

Primary Care: Tobacco Assessment and Cessation Counseling Documentation Template

Documentation Template: Conceptual Structure

**Contract: VA118-16-D-1008, Task Order
(TO): VA-118-16-F-1008-0007, CLIN0009AA**

Department of Veterans Affairs (VA)



**Knowledge Based Systems (KBS)
Office of Informatics and Information Governance (OIIG)
Clinical Decision Support (CDS)**

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Primary Care: Tobacco Assessment and Cessation Counseling Documentation Template: Documentation Template: Conceptual Structure

by Knowledge Based Systems (KBS), Office of Informatics and Information Governance (OIIG), and Clinical Decision Support (CDS)

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Preface

Table 1. Revision History

Date	Life Cycle Event
June 18, 2018	Published
May 31, 2018	Published
May 31, 2018	Reviewed
April 4, 2018	Pre-published
April 4, 2018	Created

Table 2. Clinical White Paper Contributors

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Table 3. Artifact Identifier

Domain	Artifact ID	Name
urn:va.gov:kbs:knart:artifact:r1	34d04a65-4d4b-5dd8-8632-beef77c9067b	O28

Artifact Applicability

Table 4. Applicability Foci, Description and Codes

Focus	Description	Code System	Code	Value Set	Value Set Version
TargetUser	Any clinical provider who is able to screen for current tobacco use, including physicians, APNs, PAs, RNs, LPNs, pharmacists, psychologists, social workers, dentists, and substance abuse counselors.			N/A	N/A
PatientAgeGroup	Population 18 years old or older	SNOMED CT	133936004 Adult (person)	N/A	N/A
ClinicalVenue	Any clinical setting to include outpatient	SNOMED CT	33022008 Hospital-based outpatient department (environment)	N/A	N/A
ClinicalVenue	Any clinical setting to include inpatient			N/A	N/A
WorkflowSetting	All			N/A	N/A

Models

Table 5. Model References

Referenced Model	Description
urn:solor.io:anf-model:1.0	VA Analysis Normal Form Model

Chapter 1. External Data Definitions

Definitions

Table 1.1. PatientAge

Expression: type=elm:SingletonFrom Annotation: Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [[a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[105726004 Age AND/OR growth finding (finding)]]
--

Table 1.2. PatientGenderMale

Expression: type=elm:SingletonFrom Annotation: Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [[a997cc03-3e99-40eb-833a-6374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[248153007 Male (finding)]]

Table 1.3. Abdominal Ultrasound

Expression: type=elm:Query Annotation: Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [45036003 Ultrasonography of abdomen (procedure)]

Table 1.4. Abdominal CT with or without contrast

Expression: type=elm:Retrieve , dataType=anf:ClinicalStatement, codeProperty=topic Annotation: Codes: elm:element[elm:Code]: [32962002 Computerized tomography of abdomen with contrast (procedure)]elm:element[elm:Code]: [396101000119105 Computed tomography of abdomen without contrast (procedure)]
--

Table 1.5. Abdominal Angiogram

Expression: type=elm:Query Annotation: Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [241234000 Abdominal angiography (procedure)]

Table 1.6. Abdominal MRI

Expression: type=elm:Query Annotation: Codes: elm:value[elm:Code]: [398166005 Performed (qualifier value)]elm:value[elm:Code]: [241621009 Magnetic resonance imaging of abdomen (procedure)]

Table 1.7. Chest CT

Expression: type=elm:Query
 Annotation:
 Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)]elm:value[elm:Code]:
 [169069000 |Computed tomography of chest (procedure)]

Table 1.8. Low-dose chest CT

Expression: type=elm:Retrieve , dataType=anf:ClinicalStatement, codeProperty=topic,
 dateProperty=dateTime
 Annotation:
 Codes: elm:element[elm:Code]: [713548006 |Low dose computed tomography of thorax (procedure)]
 dateRange[elm:Interval] low: elm:Add(elm:Today() elm:Quantity(1 year))
 high: elm:Today()

Table 1.9. chest X-Ray

Expression: type=elm:Query
 Annotation:
 Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)]elm:value[elm:Code]:
 [399208008 |Plain chest X-ray (procedure)]

Table 1.10. Chest MRI

Expression: type=elm:Query
 Annotation:
 Codes: elm:value[elm:Code]: [398166005 |Performed (qualifier value)]elm:value[elm:Code]:
 [6007000 |Magnetic resonance imaging of chest (procedure)]

Triggers

No trigger definitions are present.

