox"/> Secondary Phone <input type="checkbox"/> <i>Smoking Status</i> <input type="checkbox"/> <i>Vital Signs</i>
Notes on any structured (discrete) or unstructured (free text) requirements:	

Review the list of required data elements and confirm that they are included on a standard Progress Note created by the quitline. Select the optional data elements that you would like to receive and store on feedback reports. Note that optional data elements may not be available in all quitline case management systems. Discuss this list with the quitline service provider for your quitline, as they may have reporting requirements or restrictions. Data Elements are in alphabetical order; those contained in the Progress Note are *italicized*, all others are part of the General Header.

Message Content- Feedback Reports	
Required	Optional
<input checked="" type="checkbox"/> Author <input checked="" type="checkbox"/> Care Team Members <input checked="" type="checkbox"/> Custodian <input checked="" type="checkbox"/> Date of Birth (DOB) <input checked="" type="checkbox"/> Document ID <input checked="" type="checkbox"/> Document Time and Date <input checked="" type="checkbox"/> Gender	<input type="checkbox"/> <i>Assessment –or–</i> <input type="checkbox"/> <i>Assessment and Plan</i> <input type="checkbox"/> <i>Encounter Date</i> <input type="checkbox"/> <i>Encounter ID</i> <input type="checkbox"/> <i>Enrollment Status</i> <input type="checkbox"/> <i>NRT Status</i>

<input checked="" type="checkbox"/> Medications <input checked="" type="checkbox"/> Patient Address <input checked="" type="checkbox"/> Patient ID <input checked="" type="checkbox"/> Patient Name <input checked="" type="checkbox"/> Primary Phone <input checked="" type="checkbox"/> Quitline/Provider ID <input checked="" type="checkbox"/> Quitline/Provider Name <input checked="" type="checkbox"/> Quitline/Provider Phone Number <input checked="" type="checkbox"/> Quitline/Provider Address	<input type="checkbox"/> Plan of Care (narrative notes) <input type="checkbox"/> Program Status <input type="checkbox"/> Smoking Status <input type="checkbox"/> Treatment Status
Notes on any structured (discrete) or unstructured (free text) requirements:	

Determine what secure transport method you will use to send and receive eReferral messages. For quitlines, determine which transport methods you will offer.

Message Transport	
Required	Optional
<input type="checkbox"/> Direct Messaging with SMTP	<input type="checkbox"/> Direct Messaging with XDM <input type="checkbox"/> SOAP Protocol

Identify who should receive feedback reports from the tobacco cessation service. This is especially important for hospitals using cCDA, where multiple care team members may be listed in the referral form. This information will need to be reported in the General Header under Care Team Members.

Message Recipients	
<input type="checkbox"/> Referring Provider <input type="checkbox"/> Primary Care Provider <input type="checkbox"/> Treating Provider <input type="checkbox"/> Hospitalist <input type="checkbox"/> Case Management/Social Work <input type="checkbox"/> Other_____	<input type="checkbox"/> Tobacco Treatment Team <input type="checkbox"/> Nursing <input type="checkbox"/> Respiratory Therapy <input type="checkbox"/> Pharmacy <input type="checkbox"/> Other_____

Notes on how care team member names and NPIs are stored in cCDA Headers:

Find out the protocol for how messages are matched and stored in patient electronic records. How are providers alerted to new messages? Note the process for acknowledging receipt of a patient document

Message Delivery

- | | |
|---|---|
| <input type="checkbox"/> Direct address- individual provider | <input type="checkbox"/> EHR inbox- individual provider |
| <input type="checkbox"/> Direct address, group mailbox with routing | <input type="checkbox"/> Other_____ |

Notes on how care team members acknowledge receipt of patient documents:

Determine which data elements contained in the Progress Note can be extracted and store in the EHR as discrete data

Message Storage

Required

- ☐ Problems
- ☐ Medications
- ☐ Medication Allergies

Optional

- ☐ Assessment –or–
- ☐ Assessment and Plan
- ☐ Plan of Care
- ☐ Interventions
- ☐ Social History
- ☐ Other_____

Notes on how discrete data can be extracted and used for research and reporting:

Select any performance measures that will be used as part of the tobacco treatment program.

Performance Measures – Eligible Professionals

<input type="checkbox"/> EHR: Smoking status	<input type="checkbox"/> PQRS: Tobacco Use: Screening and Cessation Intervention
<input type="checkbox"/> EHR: Transition of care summary	<input type="checkbox"/> PQRS: Closing the Referral Loop: Receipt of Specialist Report
<input type="checkbox"/> EHR: Specialized registry reporting	<input type="checkbox"/> PQRS Tobacco Use and Help with Quitting Among Adolescents
<input type="checkbox"/> EHR: Clinical quality measures (CQM)	
<input type="checkbox"/> EHR: Clinical decision support	
<input type="checkbox"/> EHR: Generate patient lists	
<input type="checkbox"/> EHR: Patient-specific education resources	

Performance Measures – Hospitals

<input type="checkbox"/> EHR: Smoking status	<input type="checkbox"/> JC: Tobacco Treatment Measure Set
<input type="checkbox"/> EHR: Transition of care summary	<input type="checkbox"/> HEDIS: Medical Assistance With Smoking and Tobacco Use Cessation
<input type="checkbox"/> EHR: Clinical quality measures (CQM)	
<input type="checkbox"/> EHR: Clinical decision support	
<input type="checkbox"/> EHR: Generate patient lists	
<input type="checkbox"/> EHR: Patient-specific education resources	

APPENDIX F: SAMPLE WORKPLAN FOR HEALTHCARE SYSTEMS

Sample workplan provided courtesy of National Jewish Health.^R

Goals and Strategies

By [insert date], [insert healthcare system name] will begin integrating tobacco cessation into routine clinical care for [insert patient type, e.g., inpatients, cancer patients, pregnant patients] through the following strategies:

1. Engage medical and clinical staff to help integrate evidence-based tobacco treatment guidelines into routine clinical care.
2. Provide technical assistance to incorporate tobacco dependence treatment into EHR systems and workflows.
3. Educate health care providers about eReferral workflow and evidence-based treatment for tobacco dependence.
4. Measure and report on performance and/or quality objectives required by licensing, accreditation and regulatory bodies, such as the EHR Incentive Program, Joint Commission standards, and PQRS measures.
5. Measure the implementation of health systems changes and the impact of these changes on outcomes in affected patient populations.

