Women's Health:
Reproductive Health Rule

Rule: Conceptual Structure

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Department of Veterans Affairs (VA)

Women's Health: Reproductive Health Rule: Rule: 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
April 17, 2018	Published
April 17, 2018	Reviewed
March 21, 2018	Created

Table 2. Clinical White Paper Contributors

Name	Role	Affiliation
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Table 3. Artifact Identifier

Domain	Artifact ID	Name
urn:va.gov:kbs:knart:artifact:r1	a0c57533-3619-50f5-b680-524986bbaafd	O10

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
PatientAgeGroup	>=13 years and <52 years of age.						
PatientGender	Female						
ClinicalVenue	Outpatient						
TargetUser	Primary Care, designated women's health providers, or obstetrician/gynecologist						

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. Disqualifications

Expression: type=elm:Retrieve , dataType=anf:ClinicalStatement, codeProperty=topic
Annotation:
Codes: elm:element[elm:Code]: [236886002 |Hysterectomy (procedure)|]elm:element[elm:Code]: [76876009 |Bilateral oophorectomy (procedure)|]elm:element[elm:Code]: [77543007 |Ligation of fallopian tube (procedure)|]elm:element[elm:Code]: [[a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[76498008 |Postmenopausal state (finding)]]elm:element[elm:Code]: [[a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))-d5d1c4f4-5d27-4e48-94b9-866c5c08f163 |Failure to conceive (finding)]]

Triggers

Table 1.3. AccessOfPatientRecordEvent

Trigger: type=DataEventTrigger, DataElementAccessed
Expression: type=elm:Instance
Annotation:
Codes: elm:value[elm:Code]: [[a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[365873007 |Gender finding (finding)]]

Chapter 2. Expression Definitions

Table 2.1. PatientGender

Expression: type=elm:SingletonFrom
Annotation:
Codes: elm:element[elm:Code]: [[a997cc03-3e99-40eb-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[248152002 |Female (finding)]]

Chapter 3.

☆ Notify the provider the patient is a candidate for a discussion regarding reproductive health.

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

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| 243064009 |Reproductive education (procedure)|)

☆ Activate the Reproductive Health KNART Documentation Template.

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

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| TSR-NoCode)

☆ Activate the Reproductive Health KNART Order Set.

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

"statementType:Precoordinated Expression topic:Precoordinated Expression"

(Codes: 385644000 |Requested (qualifier value)| TSR-NoCode)

Chapter 4. Tabular List

Terminology Service Request (TSR) Mappings

Table 4.1. Terminology Versions

Name	Identifer	Version
SNOMED CT	2.16.840.1.113883.6.96	United States Edition 20180301

Table 4.2. Terminology References

System	Code	Display Text	References
SNOMED CT	236886002 |Hysterectomy (procedure)|	Precoordinated Expression	1
SNOMED CT	243064009 |Reproductive education (procedure)|	Precoordinated Expression	1
SNOMED CT	385644000 |Requested (qualifier value)|	Precoordinated Expression	3
SNOMED CT	398166005 |Performed (qualifier value)|	Precoordinated Expression	1
SNOMED CT	76876009 |Bilateral oophorectomy (procedure)|	Precoordinated Expression	1
SNOMED CT	77543007 |Ligation of fallopian tube (procedure)|	Precoordinated Expression	1
SNOMED CT	TSR-NoCode	Precoordinated Expression	2
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[105726004 |Age AND/OR growth finding (finding)]	Postcoordinated Expression	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[248152002	Female (finding)]	Postcoordinated Expression	2
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation procedure (procedure)] ->(363702006 |Has focus (attribute))->[365873007	Gender finding (finding)]	Postcoordinated Expression	1

System	Code	Display Text	References
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a |Observation proce-dure (procedure)] ->(363702006 |Has focus (attribute))->[76498008 |Postmenopausal state (finding)]	postmenopausal	1
SNOMED CT	[a997cc03-3e99-40e-b-833a-6374c7750a3a |Ob-servation procedure (pro-cedure)] ->(363702006 |Has focus (at-tribute))-d5d1c4f4-5d27-4e48-94b9-866c5c08f163 |Failure to conceive (find-ing)]	Postcoordinated Expression	1

Chapter 5. Behavior Symbols

Table 5.1. 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 5.2. 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 5.3. 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 5.4. 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 5.5. 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 5.6. 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 5.7. 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] *Women's Health: Reproductive Health Clinical Content White Paper* (link [CDSK_CCWP_O10B54O17ReproductiveHealth.xml])

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

[KVRpt] *Women's Health: Reproductive Health KNART Validation Report*

Supporting Evidence

[ACOG 2017] *American College of Obstetricians and Gynecologists Committee on Adolescent Health Care. Committee Opinion No 699: Adolescent Pregnancy, Contraception, and Sexual Activity. Obstet Gynecol. 2017;129(5):e142-e149* (link [https://doi.org/10.1097/AOG.0000000000002045])

[ACOG 2014] *American College of Obstetricians and Gynecologists. ACOG Committee Opinion no. 598: Committee on Adolescent Health Care: The initial reproductive health visit. 2014;123(5):1143-1147* (link [https://doi.org/10.1097/01.AOG.0000446826.46833.c0])

