cross_question_validations.md

File Layout

Rules are specified in <data entry form name>_cross_question_validations.csv - one per line. Questions can have multiple rules, and the rules are processed from earliest to latest (however processing order is unimportant)

A cross question validation file contains 15 columns, which can be thought of in two classes: Description columns and parameter columns. Description columns instruct the application as to which rule to run, which questions it is associated with and the error text. Parameter columns tell the rule how it should work

- Description Columns
  - itemnum
  - comments
  - question_code
  - related_question_code
  - related_question_list
  - rule
  - error_message
- Parameter Columns
  - operator
  - constant
  - set_operator
  - set
  - conditional_operator
  - conditional_constant
  - conditional_set_operator
  - conditional_set

Any extra columns not listed above will be ignored by the application.

Description Columns

All fields except related_question_code/list are mandatory. Either (but not both) of relate_question_code/list must be supplied.

Column	Description	Usage
itemnum	This column is only used during import. If an error is encountered, the value in this field will be displayed for each offending row	A unique identifier, does not have to be numeric
comments	Human readable comments to aid future maintainers in understanding rules. The comments are stored in the database but never actually used	Free text
question_code	The base question that this CQV applies to	A question code from the data entry form (Case sensitive)
related_question_code	The other question that this CQV applies to (one-to-one rules only)	A question code from the data entry form (Case sensitive)
related_question_list	The other questions that this CQV applies to (one-to-many rules only)	Comma separated list of question codes (Case sensitive)
rule	The rule to be applied	See Rules below
error_message	Text that is displayed to the user if validation fails	Free text

Parameter Columns

No parameter column is mandatory, however specific rules will require specific columns be supplied. See Rules below.

Column	Valid Data	Special Notes
operator	== <= >= < > !=	Only == and != are permitted for textual constants and sets
constant	any decimal, integer or text	

Column	Valid Data	Special Notes
set_operator	included, excluded, range, between	Only "included" and "excluded" are permitted for textual sets
set	list of numbers or text separated by commas and in square brackets where text is quoted	e.g. [1,3,5,7] or ["y","n","true","false"]
conditional_operator	== <= >= < > !=	Only == and != are permitted for textual conditional constants and conditional sets
conditional_constant	any decimal, integer or text	
conditional_set_operator	included, excluded, range, between	Only "included" and "excluded" are permitted for textual sets
conditional_set	list of numbers or text separated by commas and in square brackets where text is quoted	e.g. [1,3,5,7] or ["y","n","true","false"]

Note: Text data within constants, sets, conditional constants and conditional sets are automatically converted to lower case upon rule ingestion.

Cross Question Validation Rules

Generic Rules

Rule	Description
comparison	Compare two answers. Related answer can optionally be offset by a numerical value stored in 'Constant' prior to comparison. This 'Constant' offset must be a decimal or integer in order to be used as an offset, textual constants are ignored
present_implies_constant	If related_question is answered, this answer must meet (constant_expression)
const_implies_const	If related_question meets (conditional constant expression), this answer must meet (constant expression)
const_implies_set	If related_question meets (conditional constant expression), this answer must meet (set expression)

Rule	Description
set_implies_set	If related_question meets (conditional set expression), this answer must meet (set expression)
blank_if_const	Unless related_question meets (conditional constant expression), this answer must be blank
blank_unless_present	Unless this question is answered, related_question must be blank
present_if_const	If related_question meets (conditional constant expression), this question must be answered
multi_hours_date_to_date	This rule is a 'comparison' comparing this answer with the difference (in hours) between two pairs of date/times. See below for more info
multi_compare_datetime_quad	This rule is a 'comparison' for two pairs of date/times. This rule should be applied to both the date and the time questions, See below for more info
present_implies_present	If this question is answered, this related_question must be answered
const_implies_present	If this question meets (constant expression), related_question must be answered
set_implies_present	If this question meets (set expression), related_question must be answered
set_present_implies_present	If this question meets (conditional set expression) AND (first related_question in list) is present, (second related_question in list) must be answered
const_implies_one_of_const	If this answer meants (constant expression), then at least one of related_question_list must meet (conditional constant expression)

Expected Columns

rule	related_question_code	related_question_list	operator	constant	set_operator	set	conditional_operator	conditional_constant	conditional_set_operator	conditional_set
comparison	Y	N	Y	O	N	N	N	N	N	N
present_implies_constant	Y	N	Y	Y	N	N	N	N	N	N
const_implies_const	Y	N	Y	Y	N	N	Y	Y	N	N
const_implies_set	Y	N	N	N	Y	Y	Y	Y	N	N
set_implies_set	Y	N	N	N	Y	Y	N	N	Y	Y
blank_if_const	Y	N	N	N	N	N	Y	Y	N	N
blank_unless_present	Y	N	N	N	N	N	N	N	N	N
present_if_const	Y	N	N	N	N	N	Y	Y	N	N
multi_hours_date_to_date	N	Y	Y	O	N	N	N	N	N	N
multi_compare_datetime_quad	N	Y	Y	O	N	N	N	N	N	N
present_implies_present	Y	N	N	N	N	N	N	N	N	N
const_implies_present	Y	N	Y	Y	N	N	N	N	N	N
set_implies_present	Y	N	N	N	Y	Y	N	N	N	N
set_present_implies_present	N	Y	N	N	Y	Y	N	N	N	N
const_implies_one_of_const	N	Y	Y	Y	N	N	Y	Y	N	N