As a result of these strategies, we will meet the following goals:

- Increase clinical knowledge about the burden of tobacco, evidence-based cessation treatments, and treating tobacco as a chronic disease.
- Increase the percentage of clinicians who refer patients through the EHR to cessation services.
- Increase the number and quality of referrals to quitlines and other cessation resources.
- Increase the number of inpatients who are provided with NRT or other cessation medications to manage nicotine withdrawal during hospitalization.
- Increase the number of patients receiving an evidence-based cessation treatment.
- Increase the number of patients who report quitting tobacco use.

^R ©NJH 2015

Project Plan

The following template can be used to develop a project plan with tasks, deliverables, responsible parties, and timeline.

Project Task	Deliverable	Resp	Date
Project Leadership and Management			
Form multidisciplinary advisory team to oversee implementation of tobacco cessation program and develop team charter. Members may include medical staff, nursing and clinic staff, pharmacy, respiratory therapy, information technology, etc.	Advisory team formed and regular meetings scheduled		
Identify program champions from administration and medical staff who will help address barriers and guide implementation of program changes.	Project champions named and committed		
Contact representatives from state quitline and their quitline services provider to learn about available resources and current eReferral capabilities.	Quitline resources and capabilities identified		
Agree upon goals and strategies for the eReferral project (see examples above). Define the project scope (e.g., patient population, location) and any boundaries (such as IT system limits).	Goals, strategies, project scope and boundaries identified		
Designate program coordinator responsible for managing the design, implementation and monitoring of cessation counseling into routine clinical care.	Tobacco cessation program coordinator selected and job description approved		
Provide NAQC issue paper on Quitline Referral Systems to stakeholders as identified by the advisory team. (http://c.ymcdn.com/sites/naquitline.site-ym.com/resource/resmgr/Issue_Papers/QuitlineReferralSystemsQuali.pdf)	NAQC issue paper distributed electronically.		
Designate education team responsible for preparing the education and training materials and for clinicians and staff.	Education team to provide training identified		
Practice Workflow and Documentation			
Provide this NAQC guide on eReferral implementation to advisory team to use as template for program development.	NAQC eReferral implementation guide distributed		
Obtain documentation and any required approvals and agreements for the project (e.g., JC, PQRS, data use, IRB, patient consent).	Project documentation in place		
Provide sample process flows, tobacco order sets, prescribing guidelines, and discharge instructions to advisory team to use as templates for program development.	Receipt of materials by advisory team		

Project Task	Deliverable	Resp	Date
Assess current workflow, identifying who is responsible for each step of treatment delivery, identify gaps and desired changes to workflow.	Current workflow documented and gaps and desired changes identified		
Determine pharmacotherapy options available to patients through insurance and quitline coverage, and identify who will discuss and prescribe (e.g., attending physician, hospitalist, CNP).	Pharmacotherapy plan in place		
Agree upon which intervention model will be used for cessation services: 5As, 2As and an R, or 2As and a C. See NAQC issue paper on Quitline Referral Systems if additional information is needed on intervention models.	Intervention model approved		
Agree upon clear roles and responsibilities for delivering the cessation protocol among a multidisciplinary team. The team will vary based on inpatient setting (e.g., hospitalist, attending physician, nursing staff, respiratory therapy) vs. outpatient setting (e.g., primary care physician, nursing staff, medical assistant, tobacco treatment specialist).	Tobacco cessation workflow and practice tools approved		
Design, review and approve all practice tools required for implementation (EHR pop-up menus, order sets, discharge instructions, other)	Practice tools approved, documented and ready for EHR installation		
Develop a roll out plan for the tobacco cessation program by clinical area, prioritizing those areas with the highest percentage of tobacco users and/or disparate use populations.	Roll out plan for tobacco cessation program by clinical area		
<i>EHR Implementation</i>			
Form an IT implementation team to oversee installation of eReferral standards for tobacco cessation	IT implementation team formed.		
Conduct an inventory of EHR functionality to include EHR vendor and version, HIE vendor and capabilities, message transport and delivery protocols, method for adding order sets, patient education resources, and discharge instructions, drug formulary for cessation medications, etc.	Completed inventory of EHR functionality		
Install tobacco cessation order sets, discharge instructions, and referral forms into EHR.	EHR set up required for eReferral successfully installed and ready for general use		
Confirm that cCDA documents for Continuity of Care and Progress Notes are available within EHR.	Message structure confirmed		

