Public Use Dataset
Annotated eCRF

Translating an Adult Ventilator Computer Protocol To Pediatric Critical Care (Vent CDS R21)

CPCCRN Protocol Number 011

Collaborative Pediatric Critical Care Research Network

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Protocol Version 1.00

Version Date: April 29, 2011

Annotated eCRF Version 2.0

Version Date: April 19, 2017

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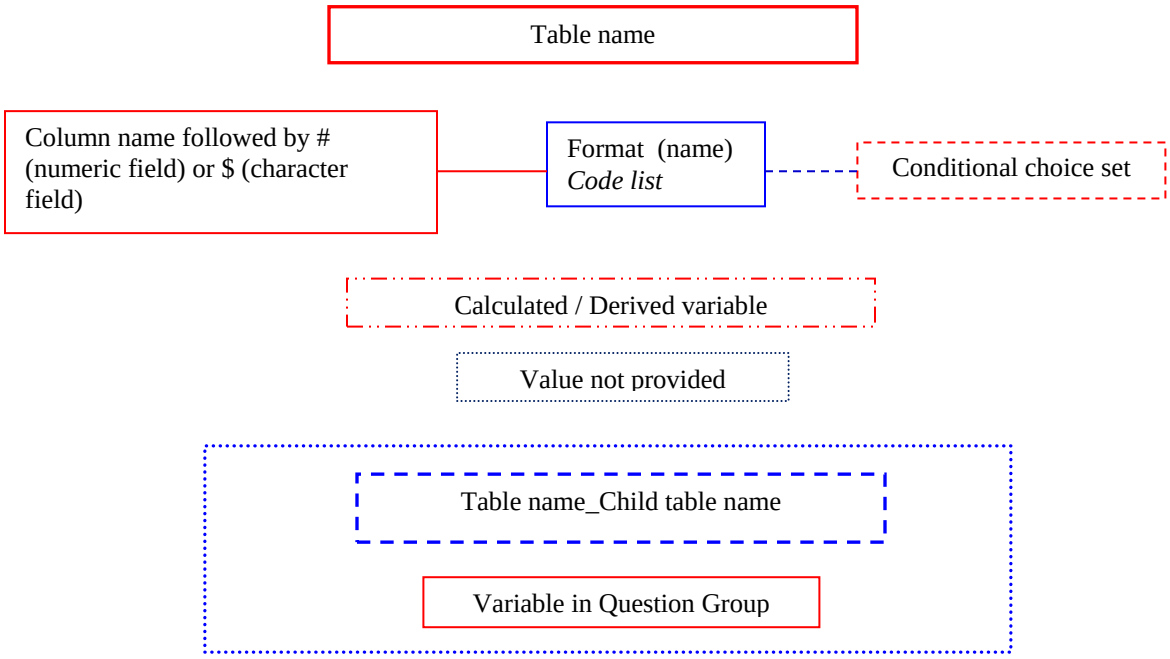
Annotations key:



Notes

StudySubjectID was replaced by SubjectID, sequential integers, that uniquely identifies a patient across datasets, it does not contain information about original site or medical record number. ItemGroupRepeatKey is also a unique subject identifier.

Sensitive and/or identifying information entered in free text fields have been removed from the public use datasets.

