

# **Data Submission User Guide**

Version: 0.1.0

December 09, 2021



#### **Table of Contents**

- 1. Overview
  - 1. Documentation Conventions
    - 1. Optionality
    - 2. Data Types
- 2. File Specifications
  - 1. Condition
  - 2. Encounter
  - 3. Location
  - 4. MedicationAdministration
  - 5. MedicationStatement
  - 6. Observation
  - 7. Organization
  - 8. Patient
  - 9. Practitioner
  - 10. Procedure
  - 11. ServiceRequest
- 3. Appendices
  - 1. Appendix A: Code Tables
    - 1. V3 Value SetActEncounterCode
    - 2. SNOMED CT Route Codes
    - 3. Medication administration status codes
    - 4. Medication status codes
    - 5. Observation Category Codes
    - 6. AdministrativeGender
    - 7. Procedure Codes (SNOMED CT)
    - 8. EventStatus
    - 9. RequestIntent
    - 10. RequestStatus



# **Overview**

This data integration guide explains how to submit data to the Acacia Registry. It includes information on the following:

- How to format your data for submission to the Acacia Registry
- How to submit data files to the Acacia Registry

As part of the initial registry set up, we will first validate your data submissions in a test environment. Then, after this has been verified and validated, we will move the data processing pipeline to production. Once your data is successfully submitted to the production registry per the instructions in this guide, the Acacia Registry will reflect the data within the web-based performance reports within 24 hours.

#### **Documentation Conventions**

#### **Optionality**

The **optionality** of a data element indicates the relative importance of including the element in a file submission:

Code	Label	Meaning
R	Required	This element <u>must</u> be included in the file submission, or the file will fail to process successfully.
Р	Preferred	This element <u>should</u> be included in the file submission. Without it, registry functionality may be limited.
0	Optional	This element may be included if it is available.

#### **Data Types**

This specification assigns specific meaning to the data types described within:

Туре	Value Domain
boolean	true   false
string	A sequence of Unicode characters
date	A date as used in human communication. The format is YYYY-MM-DD (e.g. 2014-05-12). There SHALL be no time zone



Туре	Value Domain
dateTime	A date-time as used in human communication. The format is YYYY-MM-DD HH:mm:ss (e.g. 2014-05-12 13:00:00). The time uses a 24-hour clock. Time zone is required.
code	Indicates that the value is taken from a set of controlled strings defined elsewhere. Technically, a code is restricted to a string which has at least one character and no leading or trailing whitespace, and where there is no whitespace other than single spaces in the contents

# **File Specifications**

The data specification outlined in this document follows the ArborMetrix Standard File (ASF) format for health care data exchange. The following section provides details on the file contents and format required for upload:

• Each submission may contain any or all following tables:

Name	Description
Condition	A clinical condition, problem, or diagnosis of concern.
Encounter	An interaction between a patient and clinician for the purpose of providing care or assessing the health of a patient.
Location	Details and position information for a physical place.
MedicationAdministration	A record of a patient consuming or otherwise being administered a medication.
MedicationStatement	A record of a medication that is or was being consumed by a patient.
Observation	A measurement or simple assertion made about a patient, device or other subject.
Organization	A grouping of people or organizations with a common purpose.
Patient	Demographics and other administrative information about an individual receiving health-related services.
Practitioner	A person who is directly or indirectly involved in the provisioning of healthcare.



Name	Description
Procedure	An action that is or was performed on or for a patient. This can be a physical intervention like an operation, or less invasive like long term services, counseling, or hypnotherapy.
ServiceRequest	A record of a request for service such as diagnostic investigations, treatments, or operations to be performed.

- These tables may be formatted as either:
  - A single Excel file ('.xlsx' extension) with a tab for each table
  - A single Zip file ('.zip' extension) containing delimited text files (e.g., CSV, pipedelimited, etc.) for each table
- There are no requirements for the name of the Excel or Zip file however, the individual tabs/CSV files *must* be named as listed above
  - An optional version number may be appended to the name of each table with an underscore ("\_") if sending an older version of the specification (e.g.,"Patient\_0.1.0")
- The first row of each table must contain the Data Element Names (first column below)
  - The Data Element Names can be arranged in any order, but their column data must conform to the format for each Data Element (see list below)
- Each record *must* contain all required data elements per the table below.
  - Elements may be repeated as their Cardinality allows. To send more than one element with the same name, append an index to the element name in the header row (e.g., "coverage-type-1", "coverage-type-2", etc.)