Project Task	Deliverable	Resp	Date
Decide which of the optional data elements will be included on referral forms and feedback reports.	Data elements confirmed		
Decide whether providers will include narrative notes within the referral form	Data elements confirmed		
Decide upon method for secure exchange of electronic referral forms and feedback reports (Direct Messaging, Direct with XDM, SOAP with XDM).	Message transport method selected		
Determine which members of the care team will receive feedback reports from the tobacco cessation service. Find out how care team members are documented in the cCDA header.	Message recipients identified Names and IDs available in header		
Determine what process is used to deliver messages electronically to the patient record and how messages are acknowledged by the healthcare team	Message delivery and acknowledgement process identified		
Complete the eReferral Implementation Checklist to document all decisions made on message content, structure, transport, delivery, and use for performance measure sets.	eReferral Implementation checklist completed		
Confirm that all eReferral components are functional (document formats, message transport and delivery, interface engines) by exchanging referral forms and feedback reports between provider EHR and state quitline.	Test documents successfully sent and received between EHR and tobacco cessation service		
<i>Education and Training</i>			
Assess medical and clinical staff knowledge about burden of tobacco, use of evidence-based clinical cessation interventions, pharmacotherapy, importance of treating tobacco dependence as a chronic condition, and awareness about quitlines and other tobacco cessation services available to patients.	Baseline measure of provider knowledge		
Identify educational needs and training tools for medical and clinical staff. Present findings to advisory team.	List of priority needs for education and training		
Develop or acquire training materials (e.g., online, classroom) on tobacco cessation to include topics identified above. Determine if CME credits will be awarded and set up CME.	Training materials on tobacco cessation best practices CME credits offered		

Project Task	Deliverable	Resp	Date
Prepare in-service training materials on tobacco cessation protocol for routine clinical care, including use of EHR tools.	In-service materials on eReferral workflow and EHR screens specific to each facility		
Train education team on how to use selected training materials.	Train the trainer sessions completed		
Conduct education programs and in-service training for designated medical and clinical staff	Medical and clinical staff trained on tobacco cessation and eReferral workflow		
<i>eReferral Implementation</i>			
Begin using tobacco cessation protocol and EHR in clinical areas designated as pilot sites.	Tobacco cessation program operational within pilot site clinical areas		
Assess pilot site experience with tobacco cessation protocol and EHR tools using process improvement tools, interviews and staff feedback. Identify any needed revisions.	Pilot site feedback collected and analyzed		
Complete any revisions recommended after pilot site implementation. Use Plan Do Check Act cycle of process improvement to ensure that changes accomplish their intended goal.	Revisions to tobacco cessation protocol and EHR tools implemented.		
Roll out tobacco cessation program to additional clinical areas as prioritized in the roll-out plan.	Tobacco cessation program in use within designated units of hospital		
Continue roll out of tobacco cessation program to all clinical areas identified in the roll-out plan.	Tobacco cessation program in use throughout hospital or clinic		
Expand tobacco cessation program to other clinics and facilities within a healthcare system, applying lessons learned to roll-out and implementation	Tobacco cessation program in use throughout healthcare system		
<i>Measurement and Reporting</i>			
Identify what data must be collected and when to meet reporting requirements for licensing, accreditation and regulatory bodies.	Required measures identified		

Project Task	Deliverable	Resp	Date
Set up data collection methods to capture all information required to meet external and internal reporting requirements.	Data collection and reporting methods established		
Measure proportion of patients who accept an eReferral during a clinical encounter	% of referrals accepted		
Measure proportion of patients who are reached and enroll in tobacco cessation services after an eReferral	% of referrals contacted % of referrals enrolled		
Measure number of patients who receive a tobacco cessation intervention pre- and post-implementation of eReferrals.	# and % of cessation interventions		
Measure number of inpatients who receive NRT or prescription medications during their inpatient stay to manage nicotine withdrawal symptoms pre- and post-implementation of eReferrals.	# and % of inpatients managed for nicotine withdrawal		
Measure number of patients who receive a prescription for NRT or other cessation medications pre- and post-implementation of eReferrals.	# and % of patients who receive a prescription for cessation medications		
Document number of direct referrals from provider to tobacco cessation service pre- and post-implementation of eReferrals.	Number and % of referrals to tobacco cessation service		
Document the number of direct referrals from provider to other cessation services pre- and post-implementation of eReferrals.	Number and % of referrals to other cessation service(s)		
Assess medical and clinical staff knowledge pre- and post-implementation using a standardized survey tool.	Survey findings on staff knowledge		
Assess outcomes measures of cessation interventions, including reach, engagement and quit rates, using data collected by the quitline.	Outcomes measures		

APPENDIX G: ACTION PLAN FOR STATE QUITLINES

This checklist is intended to help state departments of health and other quitline funders organize and facilitate implementation of eReferral systems. The action plan items are not sequential and may be completed in any order, and may not be applicable in all situations.

Create an eReferral plan that supports overall tobacco control goals and priorities. Coordinate efforts with other state agencies.

State Health Departments

- ☐ Determine goals and plans for eReferral implementation in context of overall tobacco control goals and priorities. Meet with officials in other public health divisions to ensure eReferral plan is coordinated with other initiatives such as chronic disease management, tobacco control, and health IT interoperability.
- ☐ Determine how healthcare systems will be recruited and selected for eReferral pilots, if needed (i.e., RFP process or existing quitline contracts).
- ☐ Decide how effectiveness of eReferral initiatives and investment will be evaluated and reported. (See Other Measures of Effectiveness in Section Five.)
- ☐ Ensure adequate staffing for the project. Assign an individual to be responsible for facilitating eReferral implementation among all stakeholders.
- ☐ Identify potential healthcare systems to contact based on state priorities and other factors that help with implementation:
 - Ability to reach predominantly low SES or priority population patients
 - Patient volume and demographics (to increase treatment reach)
 - Geographic location
 - Participation in the EHR Incentive program
 - EHR system certified for Stage 2 or later
 - A physician or other key executive champion for tobacco cessation
 - Experience using fax referrals to quitlines
- ☐ Confer with Medicaid officials to ensure that tobacco cessation service benefits are coordinated and communicated to patients and providers.
- ☐ Meet with health IT experts at the state health department to learn about statewide initiatives for interoperability. Find out how other public health reporting measures required by the EHR Incentive Program (immunizations, emergency department visits [“syndromic surveillance”], and infectious disease laboratory results) are reported to the state.
- ☐ Explore support for certifying state quitline as a specialized registry for tobacco dependence and treatment under the EHR Incentive Program. Discuss process and associated costs, if any, for obtaining certification.