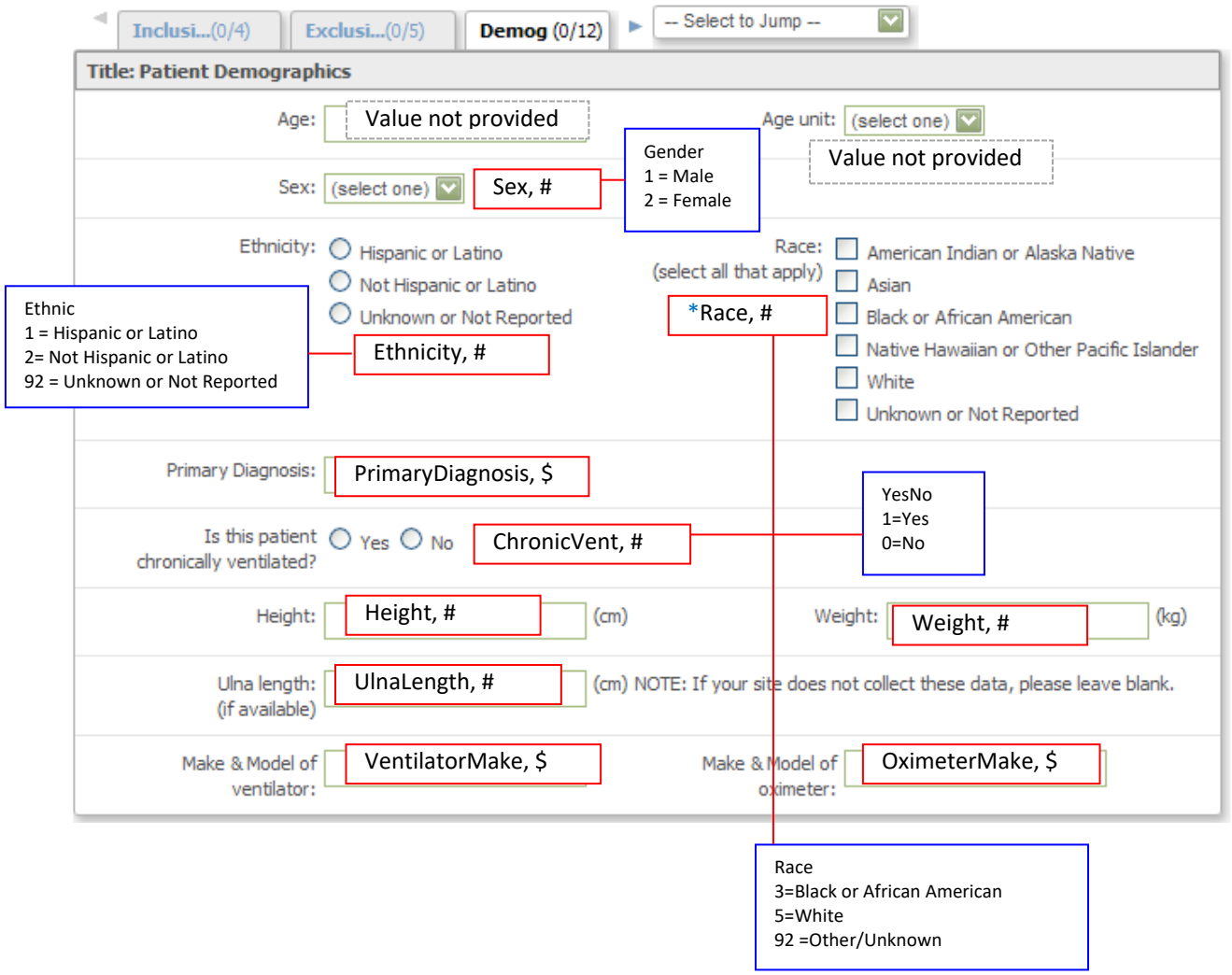
'Date' variables are replaced with 'day' variables. Day variables are populated with the number of days since the reference date, the date of the first ventilator reading. The date of the first ventilator reading is coded as 0 (Day 0) and all other dates will be recoded as number of days after Day 0 (if any dates occur before the first ventilator reading day, these dates will have a negative value).

Eligibility (1 of 1)

R21 Eligibility v1.0:

SubjectID #

ScreenDay #



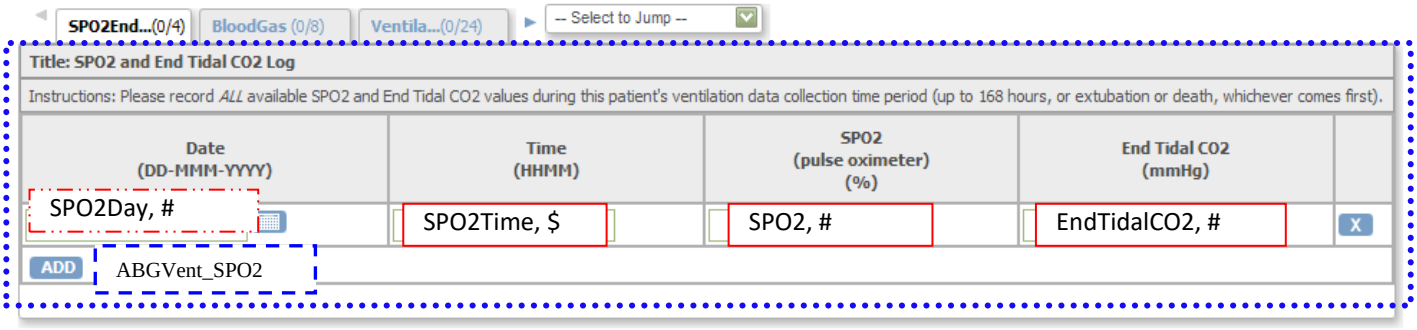
*Recoded values 1 (American Indian or Alaska Native), 2 (Asian), and 4 (Native Hawaiian or Other Pacific Islander) as 95 (Other/Unknown).