Chapter 2. Expression Definitions

No expression definitions are present.

Chapter 3. Tobacco Use History

Current Tobacco Use

◆ prompt: Do you currently use tobacco? Tobacco includes cigarettes, pipe, cigars, and smokeless tobacco, such as dip, chew, snuff, and snus. Excludes e-cigarettes, ENDS (electronic nicotine delivery systems), and vaping devices

response: Code (Single)

response range: EnumerationConstraint (List)

item: Every day([a997cc03-3e99-40eb-833a-6374c7750a3a | Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[7f7759c7-ce4b-409e-8bca-0ee54aca7a87 |Uses tobacco daily (finding)])

item: Some days([a997cc03-3e99-40eb-833a-6374c7750a3a | Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[66664506-de13-4733-8ea6-fb03ff364ccc |Uses tobacco on some days (finding)])

item: Not at all([a997cc03-3e99-40eb-833a-6374c7750a3a | Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[451371000124109 |Tobacco non-user (finding)])

Length of Tobacco Use History

◆ prompt: How long have you been using tobacco? Tobacco includes cigarettes, pipe, cigars, and smokeless tobacco, such as dip, chew, snuff, and snus. Excludes e-cigarettes, ENDS (electronic nicotine delivery systems), and vaping devices

response: Code (Single)

response range: EnumerationConstraint (List)

item: Less than 1 year(TSR-NoCode)

item: Greater than 1 year to less than 5 years(TSR-NoCode)

item: Greater than or equal to 5 years to less than equal to 15 years(TSR-NoCode)

item: Greater than 15 years to less than 30 years(TSR-NoCode)

item: Greater than or equal to 30 years(TSR-NoCode)

◆ prompt: If you are a smoker, for how many years have you smoked?

response: Real (Single)

responseBinding: Property ("lengthOfSmoking")

◆ prompt: If you are a smoker, how many cigarettes have you smoked per day on average?

response: Real (Single)

◆ Former Smoking History

prompt: Have you ever used tobacco? Tobacco includes cigarettes, pipe, cigars, and smokeless tobacco, such as dip, chew, snuff, and snus. Excludes e-cigarettes, ENDS (electronic nicotine delivery systems), and vaping devices

response: Code (Single)

response range: EnumerationConstraint (List)

item: Never user([a997cc03-3e99-40eb-833a-6374c7750a3a | Observation procedure (procedure)] ->(363702006 |Has focus (attribute)))->[702979003 |Never used tobacco (finding)])

item: Former user([a997cc03-3e99-40eb-833a-6374c7750a3a | Observation procedure (procedure)] ->(363702006 |Has focus (attribute)))->[702975009 |Ex-tobacco user (finding)])

◆ Quit Using Tobacco History

prompt: How long ago did you quit using tobacco?

Previous guidance recommended providing relapse prevention counseling for those who had quit for less than 1 year. This is not required by HEDIS, and there is limited evidence basis for relapse counseling. The provider should use clinical judgment regarding how to advise or support a patient who has only recently quit.

response: Code (Single)

response range: EnumerationConstraint (List)

item: Greater than 1 year(TSR-NoCode)

item: Greater than or equal to 1 year to less than 5 years(TSR-NoCode)

item: Greater than or equal to 5 years to less than or equal to 15 years(TSR-NoCode)

item: Greater 15 years to less than 30 years(TSR-NoCode)

item: Greater than or equal to 30 years(TSR-NoCode)

◆ prompt: If you were a smoker, for how many years did you smoke?

response: Real (Single)

◆ prompt: If you were a smoker, how many cigarettes did you smoke a day on average?

response: Real (Single)

◆ Calculate Pack Years

prompt: Number of pack years smoking? Calculate pack years using data entered in this template and display in this section. Currently there is no ability to automatically calculate pack years in CPRS. Number of pack years = (number of cigarettes smoked per day/20) × number of years smoked. Note that 20 cigarettes = 1 pack.)]

response: Real (Single)

◆ prompt: If you were a smoker, how many cigarettes did you smoke a day on average?

response: Real (Single)

Chapter 4. Advising Users to Quit

Advise tobacco user to quit.