Meet with healthcare systems in your state to identify candidates for pilot sites (if needed) and to qualify sites that are ready for eReferral implementation.

Healthcare Systems

- ☐ Interview key stakeholders (e.g., hospital systems, physician groups) to assess management support for tobacco cessation services and ability to invest resources in systems change. Discuss how eReferrals could be used to help meet performance measures. Find out if there is an existing champion for tobacco treatment.
- ☐ Obtain information on healthcare system fit against criteria developed in eReferral planning above.
- ☐ Describe financial support for eReferral initiatives, including quitline services, pharmacotherapy eligibility, coverage by Medicaid and other health plans, and any funds available to help with implementation, education or other systems change expenses.
- ☐ Provide NAQC resources to selected healthcare systems, including issue paper, eReferral implementation guide, and website link with eReferral resources.
- ☐ Determine what other resources will be made available to assist healthcare systems with systems change initiatives (e.g., consulting support, professional education) to build effective, sustainable tobacco cessation programs.
- ☐ Meet with healthcare systems selected for eReferral to understand their timeframe for implementation.

Meet with your quitline services provider to develop an eReferral plan.

Quitline Service Provider

- ☐ Review timeline and costs to build, pilot test and implement NAQC eReferral technical standards
- ☐ Discuss how eReferral initiatives will be funded, and agree upon funding sources (e.g., quitline funder, quitline service provider, healthcare system, health plan), for the following expense types:
 - Development costs of quitline service provider to build software for eReferral systems
 - Pilot study costs of healthcare system and quitline service provider to test eReferral system
 - Implementation costs to connect and test each new healthcare system implementation
 - Ongoing expenses for provider outreach and education on tobacco cessation and eReferrals
 - Program costs for enrolled patients (recruiting, coaching, online programs, pharmacotherapy)
- ☐ Review priority list of healthcare systems, and agree upon pilot testing, roll out plan, and associated implementation costs per organization.
- ☐ Discuss eligibility rules for patients referred for quitline services to ensure that referred patients are not denied cessation services. Determine how to ensure coverage of referred patients.
- ☐ Arrange for introductory meetings between quitline service provider and healthcare system(s) selected for eReferral implementation.
- ☐ Discuss interest and capability of quitline service provider to be certified as a specialized registry under the EHR Incentive Program. Review certification process and any associated costs.

APPENDIX H: HL7 OVERVIEW

HL7 Overview

Health Level 7 (HL7)^S is a nonprofit, international organization that works to promote interchange of health information by establishing standards. Founded in 1987, HL7 is a “standards developing organization” accredited by the American National Standards Institute (ANSI).^T HL7’s mission is to provide a comprehensive framework for the exchange, integration, sharing, and retrieval of electronic health information in support of clinical practice and management, delivery and evaluation of health services. HL7’s members represent more than 90% of health IT vendors.

HL7 has created and endorsed a messaging standard that enables clinical applications to exchange data. The primary purpose of HL7 is to simplify the process of creating interfaces between different health IT systems, thus reducing or eliminating the time and cost of custom software development. In simple terms, HL7 enables health IT systems to communicate with each other, even when they speak different languages. Different applications designed using HL7 include electronic health records, radiology information systems, lab information systems, and hospital information systems.

Advice for real-world implementation of interoperability solutions: As the health community moves forward with EHRs, the standard for exchanging clinical information between and among healthcare systems will be HL7v3. Moving from HL7v2 to HL7v3 is a costly and time-consuming process. Quitlines that have not implemented HL7v2 should avoid doing so, and should build to the HL7v3 standard. This standard will provide a toolset for sharing information across boundaries in a way that is scalable and discrete.

HL7 Version 2 vs Version 3

Two versions of HL7 are relevant for EHRs. Most EHRs certified for the EHR Incentive Program Stage 1 (2011 Edition) used HL7 version 2 (HL7v2), which has been deployed in health IT for many years. EHRs certified for the EHR Incentive Program Stage 2 or later (2014 or 2015 edition) are required to use HL7 version 3 (HL7v3). HL7v3 is synonymous with Clinical Document Architecture and uses XML (eXtensible Markup Language) encoding. XML provides a way of marking specific data elements within a document so that they can be located and read by an application. Since HL7v3 is not compatible with existing HL7 v2 implementations (meaning an HL7 v2 message cannot be directly replaced with an HL7v3 document without significant changes), EHR applications are adopting HL7v3 as the message structure standard moving forward.

^S For more information, see www.HL7.org.

^T For more information, see www.ansi.org.

HL7 Version 2

HL7 v2 standards have been updated regularly since 1987. Messages are both human- and machine-readable. Instead of using XML, HL7v2 uses certain characters to identify fields and data within a message, such as the pipe (|), caret (^), ampersand (&) and tilde (~).

Figure 9 provides an example of a feedback report in HL7 v2 coded structure. MSH is the header record, PID the Patient Identity, OBR the Observation Request, and OBX is the Observation, in this case a treatment summary.