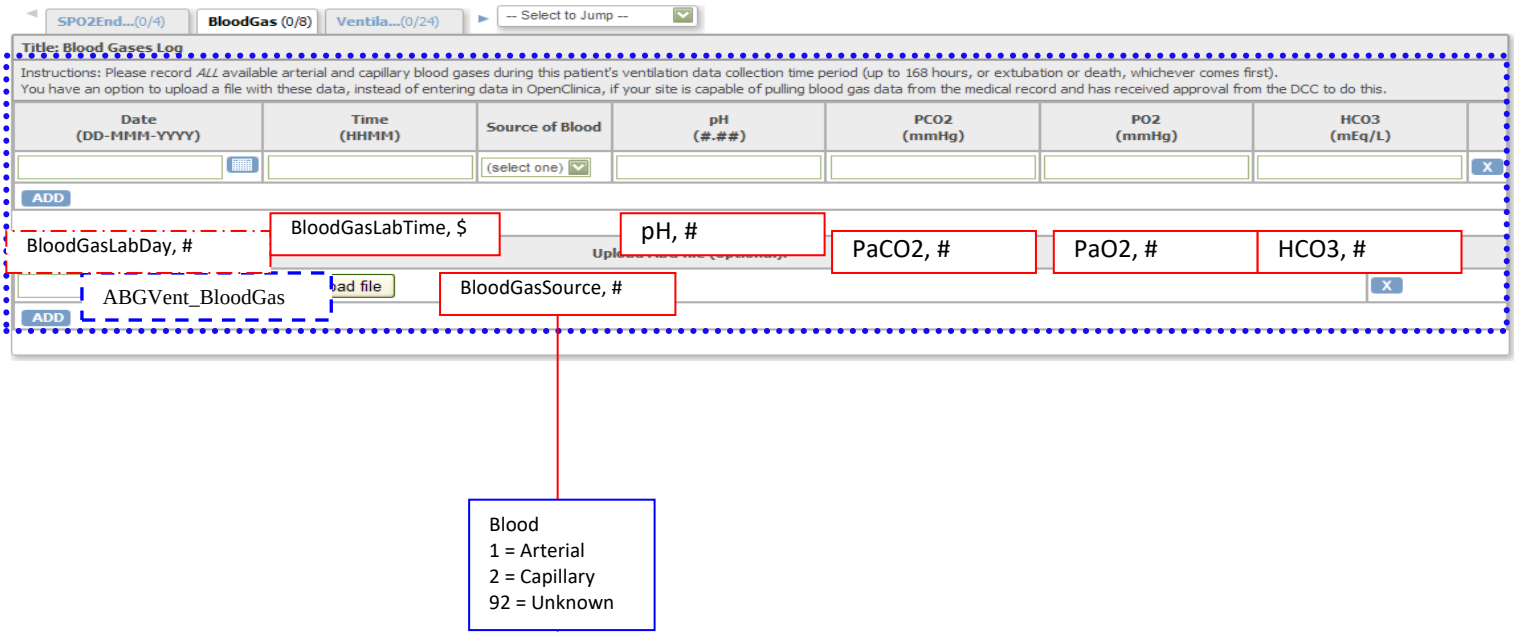
ABGVent (1 of 2)

R21 Blood Gases and Ventilator Information v1.0:

SubjectID #

ItemGroupRepeatKey #





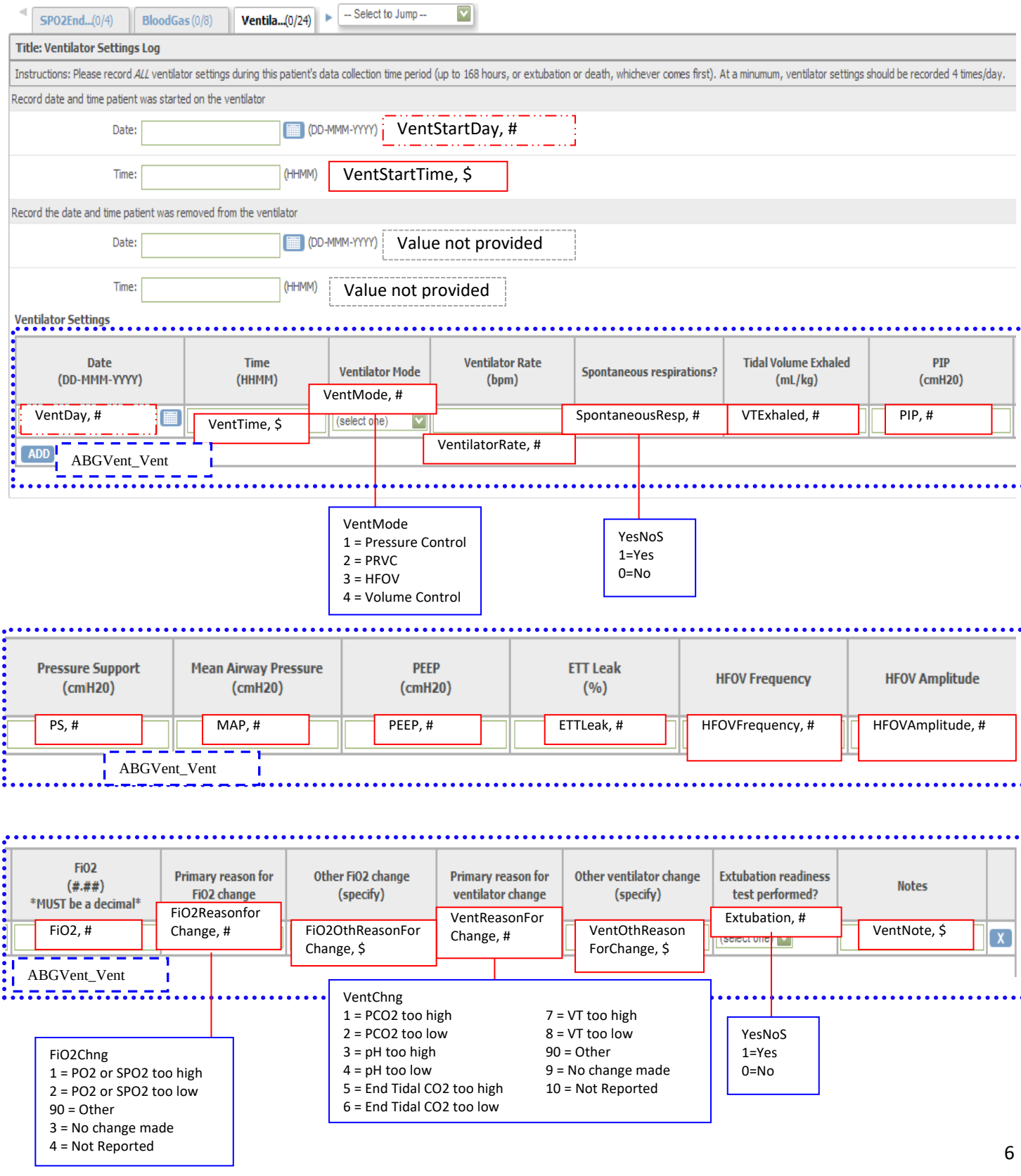
Blood
1 = Arterial
2 = Capillary
92 = Unknown

ABGVent (2 of 2)

R21 Blood Gases and Ventilator Information v1.0:

SubjectID #

ItemGroupRepeatKey #

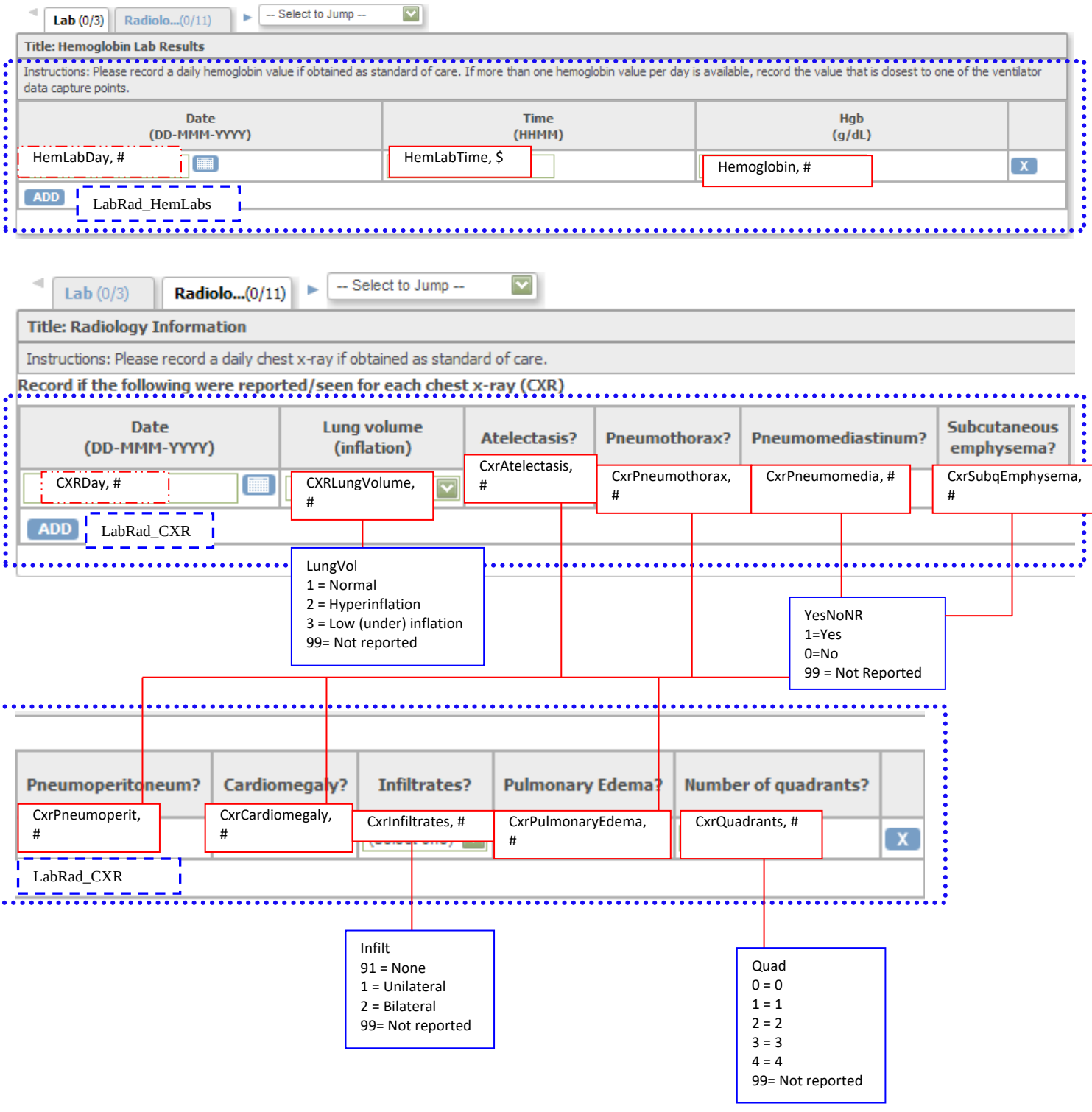


LabRad (1 of 1)

R21 Lab and Radiology Information v1.0:

SubjectID #

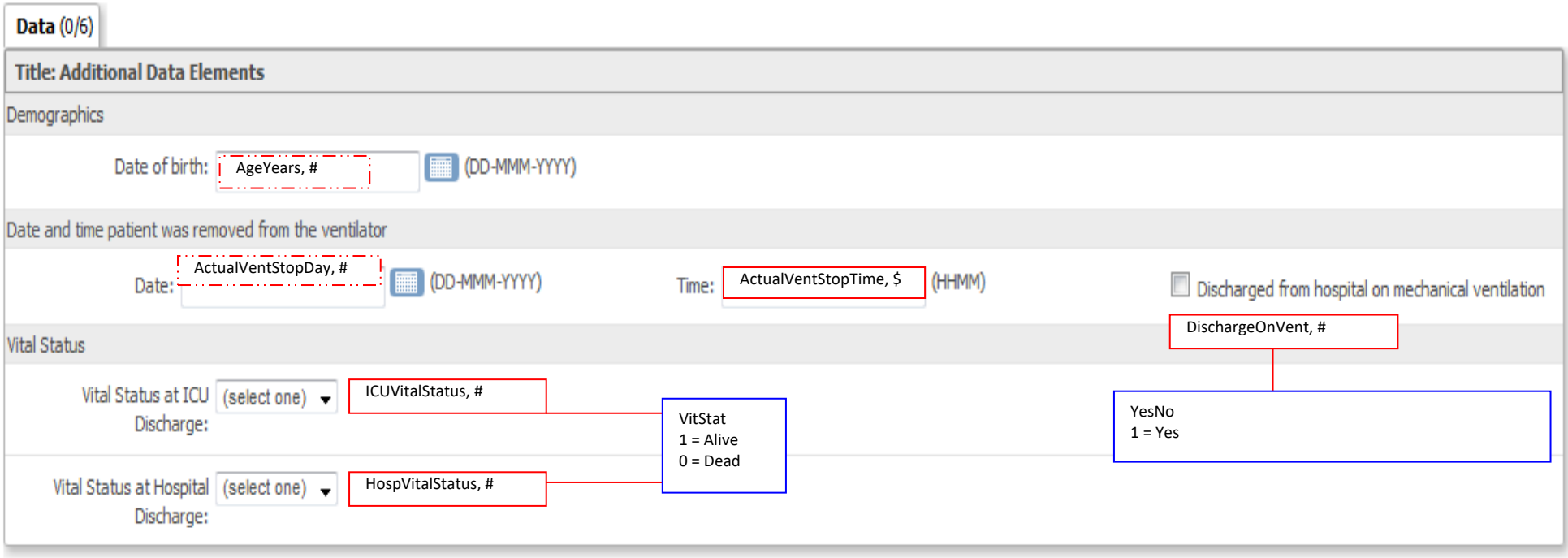
ItemGroupRepeatKey #



AddData (1 of 1)

R21 Additional Data Elements v1.0:

SubjectID #



VentChanges (1 of 3)

Ventilator Settings Log Joined with SPO2 and Blood Gases Log

This dataset is based on the ABGVent_Vent dataset with some observations excluded:

- If the time of the ventilator setting is missing, then the observation is excluded.
- If multiple observations with identical date and time exist for the same subject, the observation with the largest ItemGroupRepeatKey is kept.

Variables that come from the ABGVent_SPO2 and ABGVent_BloodGas datasets are joined to the observations from the ABGVent_Vent dataset in the following manner. The value for each of these variables comes from the last observation (most recent) in the relevant dataset that has a date and time equal to or less than the date and time of the ventilator setting. For cases when the most recent observation is more than 4 hours before the date and time of the ventilator setting, the value of the variable is set to missing. Additionally, for variables that come from the ABGVent_BloodGas dataset, only observations where BloodGasSource is Arterial or Capillary are considered.

Variable	Format	Type	Label	Algorithm / Notes
SubjectID		#	Subject ID	Randomly generated ID number that uniquely identifies an eligible subject across datasets
itemgrouprepeatkey		#	ItemGroupRepeatKey	= ItemGroupRepeatKey from ABGVent_Vent dataset. SubjectID + ItemGroupRepeatKey uniquely identifies records in this dataset
VentDay		#	Day of ventilator reading (relative to the date of the first ventilator reading)	= VentDay from ABGVent_Vent dataset
VentTime		#	Time of ventilator reading	= VentTime from ABGVent_Vent dataset
TotalTimeMin		#	Minutes since first ventilator reading	= Time, in minutes, since the time of the first ventilator reading
VentMode	VentMode 1 = Pressure Control 2 = PRVC 3 = HFOV 4 = Volume Control	#	Ventilator Mode	= VentMode from ABGVent_Vent dataset

VentChanges (2 of 3)