Quitting smoking or tobacco use is one of the most important things patients can do to protect their health, and the VA has resources to support them. Advise the patient to set a quit date; get support from family and friends; encourage the patient to review past quit attempts (What helped? What didn't?); anticipate triggers and/or challenges and plan how to cope with them; advise the patient to remove all tobacco products from home, car, work when ready to quit; include message that the combination of behavioral counseling plus the use of the United States Food and Drug Administration (FDA)-approved medications is the most effective way to quit tobacco use. (Items above are consistent with Joint Commission Practical Counseling language)

([Fiore 2008])	Treating Tobacco Use and Dependence: 2008 Update link [https://bphc.hrsa.gov/buckets/treatingtobacco.pdf]
----------------	--

prompt: Current Smoker Advised to Quit

itemCode: 225323000 |Smoking cessation education (procedure)|

response: Boolean (Single)

Resources for VHA clinical providers

([VA 2017])	Tobacco and Health link [https://www.publichealth.va.gov/smoking/]
-------------	---

([VA 2016])	For Health Professionals: Tobacco Cessation link [https://www.publichealth.va.gov/smoking/professionals]
-------------	--

([VA 2018a])	Tobacco use treatment PULSE link [https://www.vapulse.net/community/care-topics/tobacco-use-treatment]
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([VA 2018b])	Tobacco and health SharePoint site link [https://vaww.portal.va.gov/sites/tobacco/default.aspx]
--------------	---

([VHA 2014])	Primary Care and Tobacco Cessation Handbook: A Resource for Providers. U.S. Department of Veterans Affairs link [https://www.publichealth.va.gov/smoking/professionals/tools-publications.asp]
--------------	--

prompt: Acknowledge: Resources for clinical providers

response: Boolean (Single)

Chapter 5. Cessation Strategies-Counseling

Advise Patient: Counseling increases your chances of successfully quitting tobacco use. VA can help you to develop a plan and provide support, guidance, and tools to help you quit, such as a tobacco cessation clinic or group, a national quit line (1-855-QUIT-VET), and information about community options.

◆ Would you like more information about how to use any of these treatment options today?

prompt:

response: Boolean (Single)

Patient educational materials available in English and Spanish	
([VA 2017])	Tobacco and Health link [https://www.publichealth.va.gov/smoking/]
([VA 2016])	For Health Professionals: Tobacco Cessation link [https://www.publichealth.va.gov/smoking/professionals]

prompt: Provided resources to patient

response: Boolean (Single)

Chapter 6. Cessation Strategies-Medications

Advise patient: The use of FDA-approved medications, such as nicotine replacement therapy including the patch, gum, and lozenge, and other medications such as varenicline, play an important role in the initial weeks and months after you quit tobacco. Medications help you cope with cravings and withdrawal symptoms and increase your chances of successfully quitting tobacco use.

◆ prompt: Would you like more information on how to use these medications and a prescription for tobacco cessation medications today?

itemCode: [409073007 |Education (procedure)] (363702006 |Has focus (attribute))->[713700008 |Smoking cessation drug therapy (regime/therapy)]

response: Boolean (Single)

Advise patient: The VA can provide you with FDA-approved tobacco cessation medications to help you quit.

◆ prompt: Would you like to receive medication to assist with quitting tobacco use?

itemCode: 713700008 |Smoking cessation drug therapy (regime/therapy)|

response: Boolean (Single)

Chapter 7. Screening for Smoking Related Medical Conditions

Condition:elm:Exists (PatientGenderMale)

Condition:elm:Greater (elm:Property("lengthOfSmoking" from: elm:ParameterRef(Responses)) elm:Literal())

Condition:elm:In (PatientAge elm:Interval())

The United States Preventive Services Task Force (USPSTF) recommends one-time screening for abdominal aortic aneurysm (AAA) by ultrasonography in men aged 65-75 who have ever smoked. The USPSTF makes no recommendation for or against screening for AAA in asymptomatic men aged 65-75 who have never smoked.)

Technical Note: Display the following section only for male patients age ≥ 65 and less than 75 years who have ever smoked.

prompt: Abdominal Ultrasound Result

response: Tuple (Single)

initialValue: Abdominal Ultrasound

prompt: Abdominal CT with or without contrast

response: Tuple (Single)

initialValue: Abdominal CT with or without contrast

prompt: Abdominal Angiogram

response: Tuple (Single)

initialValue: Abdominal Angiogram

prompt: Abdominal MRI

response: Tuple (Single)

initialValue: Abdominal MRI

✱ prompt: Prescribing provider Abdominal Aortic Aneurysm Screening Order Set

response: Boolean (Single)

✱ prompt: Message to prescribing provider suggesting abdominal aortic aneurysm screening

response: Boolean (Single)