Figure 9: HL7 v2 Machine Readable Format

```
MSH|^~\&||||20141223210031||ORU^R01|403
PID||D1393869||JONES^MAVIS||19691023|F||||||74139080
OBR||94006935||REFCOQL||||||||||||F
OBX||TX|&GDT||Quitline contact date: December 27, 2014
OBX||TX|&GDT||Quitline call disposition: One-Call
OBX||TX|&GDT||Quitline status: Accepted Services
OBX||TX|&GDT||
OBX||TX|&GDT||Treatment plan:
OBX||TX|&GDT||Planned quit date: January 11, 2015
OBX||TX|&GDT||Nicotine Lozenge 4 mg - 8 weeks
```

HL7 Version 3 / CDA

HL7 v3 and “Clinical Document Architecture” (CDA) are synonymous. CDA is a document markup standard issued by HL7 that specifies the structure and semantics of clinical documents for the purpose of exchange between healthcare providers and patients. CDA is very broad, as it provides a standard for the creation of all types of clinical documents, from progress notes to radiology reports.

HL7 v3 uses “consolidated Clinical Document Architecture” (cCDA) for its document templates. The “consolidated” part of cCDA refers to the issuance of a single implementation guide that brought together CDA documents developed by several different sources. The cCDA includes a library of standard templates for health care documents that are defined at three levels: document (e.g., progress note), section (e.g., vital signs), and entry (e.g., blood pressure). The end result is that clinical information, such as vital signs, is recorded and appears the same whether it is in a history and physical or progress note.

Figure 10: HL7 Human Readable Format

CO Quitline Progress Note

Patient	Mavis Jones
Date of birth	October 23, 1969
Sex	Female
Contact info	Primary Home: 1357 Big Elk Drive Littleton, CO 80127, US
Patient ID	998991 2.16.840.1.113883.19.5.99999.2
Document ID	TT988 2.16.840.1.113883.19.5.99999.1
Document Created:	September 16, 2014, 19:08 -0400

CDA messages are both machine- and human-readable. CDA uses XML tags, which provide a way of marking specific data elements within a document so that they can be located and read electronically by a software application. Figure 10 shows a Progress Note excerpt in human-readable format and Figure 11 shows the same information in HL7v3 coded structure.

Figure 11: HL7 v3 Machine Readable Format

```
<realmCode code="US"/>
<typeId root="2.16.840.1.113883.1.3" extension="POCD_HD000040"/>
<!-- US General Header Template -->
<templateId root="2.16.840.1.113883.10.20.22.1.1"/>
  <templateId root="2.16.840.1.113883.10.20.22.1.9"/>
  <id extension="TT988" root="2.16.840.1.113883.19.5.99999.1"/>
  <code codeSystem="2.16.840.1.113883.6.1"
codeSystemName="LOINC" code="11506-3"
  displayName="Summarization of Episode Note"/>
  <title>CO Quitline Progress Note</title>
  <effectiveTime value="201409161908-0400"/>
  <confidentialityCode code="N" codeSystem="2.16.840.1.113883.5.25"/>
  <languageCode code="en-US"/>
  <setId extension="sTT988" root="2.16.840.1.113883.19.5.99999.19"/>
  <versionNumber value="1"/>
  <recordTarget>
    <patientRole>
      <id extension="998991" root="2.16.840.1.113883.19.5.99999.2"/>
      <addr use="HP">
        <streetAddressLine>1357 Big Elk Drive
        <city>Littleton</city>
        <state>CO</state>
        <postalCode>80127</postalCode>
      <patient>
        <name use="L">
          <given>Mavis</given>
          <family>Jones</family>
        </name>
        <administrativeGenderCode code="F"
codeSystem="2.16.840.1.113883.5.1"
        displayName="Female"/>
        <birthTime value="19691023"/>
```

GLOSSARY

<i>ANSI</i>	American National Standards Institute. Founded in 1918 as a private, nonprofit membership organization, ANSI administers and coordinates voluntary standardization systems. ANSI works with standards developing organizations in the US to facilitate, develop and promote voluntary consensus standards and conformity assessment systems.
<i>Authorized User</i>	Any person who is authorized by a covered entity or a business associate to create, access, send or receive PHI.
<i>Business Associate</i>	Any person or organization with which a covered entity shares PHI as required to perform a service (e.g., billing, contract labor). Covered entities must have a business associate agreement (BAA) in place before sharing PHI with a business associate or risk monetary penalties. HIPAA regulations apply to covered entities and business associates.
<i>Case Management System</i>	A software system and database used by quitlines to record information about each participant and to administer administrative functions of the quitline. The case management system typically records patient demographics, quit dates, coaching calls scheduled, coaching call notes and results and quit rates, and generates reports useful to quitlines.
<i>CCD</i>	Continuity of Care Document. A core data set of the most relevant administrative, demographic, and clinical information facts about a patient's healthcare, covering one or more healthcare encounters. The CCD is a core data set of the most relevant administrative, demographic, and clinical information facts about a patient's healthcare, covering one or more healthcare encounters. It provides a means for one healthcare practitioner, system, or setting to aggregate all of the pertinent data about a patient and forward it to another practitioner, system, or setting to support the continuity of care. The primary use case for the CCD is to provide a snapshot in time containing the pertinent clinical, demographic, and administrative data for a specific patient.
<i>cCDA</i>	Consolidated Clinical Document Architecture. cCDA is a library of standard templates for health care documents that are defined at three levels: document (e.g., progress note), section (e.g., vital signs), and entry (e.g., blood pressure). The “consolidated” part of cCDA refers to the issuance of a single implementation guide that brought together CDA documents developed by several different sources.
<i>CCDS</i>	Common Clinical Data Set. Adopted by ONC for the EHR Incentive Program, the CCDS describes the basic set of data that clinical documents should contain. It is intended to improve the flow of electronic health information across the care continuum.
<i>CDA</i>	Clinical Document Architecture (synonymous with HL7 version 3). A document markup standard that specifies the structure, encoding and semantics of common clinical documents used by hospitals and physicians, such as history and physical, discharge summary, operative note and progress note. CDA documents are coded in XML.