Variable	Format	Type	Label	Algorithm / Notes
VentilatorRate		#	Ventilator Rate (bpm)	= VentilatorRate from ABGVent_Vent dataset
SpontaneousResp	YesNoS 1=Yes 0=No	#	Spontaneous Respiration	= SpontaneousResp from ABGVent_Vent dataset
VTExhaled		#	VT exhaled (mL/kg)	= VTExhaled from ABGVent_Vent dataset
PIP		#	PIP (cmH20)	= PIP from ABGVent_Vent dataset
PS		#	pressure support (cmH20)	= PS from ABGVent_Vent dataset
MAP		#	mean airway pressure (cmH20)	= MAP from ABGVent_Vent dataset
PEEP		#	PEEP (cmH20)	= PEEP from ABGVent_Vent dataset
ETTleak		#	ET tube leak (%)	= ETTleak from ABGVent_Vent dataset
HFOVFrequency		#	HFOV frequency	= HFOVFrequency from ABGVent_Vent dataset
HFOVAmplitude		#	HFOV amplitude	= HFOVAmplitude from ABGVent_Vent dataset
FiO2		#	FiO2	= FiO2 from ABGVent_Vent dataset
SPO2Day		#	SPO2/End Tidal Day (relative to the date of the first ventilator reading)	= SPO2Day from ABGVent_SPO2 dataset
SPO2Time		#	SPO2/End Tidal Time	= SPO2Time from ABGVent_SPO2 dataset
SPO2		#	SPO2 pulse oximetry O2sat (%)	= SPO2from ABGVent_SPO2 dataset
EndTidalCO2		#	End tidal CO2 (mmHg)	= EndTidalCO2from ABGVent_SPO2 dataset
BloodGasLabDay		#	Day of Blood Gas Lab (relative to the date of the first ventilator reading)	= BloodGasLabDay from ABGVent_BloodGas dataset
BloodGasLabTime		#	Time of Blood Gas Lab	= SPO2Time from ABGVent_ BloodGas dataset

VentChanges (3 of 3)

Variable	Format	Type	Label	Algorithm / Notes
BloodGasSource	Blood 1 = Arterial 2 = Capillary 92 = Unknown	#	Source of Drawn Blood	= SPO2Time from ABGVent_ BloodGas dataset
pH		#	pH (#.##)	= pH from ABGVent_ BloodGas dataset
PaCO2		#	PaCO2 (mmHg)	= PaCO2from ABGVent_ BloodGas dataset
PaO2		#	PaO2 (mmHg)	= PaO2from ABGVent_ BloodGas dataset
HCO3		#	HCO3 bicarb (mEq/L)	= HCO3from ABGVent_ BloodGas dataset
OXYGEN_INDEX		#	Oxygenation Index	= NULL if PaO2 = NULL = 0 else if PaO2 = 0 = (FiO2 x 100 x MAP)/PaO2 otherwise
oxygen_sat_index		#	Oxygen Saturation Index	= NULL if SPO2 = NULL = NULL else if SPO2 > 97 = 0 else if SPO2 = 0 = (FiO2 x 100 x MAP)/SPO2 otherwise
SF_RATIO		#	S/F Ratio	= NULL if FiO2 = NULL = 0 if FiO2 = 0 = NULL else if SPO2 > 97 = SPO2/FiO2 otherwise
PF_RATIO		#	P/F Ratio	= NULL if FiO2 = NULL = 0 if FiO2 = 0 = PaO2/FiO2 otherwise

Subject-level Derived Variables

Variable	Format	Type	Label	Algorithm / Notes
SubjectID		#	Subject ID	Randomly generated ID number that uniquely identifies an eligible subject across datasets
VentFreeDays		#	28 Day ventilator-free days	= NULL if Hospital Vital Status is Dead AND time from ventilator start to ventilator stop is < 28 days = 0 else if subject was discharged from hospital on mechanical ventilation = 0 else if time from ventilator start to ventilator stop is >= 28 days = 28 – (time from ventilator start to ventilator stop) otherwise
PredictedWeight		#	Predicted Weight (kg)	For subjects with available height, weight, and gender recorded, predicted body weight calculated using a calculator (Relcore, Inc., Los Angeles, CA)
FirstPFRatio		#	First available PF Ratio	Patient's first non-missing value for PF Ratio as defined in the VentChanges dataset.
FirstPFRatioHours		#	Time of first available PF Ratio (hours after time of first recorded ventilator settings)	Number of hours from first recorded ventilator setting to the time of the ventilator setting associated with the first available PF Ratio.
FirstSFRatio		#	First available SF Ratio	Patient's first non-missing value for SF Ratio as defined in the VentChanges dataset.
FirstSFRatioHours		#	Time of first available SF Ratio (hours after time of first recorded ventilator settings)	Number of hours from first recorded ventilator setting to the time of the ventilator setting associated with the first available SF Ratio.