Condition:elm:LessOrEqual (elm:Property("lengthOfSmoking" from: elm:ParameterRef(Responses)) elm:Literal())

Condition:elm:Not (elm:Exists(Low-dose chest CT))

Condition:elm:In (PatientAge elm:Interval())

Technical Note: Display this section only for patients who meet all of the following criteria: current smokers or former smokers who quit less than or equal to 15 years ago, age ≥ 55 and less than or equal to 80 years, with a 30-pack year history or more, and who have not had Low-dose chest CT less than or equal to 1 year ago.

prompt: Chest CT

response: Tuple (Single)

initialValue: Chest CT

prompt: chest X-Ray

response: Tuple (Single)

initialValue: chest X-Ray

prompt: Chest MRI

response: Tuple (Single)

initialValue: Chest MRI

⊕ prompt: Prescribing Provider: Low-dose chest CT for lung cancer screening order

response: Boolean (Single)

⊕ prompt: Message to prescribing provider suggesting abdominal aortic aneurysm screening-The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in adults aged 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years, and who do not have a history of lung cancer.

response: Boolean (Single)

Chapter 8. Tabular List

Terminology Service Request (TSR) Mappings

Table 8.1. Terminology Versions

Name	Identifier	Version
SNOMED CT	2.16.840.1.113883.6.96	United States Edition 20180301

Table 8.2. Terminology References

System	Code	Display Text ^a	References ^b
SNOMED CT	133936004 Adult (person)	Population 18 years old or older	1
SNOMED CT	169069000 Computed tomography of chest (procedure)	Precoordinated Expression	1
SNOMED CT	225323000 Smoking cessation education (procedure)	Precoordinated Expression	1
SNOMED CT	241234000 Abdominal angiography (procedure)	Precoordinated Expression	1
SNOMED CT	241621009 Magnetic resonance imaging of abdomen (procedure)	Precoordinated Expression	1
SNOMED CT	32962002 Computerized tomography of abdomen with contrast (procedure)	Precoordinated Expression	1
SNOMED CT	33022008 Hospital-based outpatient department (environment)	Any clinical setting to include outpatient	1
SNOMED CT	396101000119105 Computed tomography of abdomen without contrast (procedure)	Precoordinated Expression	1
SNOMED CT	398166005 Performed (qualifier value)	Precoordinated Expression	8
SNOMED CT	399208008 Plain chest X-ray (procedure)	Precoordinated Expression	1
SNOMED CT	45036003 Ultrasonography of abdomen (procedure)	Precoordinated Expression	1
SNOMED CT	6007000 Magnetic resonance imaging of chest (procedure)	Precoordinated Expression	1

System	Code	Display Text ^a	References ^b
SNOMED CT	713548006 Low dose computed tomography of thorax (procedure)	Precoordinated Expression	1
SNOMED CT	713700008 Smoking cessation drug therapy (regime/therapy)	Precoordinated Expression	1
SNOMED CT	TSR-NoCode ^c	Less than 1 year	10
SNOMED CT	[409073007 Education (procedure)] (363702006 Has focus (attribute))->[713700008 Smoking cessation drug therapy (regime/therapy)]	Precoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40eb-833a-0374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[105726004 Age AND/OR growth finding (finding)]	Precoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40eb-833a-0374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[248153007 Male (finding)]	Precoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40eb-833a-0374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[451371000124109 Tobacco non-user (finding)]	Precoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40eb-833a-0374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))->[66664506-de13-4733-8ea6-fb03ff364ccc Uses tobacco on some days (finding)]	Precoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40eb-833a-0374c7750a3a Observation procedure (procedure)] -(363702006 Has focus (attribute))->[702975009 Ex-tobacco user (finding)]	Precoordinated Expression	1

Tabular List

System	Code	Display Text ^a	References ^b
SNOMED CT	[a997cc03-3e99-40eb-833a-0374c7750a3a Observation procedure (procedure)] ->(363702006 Has focus (attribute))- >[702979003 Never used tobacco (finding)]	Never used tobacco	1
SNOMED CT	[a997cc03-3e99-40eb-833a-0374c7750a3a Observation procedure (procedure)] - >(363702006 Has focus (attribute))->[7f7759c7- ce4b-409e-8bca-0ee54aca7a87 Uses tobacco daily (finding)]	Uses tobacco daily	1

^aIf a code is used multiple times in the KNART, only the display text of the first instance is shown.

^bCount of the number of times the given code system and code pair is used in the KNART.