[Bayer 2002] *Bayer Pharma AG. Berlin. Essure: Permanent Birth Control. Germany: 2002.* (link [https://doi.org/10.1016/j.nwh.2017.07.006])

[NLM 2014] *U.S. National Library of Medicine. BREVICON- norethindrone and ethinyl estradiol; NORINYL- norethindrone and ethinyl estradiol; NORINYL- norethindrone and mestranol [Actavis Pharma, Inc.]. August 2014* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=aaaf32ea-045b-436c-b125-767f95f4cf0e])

[NLM 2017-1] *U.S. National Library of Medicine. IMPLANON- etonogestrel implant [Organon USA Inc.]. May 2017.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=50ed7e31-b9b7-4f0a-8e36-91ed5af86b81])

[NLM 2012-1] *U.S. National Library of Medicine. LUTERA- levonorgestrel and ethinyl estradiol [Watson Pharma, Inc.]. March 2012.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=435f565c-771d-44ff-88b7-4e089767c25f])

[NLM 2017-2] *U.S. National Library of Medicine. MEDROXYPROGESTERONE ACETATE- medroxyprogesterone acetate injection, suspension [Teva Parenteral Medicines, Inc.]. January 2017.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=d279981c-e9e4-4989-bafb-1e184a6d3dd2])

[NLM 2013-1] *U.S. National Library of Medicine. MIRENA- levonorgestrel intrauterine device [Bayer HealthCare Pharmaceuticals Inc.]. February 2013.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=92231d6f-f4d8-43b0-aa95-f7cec1cc18c5])

[NLM 2015-1] *U.S. National Library of Medicine. MONONESSA- norgestimate and ethinyl estradiol; TRINESSA- norgestimate and ethinyl estradiol [Actavis Pharma, Inc]. December 2015.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=704ba4ae-edd0-4298-a399-03a49f8411c7])

[NLM 2013-2] *U.S. National Library of Medicine. NECON 777- norethindrone and ethinyl estradiol [Watson Pharma Inc]. November 2013.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=db3b28a4-15d3-43e0-bb65-e625300c452c])

[NLM 2012-2] *U.S. National Library of Medicine. NOR QD- norethindrone tablet [Watson Pharma, Inc.]. June 2012.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=aa34bfca-06c3-4916-bb51-4bfbfc0ee371])

[NLM 2017-3] *U.S. National Library of Medicine. NUVARING- etonogestrel and ethinyl estradiol insert, extended release [Organon USA Inc.]. May 2017.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=017343fb-86c4-45ab-9c47-52cc5b9f3a02])

[NLM 2015-2] *U.S. National Library of Medicine. PARAGARD T 380A- copper intrauterine device [Teva Women's Health, Inc.]. August 2015.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=2b009ddb-378e-40d8-a8d8-00211f10e06c])

[NLM 2012-3] *U.S. National Library of Medicine. PLAN B - levonorgestrel tablet [Physicians Total Care, Inc.]. April 2012.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=fffebd01-3815-425f-8293-1ad909d0d0ab])

[NLM 2016-1] *U.S. National Library of Medicine. PLAN B ONE-STEP- levonorgestrel tablet [Teva Women's Health, Inc.]. May 2016.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=0ce3ccc4-23f2-4e0a-9650-856cf026c72c])

[NLM 2017-4] *U.S. National Library of Medicine. RECLIPSEN 28 DAY- desogestrel and ethinyl estradiol [Teva Pharmaceuticals USA, Inc.]. May 2017.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=a1e00bc6-7487-4057-9dcc-d0e2327d1d12])

[NLM 2016-2] *U.S. National Library of Medicine. SEASONIQUE- levonorgestrel / ethinyl estradiol and ethinyl estradiol [Teva Women's Health, Inc.]. November 2016.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=95e06935-8788-420c-b4a4-dc6ea339c7d0])

[NLM 2017-5] *U.S. National Library of Medicine. SKYLA- levonorgestrel intrauterine device [Bayer HealthCare Pharmaceuticals Inc.]. March 2017.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=9f44ff35-e052-49cd-a1c2-0bfd87d49309])

[NLM 2010] *U.S. National Library of Medicine. TRIVORA- levonogestrel and ethinyl estradiol [Watson Pharma, Inc.]. February 2010.* (link [https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=ae220f22-24b0-41a8-a10d-28839b300fe1])

[CDC 2017] *Center for Disease Control, US Medical Eligibility Criteria (US MEC) for Contraceptive Use. July 2017.* (link [https://www.cdc.gov/reproductivehealth/unintendedpregnancy/pdf/legal_summary-chart_english_final_tag508.pdf])

[Curtis 2016] *Curtis KM, Jatlaoui TC, Tepper NK, et al. U.S. Selected Practice Recommendations for Contraceptive Use, 2016. MMWR Recomm Rep 2016;65(No. RR-4):1–66.* (link [http://dx.doi.org/10.15585/mmwr.rr6504a1])

[Bellanca 2013] *Bellanca Helen K., Hunter Michele Stranger. ONE KEY QUESTION®: preventive reproductive health is part of high quality primary care. Contraceptive 88.1. 2013;:3-6* (link [https://doi.org/10.1016/j.contraception.2013.05.003])