<i>CEHRT</i>	Certified EHR Technology. EHRs that are certified for the EHR Incentive Program after being tested and certified in accordance with the certification criteria developed by ONC. Hospitals and eligible professionals must use a Certified EHR to qualify for the EHR Incentive Program.
<i>CMS</i>	Centers for Medicare and Medicaid Services. An agency within the U.S. Department of Health and Human Services responsible for administration of key federal healthcare programs. With the passage of the HITECH Act, the CMS was charged with several key tasks for advancing health IT, including implementing the EHR Incentive Programs, a defining meaningful use of certified EHR technology, drafting standards for certifying EHR technology and updating health information privacy and security regulations under HIPAA. Much of this work is being done in conjunction with the ONC.
<i>CQMs</i>	Clinical Quality Measures or CQMs are a requirement of the EHR Incentive Program. Providers who use their EHR to report on their PQRS measures will be deemed to have satisfied the CQM requirement under EHR Incentive Program.
<i>Covered Entity</i>	A hospital, physician practice, health plan, state quitline, or any other provider that generates and transmits PHI. HIPAA regulations apply to covered entities and business associates.
<i>CSV</i>	Comma Separated Values. A common file format which is often used to exchange data among different software programs.
<i>Data</i>	Distinct pieces of information usually formatted in a special way. The term is sometimes used to distinguish machine-readable from human-readable information.
<i>Discrete Data</i>	Data that are distinct and separate (e.g., patient date of birth or phone number). In electronic files, denotes a data field that can be imported or exported separately from all other fields. Text and data files may contain discrete data, whereas image files do not. Discrete data are required for querying and reporting.
<i>DOB</i>	Date of Birth. The patient's birth date.
<i>EHR</i>	Electronic Health Record. The terms electronic medical record (EMR) and EHR are often used interchangeably, although technically there is a distinction between the two. An EMR is a computerized medical record designed to replace the traditional paper chart in a provider setting. EHRs are essentially EMRs with the capacity for greater electronic exchange (e.g., following patients from practice to practice, data exchange and messaging among physicians).

<i>EHR Incentive Program</i>	Formerly known as "Meaningful Use of EHRs", the EHR Incentive Program is available through CMS to hospitals and eligible professionals that can demonstrate meaningful use of a certified EHR, as measured by performance on a set of core and elective measures. Initially, providers are rewarded with financial payments for meeting MU criteria, but as program is rolled-out, providers can face financial penalties for noncompliance.
<i>EP</i>	Eligible Professional. Also referred to as eligible providers, EPs are eligible to participate in the PQRS and EHR Incentive programs. While the definition of EP varies among programs, EPs typically include doctors of medicine, osteopathy, podiatry, optometry, chiropractic, and dentistry, as well as for some programs clinical nurse practitioners, certified nurse midwives, and physician assistants.
<i>EMR</i>	Electronic Medical Record. The terms electronic medical record (EMR) and electronic health record (EHR) are often used interchangeably, although technically there is a distinction between the two. An EHR is more comprehensive in scope than an EMR. See <i>EHR</i> above.
<i>Feedback Report</i>	A report that informs a referring provider of the status and outcome of a patient referred for tobacco cessation services.
<i>FHIR</i>	Fast Healthcare Interoperability Resource is an emerging technology that may be able to support eReferral. FHIR is not included in this guide. Information is available at http://www.hl7.org/fhir/ .
<i>File</i>	A collection of data or information that has a name, called the filename, and is stored in a computer. There are many different types of files, which are also referred to as file formats: text files (e.g., DOC), image files (e.g., PDF, JPEG), data files (e.g., XLS), and so on. Different types of files store different types of information.
<i>HEDIS</i>	The Healthcare Effectiveness Data and Information Set (HEDIS) is a tool used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service. Altogether, HEDIS consists of 81 measures across 5 domains of care. Because so many plans collect HEDIS data, and because the measures are so specifically defined, HEDIS makes it possible to compare the performance of health plans on an "apples-to-apples" basis - See more at: http://www.ncqa.org/HEDISQualityMeasurement.aspx#sthash.9ovU4FLi.dpuf
<i>HIE</i>	Health Information Exchange. Used as both a verb and a noun: 1) the electronic sharing of health-related information among organizations; and 2) an organization that provides services to enable the electronic sharing of health-related information.