SubjectLevelDerived (2 of 3)

Variable	Format	Type	Label	Algorithm / Notes
FirstOI		#	First available Oxygenation Index	Patient's first non-missing value for Oxygenation Index as defined in the VentChanges dataset.
FirstOIHours		#	Time of first available Oxygenation Index (hours after time of first recorded ventilator settings)	Number of hours from first recorded ventilator setting to the time of the ventilator setting associated with the first available Oxygenation Index.
FirstOSI		#	First available Oxygen Saturation Index	Patient's first non-missing value for Oxygen Saturation Index as defined in the VentChanges dataset.
FirstOSIHours		#	Time of first Oxygen Saturation Index (hours after time of first recorded ventilator settings)	Number of hours from first recorded ventilator setting to the time of the ventilator setting associated with the first available Oxygen Saturation Index.
PFRatio24		#	PF Ratio closest to 24 (+/- 9) hours after time of first recorded ventilator settings	Patient's PF Ratio, as defined in the VentChanges dataset, that is closest to 24 hours after the time of the first recorded ventilator setting. Only values that were between 15 and 33 hours after the time of the first recorded ventilator setting are considered.
PFRatio24Hours		#	Time (hours) of PF ratio closest to 24 (+/- 9) hours	Number of hours from first recorded ventilator setting to the time of the ventilator setting associated with the PF Ratio closest to 24 hours.
SFRatio24		#	SF Ratio closest to 24 (+/- 9) hours after time of first recorded ventilator settings	Patient's PS Ratio, as defined in the VentChanges dataset, that is closest to 24 hours after the time of the first recorded ventilator setting. Only values that were between 15 and 33 hours after the time of the first recorded ventilator setting are considered.
SFRatio24Hours		#	Time (hours) of SF ratio closest to 24 (+/- 9) hours	Number of hours from first recorded ventilator setting to the time of the ventilator setting associated with the SF Ratio closest to 24 hours.

SubjectLevelDerived (3 of 3)

Variable	Format	Type	Label	Algorithm / Notes
OI24		#	Oxygenation Index closest to 24 (+/- 9) hours after time of first recorded ventilator settings	Patient's Oxygenation Index, as defined in the VentChanges dataset, that is closest to 24 hours after the time of the first recorded ventilator setting. Only values that were between 15 and 33 hours after the time of the first recorded ventilator setting are considered.
OI24Hours		#	Time (hours) of Oxygenation Index closest to 24 (+/- 9) hours	Number of hours from first recorded ventilator setting to the time of the ventilator setting associated with the Oxygenation Index closest to 24 hours.
OSI24		#	Oxygen Saturation Index closest to 24 (+/- 9) hours after time of first recorded ventilator settings	Patient's Oxygen Saturation Index, as defined in the VentChanges dataset, that is closest to 24 hours after the time of the first recorded ventilator setting. Only values that were between 15 and 33 hours after the time of the first recorded ventilator setting are considered.
OSI24Hours		#	Time (hours) of Oxygen Saturation Index closest to 24 (+/- 9) hours	Number of hours from first recorded ventilator setting to the time of the ventilator setting associated with the Oxygen Saturation Index closest to 24 hours.
BilateralInfiltrates	YESNO 1 = Yes 0 = No	#	Bilateral Infiltrates	= Yes if CXRInfiltrates (from LabRad_CXR dataset) is Bilateral for at least one record = No otherwise
QuadrantInfiltrates	YESNO	#	Quadrant Infiltrates	= Yes if CXRQuadrants (from LabRad_CXR dataset) is 1 or 2 or 3 or 4 for at least one record = No otherwise