Specialised Rules

Rule	Question Code	Description
special_dob		DOB must be in the same year as the year of registration
special_rule_comp1	N_V_EGTH	(n_v_egth + n_s_egth + n_eggs + n_recvd) must be >= (n_donate + n_ivf + n_icsi + n_egfz_s + n_egfz_v)
special_rule_comp2	N_FERT	n_fert must be <= (n_ivf + n_icsi)
special_rule_comp3	N_S_CLTH	(n_embrec_fresh + n_s_clth + n_v_clth + n_s_blth + n_v_blth + n_fert) >= (n_bl_et + n_cl_et + n_clfz_s + n_clfz_v + n_blfz_s + n_blfz_v + n_embdon_fresh)
special_rule_mtage	N_EMBDISP	If n_embdisp == 0 then (cyc_date >= fdob + 18 years) and (cyc_date <= fdob + 55 years)

Rule	Question Code	Description
special_rule_mtagedisp	N_EMBDISP	If n_embdisp > 0 then (cyc_date >= fdob + 18 years) and (cyc_date <= fdob + 70 years)
special_rule_pr_clin	PR_CLIN	If pr_clin equals 'y' then n_bl_et > 0 OR n_cl_et > 0 OR iui_date must be present
special_rule_gest_iui_date	N_DELIV	If gestational age (pr_end_dt - iui_date) is greater than 20 weeks then n_deliv must be present
special_rule_gest_et_date	N_DELIV	If gestational age (pr_end_dt - et_date) is greater than 20 weeks then n_deliv must be present
special_rule_thaw_don	THAW_DON	If (n_s_clth + n_v_clth + n_s_blth + n_v_blth) > 0 and don_age is complete then thaw_don must be complete
special_rule_surr	DON_AGE	If surr equals 'y' and (n_s_clth + n_v_clth + n_s_blth + n_v_blth) > 0 then don_age must be present
special_rule_et_date	ET_DATE	If et_date is a date then at least one of n_cl_et or n_bl_et must be > 0
special_rule_stim_1st	STIM_1ST	If stim_1st equals 'y' and iui_date=nil then opu_date must be complete or can_date must be complete
special_rule_pgt_2	N_PGT_ET	n_pgt_assay + n_pgt_th >=n_pgt_et
special_rule_pgt_3	N_PGT_TH	(n_s_clth + n_v_clth + n_s_blth + n_v_blth) >= (n_pgt_th + ni_pgt_th)
special_rule_surr_3	CYCLE_TYPE	If surr='y' & cycle_type!= 7, then et_date = NULL & (n_bl_et+n_cl_et)=0
special_rule_cycletype_2_don	CYCLE_TYPE	If cycle_type = 2 & n_eggrec_fresh & n_embrec_fresh & n_s_egth & n_v_egth & n_s_clth & n_s_blth & n_v_clth & n_v_blth=0, then (at least one of n_eggdon_fresh or n_embdon_fresh or n_egfz_s or n_egfz_v or n_blfz_s or n_blfz_v or n_clfz_s or n_clfz_v >0)
special_rule_cycletype_2_rec	CYCLE_TYPE	If cycle_type = 2 & n_eggdon_fresh & n_embdon_fresh & n_efgz_s & n_egfz_v & n_blfz_s & n_blfz_v & n_clfz_s & n_clfz_v=0 then (at least one of n_eggrec_fresh or n_embrec_fresh or n_s_egth or n_v_egth or n_s_clth or n_s_blth or n_v_blth or n_v_clth >0)

Rule	Question Code	Description
special_rule_ttc_1	DATE_TTC	If parent_sex=1 & art_reason=n then date_ttc!= ""
special_rule_thaw_1	N_V_EGTH	(n_v_egth + n_s_egth + n_eggs + n_eggrec_fresh) >= (n_eggdon_fresh + n_ivf + n_icsi + n_gift+ n_egfz_s + n_egfz_v)
special_rule_ttc_2	DATE_TTC	If parent_sex=1 & art_reason=y then date_ttc= ""
special_rule_ivm	IVM	If cycle_type = 1, 2, 3 or 6 & (opu_date!="" or can_date!="") then ivm must be complete.
special_rule_art_reason	ART_REASON	If art_reason=y then ci_tube, ci_oth, ci_endo, ci_male and ci_unex=n
special_rule_ci_1	MALE_DIAG	If ci_male = y & parent_sex=1 & cycle_type=1, 3, 4, 5, 6 or 7, then male_diag must be complete
special_rule_sperm	SP_QUAL	If sp_site=e & sp_source=1 & (n_ivf>0 OR n_icsi>0) then sp_qual!=nil
special_rule_fdob_pat	FDOB_PAT	If cycle_type=8 & parent_sex=1,2 or 3 then fdob_pat must be complete.
special_rule_pgt_9	NI_PGT_ET	ni_pgt_assay + ni_pgt_th >=ni_pgt_et

Operators

Operator	Description
==	Equal to
<=	Less than or equal to
>=	Greater than or equal to
<	Strictly less than
>	Strictly greater than
!=	Not equal to

Set Operators

Set Operator	Description
included	answer matches one of the supplied values
excluded	answer does not match any of the supplied values
range	answer lies between the first and last supplied value (inclusive)

Expressions

Expressions take one of the following forms

Type	Form	Example	(Set_)Operator from example	Constant/Set from example
Comparison	(answer) (operator) (related_answer + (optional) constant)	BrthOrd <= Plurality + 1	<=	1
Constant Expression	(answer) (operator) (constant)	PNS == -1	==	-1
Set Expression	(answer) (set_operator) (set)	PTL must be either 0 or -1	included	[-1,0]