HIPAA	Health Insurance Portability and Accountability Act. A US law designed establishing privacy standards to protect patient medical records and other PHI used by covered entities. HIPAA provides patients with access to their medical records and control over how their PHI is used and disclosed, and represents a uniform, federal floor of privacy protections for security and privacy.
HISP	Health Information Services Provider. A HISP is an independent organization that operates like an internet email provider, except that it complies with all of the HIPAAA privacy and security requirements for PHI. HISPs serve as a “trust agent” that establish a “trust relationship” between a sender and receiver prior to a secure email being sent.
HL7	Health Level 7 International. An organization dedicated to developing standards for the exchange of electronic health information to improve the interoperability of software applications used by the healthcare industry. HL7 standards are used by CEHRTs.
HPD	Healthcare Provider Directory. A project to create a national provider directory to support management of healthcare provider information. The HPD contains two categories which are classified by provider type, specialties, credentials, demographics and service locations: <ul style="list-style-type: none"> • Individual Provider: a person who provides healthcare services, such as a physician, nurse, or pharmacist • Organizational Providers: organizations that provide or support healthcare services, such as hospitals, counseling organizations (e.g., drug, alcohol), HIEs, managed care, and integrated delivery networks
HTML	Hypertext Markup Language. The language used to create documents on the web. HTML defines the structure and layout of a web document by using a variety of tags and attributes, such as those for formatting text (e.g., bold, underline, italic).
HTTP	Hypertext Transfer Protocol. HTTP is the underlying protocol used by the web. HTTP defines how messages are formatted and transmitted, and what actions web servers and browsers should take in response to various commands. The other main standard that controls how the internet works is HTML, which covers how web pages are formatted and displayed
ICD9CM ICD10CM	International Classification of Diseases, 9 th Edition, Clinical Modification, and its successor, 10 th Edition. ICD9CM is the primary coding system in the US for classifying diseases, injuries, health encounters and inpatient procedures. ICD10CM replaces ICD9CM in October 2015.
IHE	Integrating the Healthcare Enterprise. A group of health care industry representatives that work to improve the way health care systems share information electronically. The group was formed in 1998 as a cooperative venture by the Healthcare Information and Management Systems Society (HIMSS) and the Radiologic Society of North America (RSNA) with the goal to promote interoperability among imaging and health care

	information systems.
<i>Intake</i>	Typically the initial contact between an individual and a quitline, the intake is used to collect information such as tobacco use status, demographic data, and readiness to engage in a quit attempt. Intakes are also used to determine eligibility and insurance coverage for cessation services. An intake may be completed prior to counseling services or as part of the first coaching call.
<i>IT</i>	Information Technology. The application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of health care information, data, and knowledge for communication and decision making.
<i>Joint Commission</i>	The Joint Commission. An independent, not-for-profit organization that accredits and certifies more than 20,500 health care organizations and programs in the US. Joint Commission accreditation and certification is recognized nationwide as a symbol of quality that reflects an organization's commitment to meeting certain performance standards.
<i>LOINC</i>	Logical Observation Identifiers Names and Codes. A database and universal standard for identifying medical laboratory observations. It was developed and is maintained by the Regenstrief Institute, a US non-profit medical research organization.
<i>MDS</i>	Minimal Data Set. A standard set of intake and follow-up questions asked of quitline participants and used for program evaluation. The MDS was developed by NAQC in 2005 and was adopted by all state and provincial quitlines in North America by 2006.
<i>Meaningful Use (MU)</i>	Use of a CEHRT to 1) improve quality, safety, efficiency, and reduce health disparities; 2) engage patients and family; 3) improve care coordination, and population and public health; 4) maintain privacy and security of patient health information. See also EHR Incentive Program
<i>MRN</i>	Medical Record Number. A unique number used to identify an individual and his or her medical record information. MRNs are not universally assigned, so individuals will have a different medical record number for each healthcare provider.
<i>NAQC</i>	North American Quitline Consortium. An international, non-profit membership organization that seeks to promote evidence-based quitline services across diverse communities in North America. Membership is made-up of over 400 organizations and individuals from across North America. Members consist of organizations and individuals that provide quitline services, fund quitlines, conduct research around quitline-related topics, advance national cessation policies, and work in other areas of tobacco control.
<i>NAQC eReferral Data Set</i>	Data elements that are recommended by the NAQC eReferral workgroup as being important information for quitlines to receive from referral sources in order to contact a referred patient about cessation services. Includes both required and optional data

	elements. This is separate and distinct from the NAQC minimal data set (MDS).
NHIN	Nationwide Health Information Network. A set of standards, services and policies that enable secure exchange of PHI over the internet. NHIN is sponsored by the ONC, and has two key initiatives to promote electronic exchange: NHIN Connect and NHIN Direct. In order to be NHIN-compliant, a network or HIE must be certified that it meets the following security standards: 1) Authentication and Certificates; 2) Security; 3) Trusted Authority; 4) Delivery Protocols; 5) Standards; 6) Provider Directories.
NPI	National Provider Identifier (NPI). A unique identification number for covered health care providers. Covered health care providers and all health plans and health care clearinghouses must use the NPIs in the administrative and financial transactions adopted under HIPAA. The NPI is a 10-digit number that identifies health care corporations and individual providers. It does not carry other information about healthcare providers, such as the state in which they live or their medical specialty. Providers must share their NPI with other providers, health plans, clearinghouses, and any entity that may need it for billing purposes.
NRT	Nicotine Replacement Therapy. Nicotine replacement therapy is a class of pharmaceutical products that supply low doses of nicotine without the other harmful chemicals in tobacco. NRT can help cut down on cravings for nicotine and ease the symptoms of nicotine withdrawal. NRT is available in five different formats: patches, gum and lozenges, which are available over-the-counter (OTC), and nasal spray and inhalers, available by prescription. Most quitlines provide one or more forms of OTC NRT free of charge to participants.
ONC	Office of the National Coordinator for Health Information Technology. A division of the U.S. Department of Health and Human Services, its focus is to coordinate nationwide efforts to support the adoption of health information technology and to promote electronic exchange of healthcare information nationwide.
ONC Data Set	Data elements that are included in the regulations issued by the ONC to set forth the standards, specifications and certification criteria for EHRs certified for the EHR Incentive Program.
PCP	Primary Care Provider. A health care provider who manages the overall health of a patient, maintains the patient's medical history, and coordinates care with other providers as needed. PCPs are usually physicians, but can be a physician assistant or nurse practitioner. PCPs are trained in medical disciplines such as family practice, internal medicine, geriatrics and pediatrics.
PHI	Protected Health Information. PHI is any individually identifiable health information that is created, transmitted, or maintained by a covered entity in any form (e.g., paper, fax, electronic).

