Women's Health: Osteoporosis Screening Order Set

Order Set: Conceptual Structure

Contract: VA118-16-D-1008, Task Order (TO): VA-118-16-F-1008-0007, CLIN0008CA

Department of Veterans Affairs (VA)

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

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Women's Health: Osteoporosis Screening Order Set: Order Set: 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
March 22, 2018	Published
March 21, 2018	Pre-published
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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	ef9a8ba0-be72-55dd-b662-105d2182039f	O26

Artifact Applicability

Table 4. Applicability Foci, Description and Codes

Focus	Description	Code System Name	Code System	Code	Code System Version	Value Set	Value Set Version
PatientGender	Female						
PatientAgeGroup	Population 18 years old or older						
TargetUser	Primary Care						
TargetUser	Women's Health						
ClinicalVenue	Outpatient						

Models

Table 5. Model References

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

Chapter 1. Laboratory Testing

☐ Complete blood count

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Postcoordinated Expression topic:Postcoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 26604007 |Complete blood count (procedure)|)

☐ Complete metabolic panel

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Postcoordinated Expression topic:Postcoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 1411000205104 |Comprehensive metabolic panel (procedure))

☐ Thyroid stimulating hormone

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Postcoordinated Expression topic:Postcoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 61167004 |Thyroid stimulating hormone measurement (procedure)|)

☐ 25- hydroxyvitamin D

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Postcoordinated Expression topic:Postcoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 447678008 |Measurement of 25-hydroxy-ergocalciferol (procedure)|)

☐ 24-hour urinary calcium

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

> "statementType:Postcoordinated Expression topic:Postcoordinated Expression"

> (Codes: 385644000 |Requested (qualifier value)| 313492004 |24 hour urine calcium output measurement (procedure)|)

Chapter 2. Imaging Studies

☐ Dual-energy x-ray absorptiometry screen for osteoporosis

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Postcoordinated Expression topic:Postcoordinated Expression , purpose[0]:Postcoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 241686001 |Dual energy X-ray photon absorptiometry (procedure)| [386053000 |Evaluation procedure (procedure)] ->(363702006 | Has focus (attribute))->[64859006 |Osteoporosis (disorder)])

Chapter 3. Patient and Caregiver Education

☐ Osteoporosis education

actionSentence[type=elm:Instance, classType=anf:ClinicalStatement]

"statementType:Postcoordinated Expression topic:Postcoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 394936006 |Osteoporosis health education (procedure)|)

Chapter 4. Consults and Referrals

Based upon the patient's history, indicate the appropriate options for the screening osteoporosis order.

To determine appropriate osteoporosis screening for this patient, please provide the following information.

□ prompt:	Consult Specialty:
response:	*Response Data Type Needed*
initalValue:	elm:Literal (String) Endocrinology
□ prompt:	Reason for Consult:
response:	*Response Data Type Needed*
initalValue:	elm:Literal (String) Osteoporosis Screening
□ prompt:	Would you please provide your recommendations
response:	String (Single)
response range:	EnumerationConstraint (List)
item:	Return to Primary Care Provider (PCP) for therapy
item:	Start treatment and return to PCP for follow up and maintenance
item:	Start treatment, monitor for effect and when on stable therapy return to PCP
item:	Treat as long as necessary (or indefinitely)
□ prompt:	Priority:
response:	String (Single)
initalValue:	elm:Literal (String) Routine
Referring Physician Information?	
□ prompt:	Ordering Physician/Provider Name
response:	String (Single)
□ prompt:	Ordering Physician/Provider Service/Section
response:	String (Single)
□ prompt:	Ordering Physician/Provider Telephone Number
response:	String (Single)
□ prompt:	Ordering Physician/Provider Pager
response:	String (Single)
□ prompt:	Information required by receiving facility
response:	String (Single)

Chapter 5. Tabular List

Terminology Service Request (TSR) Mappings

Table 5.1. Terminology References

System	Code	Display Text	References
SNOMED CT	1411000205104 |Comprehensive metabolic panel (procedure)	Postcoordinated Expression	1
SNOMED CT	241686001 |Dual energy X-ray photon absorptiometry (procedure)|	Postcoordinated Expression	1
SNOMED CT	26604007 |Complete blood count (procedure)|	Postcoordinated Expression	1
SNOMED CT	313492004 |24 hour urine calcium output measurement (procedure)|	Postcoordinated Expression	1
SNOMED CT	385644000 |Requested (qualifier value)|	Postcoordinated Expression	7
SNOMED CT	394936006 |Osteoporosis health education (procedure)|	Postcoordinated Expression	1
SNOMED CT	447678008 |Measurement of 25-hydroxyergocalciferol (procedure)|	Postcoordinated Expression	1
SNOMED CT	61167004 |Thyroid stimulating hormone measurement (procedure)|	Postcoordinated Expression	1
SNOMED CT	[386053000 |Evaluation procedure (procedure)] ->(363702006 |Has focus (attribute))->[64859006 | Osteoporosis (disorder)]	Postcoordinated Expression	1

Chapter 6. Behavior Symbols

Table 6.1. 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 6.2. 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 6.3. 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.

Symbol	Name	Definition
✧	Could	An action with this behavior may be included in the set of actions processed by the end user.
➢	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 6.4. 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 6.5. 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 6.6. 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.

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] *Women's Health: Osteoporosis Screening Clinical Content White Paper* (link [20180222CDSK_CCW-P_O8B50O26OsteoporosisScreening_final 508.xml])

[CSD] *Women's Health: Osteoporosis Screening Conceptual Structure Document*

[KVRpt] *Women's Health: Osteoporosis Screening Clinical KNART Validation Report*

Supporting Evidence

[AGOG, 2012] *Committee on Practice Bulletins-Gynecology, ACOG. AGOG Practice Bulletin N. 129. Osteoporosis. Obstet Gynecol. 2012;120(3):718-734* (link [https://doi.org/10.1097/AOG.0b013e31826dc446])

[Cosman, 2014] *Cosman F, de Beur S.J., LeBoff M.S., Lewiecki E.M., Tanner B, Randall S, Lindsay R. Clinician's Guide to Prevention and Treatment of Osteoporosis. Osteoporosis International. 2014;25(10):2359-2381* (link [http://doi.org/10.1007/s00198-014-2794-2])

[Gourlay, 2012] *Gourlay ML, Fine JP, Preisser JS, May RC, Li C, Lui LY, Ransohoff DF, Cauley JA, Ensrud KE. Bone-density testing interval and transition to osteoporosis in older women. New England Journal of Medicine. 2012 Jan;19(366):225-33* (link [https://dx.doi.org/10.1056%2FNEJMoa1107142])

[NIH, 2017] *National Institutes of Health. Calcium Fact Sheet for Health Professionals. Accessed August 2017.* (link [https://ods.od.nih.gov/factsheets/Calcium-HealthProfessional/])

[USPTF 2015] *USPSTF. Final Update Summary: Osteoporosis: U.S. Preventive Services Task Force website. Reviewed July 2015* (link [https://www.uspreventiveservicestaskforce.org/Page/Document/UpdateSummaryFinal/osteoporosis-screening])