^cTSR-NoCode is a placeholder indicating a code was requested, but was not provided.

Chapter 9. Behavior Symbols

Table 9.1. Group Organizational Behavior

Symbol	Name	Definition
#	Sentence Group	A group of related alternative actions is a sentence group if the item referenced by the action is the same in all the actions, and each action simply constitutes a different variation on how to specify the details for that item. For example, two actions that could be in a SentenceGroup are "aspirin, 500 mg, 2 times per day" and "aspirin, 300 mg, 3 times per day". In both cases, aspirin is the item referenced by the action, and the two actions represent two different options for how aspirin might be ordered for the patient. Note that a SentenceGroup would almost always have an associated selection behavior of "AtMostOne", unless it's a required action, in which case, it would be "ExactlyOne".
#	Logical Group	A group with this behavior logically groups its sub-elements, and may be shown as a visual group to the end user, but it is not required to do so.
➤	Visual Group	Any group marked with this behavior should be displayed as a visual group to the end user.

Table 9.2. Group Selection Behavior

Symbol	Name	Definition
#	Any	Any number of the items in the group may be chosen, from zero to all.
#	All	All the items in the group must be selected as a single unit.
#	AllOrNone	All the items in the group are meant to be chosen as a single unit: either all must be selected by the end user, or none may be selected.
#	ExactlyOne	The end user must choose one and only one of the selectable items in the group. The user may not choose none of the items in the group.
⬠	AtMostOne	The end user may choose zero or at most one of the items in the group.
✳	OneOrMore	The end user must choose a minimum of one, and as many additional as desired.

Table 9.3. Required Behavior

Symbol	Name	Definition
◆	Must	An action with this behavior must be included in the actions processed by the end user; the end user may not choose not to include this action.
◇	Could	An action with this behavior may be included in the set of actions processed by the end user.

Symbol	Name	Definition
➤	MustUnlessDocumented	An action with this behavior must be included in the set of actions processed by the end user, unless the end user provides documentation as to why the action was not included.

Table 9.4. Precheck Behavior

Symbol	Name	Definition
▲	Yes	An action with this behavior is one of the most frequent actions that is, or should be, included by an end user, for the particular context in which the action occurs. The system displaying the action to the end user should consider "pre-checking" such an action as a convenience for the user.
#	No	An action with this behavior is one of the less frequent actions included by the end user, for the particular context in which the action occurs. The system displaying the actions to the end user would typically not "pre-check" such an action.

Table 9.5. Cardinality Behavior

Symbol	Name	Definition
◆	Single	An action with this behavior may only be completed once.
❖	Multiple	An action with this behavior may be repeated multiple times.

Table 9.6. Item Flags

Symbol	Name	Definition
☞	fillIn	This item, in a list entry, allows the user to enter a fill in value that is not present in the set of presented choices.

Table 9.7. Read Only Behavior

Symbol	Name	Definition
#	true	For a particular action or action group, specifies whether the elements are read only.

Appendix A. References

This appendix contains the list of related resources and supporting documents used in creating this KNART.

List of References

Related Resources

[CCWP] *Primary Care: Tobacco Assessment and Cessation Counseling Clinical Content White Paper*

[CSD] *Primary Care: Tobacco Assessment and Cessation Counseling Documentation Template Conceptual Structure Document*

[KVRpt] *Primary Care: Tobacco Assessment and Cessation Counseling Documentation Template KNART Validation Report*

[VA 2017] *Tobacco and health [Internet].; 2017; cited May 22, 2018]. Available from: <https://www.publichealth.va.gov/smoking/> (link [<https://www.publichealth.va.gov/smoking/>])*

[VA 2016] *For Health Professionals: Tobacco Cessation [Internet].; 2016; cited May 22, 2018]. Available from: <https://www.publichealth.va.gov/smoking/professionals> (link [<https://www.publichealth.va.gov/smoking/professionals>])*

[VA 2018a] *Tobacco use treatment PULSE [Internet].; cited May 22, 2018]. Available from: <https://www.vapulse.net/community/care-topics/tobacco-use-treatment> (link [<https://www.vapulse.net/community/care-topics/tobacco-use-treatment>])*

[VA 2018b] *Tobacco and health SharePoint site [Internet]. Available from: <https://vaww.portal.va.gov/sites/tobacco/default.aspx>. (link [<https://vaww.portal.va.gov/sites/tobacco/default.aspx>])*

Supporting Evidence

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