<i>PII</i>	Personally Identifiable Information. Information that can be used alone or with other information to identify, contact or locate an individual, such as their name, social security number, date of birth, or phone number.
<i>PQRS</i>	Physician Quality Reporting System. A pay-for-reporting program under Medicare that that gives physicians and other clinical providers incentives and payment adjustments if they report quality measures satisfactorily. Although PQRS is a standalone program, it touches on other CMS programs that require quality reporting, including the EHR Incentive Program.
<i>Predictive Dialer</i>	A software system that dials outbound calls to participants automatically, reducing the time and expense associated with unanswered calls. Calls answered by participants are immediately routed via the phone system to quitline staff for live answer.
<i>Provider</i>	An individual or institution that provides and charges for healthcare services to patients. Individual providers who often refer to tobacco cessation services include physicians, dentists, psychologists, physician assistants, and nurse practitioners. Institutional providers include hospitals, clinics, physician and dental offices.
<i>Provider Directory</i>	A central directory with contact information (e.g., provider name, practice or hospital name, address, email, fax number, phone number) for all users on a secure HIE. A provider directory is an address book that is used to deliver PHI over a secure network. See also HPD.
<i>Quitline</i>	Telephone-based tobacco cessation services to help users quit tobacco. Services offered by quitlines may include coaching and counseling, referrals, mailed materials, training to healthcare providers, web-based services and free medications such as nicotine replacement therapy (NRT).
<i>Quitline Funder</i>	A public entity such as a state health department that funds free quitline services, typically using tobacco settlement funds, CDC grants, state tobacco taxes, or federal and state public health funds.
<i>Quitline Service Provider</i>	An entity that operates a quitline under contract with state health departments, health plans and/or corporations.
<i>Referral Form</i>	A form that is filled out and sent by a referral source to initiate a direct referral; typically includes patient demographics and contact information, reason for the referral, physician/clinic contact information, and authorizing signature.
<i>RxNorm</i>	RxNorm provides normalized names for clinical drugs and links their names to many of the drug vocabularies commonly used in pharmacy management and drug interaction software. RxNorm codes are used by EHRs and pharmacy systems to store drug information. The National Library of Medicine produces RxNorm.

<i>SFTP</i>	Secure File Transfer Protocol. SFTP is a secure method for sending files from one entity to another, also known as point-to-point transfer.
<i>SLA</i>	Service Level Agreement. A contract between a vendor (such as a quitline services provider) and a customer (such as a state health department) that defines the level of services the customer expects to receive from the service provider.
<i>SMTP</i>	Simple Mail Transfer Protocol. An internet standard for transmitting emails between servers.
<i>SNOMED</i>	Systematized Nomenclature of Medicine--Clinical Terms. A comprehensive clinical terminology (originally created by the College of American Pathologists) which is owned, maintained, and distributed by the International Health Terminology Standards Development Organisation. EHR Incentive Program Stage 2 criteria specify that SNOMED-CT should be used as the common data set, specifically for the problem list within a patient's chart.
<i>SOAP</i>	Simple Object Access Protocol. A messaging protocol that allows programs that run on different operating systems to communicate using Hypertext Transfer Protocol (HTTP) and its Extensible Markup Language (XML).
<i>Specialized Registry</i>	The EHR Incentive Program Stage 2 regulations added a new public health related objective for eligible professionals: the capability to identify and report specific cases to a specialized registry, other than a cancer registry. The regulations are purposefully general in describing specialized registries to provide flexibility and avoid excluding registries. Specialized registries could include, but are not limited to: birth defects registries, chronic disease registries, traumatic injury registries, and registries focused on healthcare associated infections. Specialized registries operated by patient safety and quality improvement organizations that enable knowledge generation or process improvement regarding the diagnosis, therapy, and prevention of conditions that affect a population could be considered. Quitlines may be considered a specialized registry if they complete the required registration process. ³⁷
<i>Stage 1</i> <i>Stage 2</i> <i>Stage 3</i>	Indicates the stage of implementation in the EHR Incentive program. Each stage has different goals, objectives and performance measures.
<i>ToC/RS</i>	Transition of Care/Referral Summary. Any of the nine cCDA templates available in Stage 2 CEHRT.
<i>Transition of Care</i>	The movement of a patient from one setting of care to another, for example, from a hospital or specialist back to a primary care physician. Under meaningful use, a provider who refers, admits or discharges a patient to another provider should include a record that summarizes the patient's medical condition at that time. This summary helps ensure the coordination and continuity of health care as patients transfer between different locations

	or different levels of care.
<i>VPN</i>	Virtual Private Network. A network that creates a secure connection over a public network, such as the internet, to a private network, such as a company's internal network. VPN technology lets employees who work remotely connect to a private internet. Encryption and other security mechanisms are used to ensure that only authorized users can access the network and that the data cannot be intercepted.
<i>Web Services</i>	Web services allow applications built using different technologies to communicate with each other and to exchange information in real time over a network or the internet.
<i>XDM</i>	Cross-Enterprise Document Media Interchange. Provides document interchange using a common file and directory structure over several standard media.
<i>XML</i>	eXtensible Markup Language. A markup language that defines a set of rules for encoding documents in a format which is both human-readable and machine-readable. XML is designed to identify data elements contained within a document (e.g., first name, last name, DOB).
<i>XSD</i>	XML Schema Definition. A style sheet which specifies how to describe the elements in an Extensible Markup Language (XML) document.

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