# **Condition**

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
code	A code that identifies the condition	R	code	
identifier	A unique identifier for the condition record	Р	string	
asserter	An identifier for the individual who asserts this condition	Р	string	
category-1	The category of the condition	Р	code	
category-2	The category of the condition	0	code	
category-3	The category of the condition	0	code	
category-4	The category of the condition	0	code	
category-5	The category of the condition	0	code	
encounter	An identifier for the encounter this record was created as part of	Р	string	
onset-date	The date or date-time the condition began	Р	dateTime	<b>!</b>
abatement-date	The date or date-time the condition resolved	Р	dateTime	!
subject	An identifier for the patient to whom the condition record is associated	R	string	



#### **Encounter**

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
identifier	A unique encounter identifier	R	string	
subject	An identifier for the patient present at the encounter	R	string	
start-date	The start date or date-time of the encounter	R	dateTime	
end-date	The end date or date-time of the encounter	Р	dateTime	
type-1	The specific type of encounter	Р	code	
type-2	The specific type of encounter	0	code	
type-3	The specific type of encounter	0	code	
type-4	The specific type of encounter	0	code	
type-5	The specific type of encounter	0	code	
class	The classification of the patient encounter (e.g. inpatient, emergency, home health, etc.)	R	code	V3 Value SetActEncounterCode
discharge- disposition	The category or kind of location after discharge	Р	code	
location-1	An identifier for the location where the encounter takes place	Р	string	
location-2	An identifier for the location where the encounter takes place	0	string	
location-3	An identifier for the location where the encounter takes place	0	string	



Column Name	Description	Optionality	Туре	Value Set
location-4	An identifier for the location where the encounter takes place	0	string	
location-5	An identifier for the location where the encounter takes place	0	string	
part-of	An identifier for another encounter of which this encounter is a part	Р	string	
participant	An identifier for an individual involved in the encounter other than the patient	Р	string	
service-provider	An identifier for the organization (facility) responsible for this encounter	Р	string	



# Location

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
identifier-1	A unique location identifier	Р	string	
identifier-2	A unique location identifier	0	string	
identifier-3	A unique location identifier	0	string	
identifier-4	A unique location identifier	0	string	
identifier-5	A unique location identifier	0	string	
name	Name of the location as used by humans	Р	string	
address-city	A city specified in an address	Р	string	
address-postalcode	A postal code specified in an address	Р	string	
address-state	A state specified in an address	Р	string	
name address-city address-postalcode	Name of the location as used by humans A city specified in an address A postal code specified in an address	P P P	string string string	



#### MedicationAdministration

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
dosage-quantity	The quantity associated with the administered medication dosage	Р	decimal	
dosage-unit	The units associated with the administered medication dosage	Р	string	
dosage-route	The route or path of administration of a therapeutic agent into or onto the patient	Р	code	SNOMED CT Route Codes
effective-start	The start date or date-time of the medication administration	R	dateTime	
effective-end	The end date or date-time of the medication administration	Р	dateTime	
medication	A code for the medication being administered	R	code	
reason-given	A code indicating why the medication was given	Р	code	
status	A code specifying the current state of the administration	R	code	Medication administration status codes
subject	An identifier for the patient receiving the medication	R	string	



# MedicationStatement

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
status	A code representing the state of this medication's use	R	code	Medication status codes
subject	An identifier for the patient who was/is taking the medication	R	string	
medication	A code for the medication which the statement is about	R	code	
dosage-quantity	The quantity associated with the medication statement dosage	Р	decimal	
dosage-unit	The units associated with the medication statement dosage	Р	string	
effective-start	The date or date-time when the patient began taking the medication	R	dateTime	
effective-end	The date or date-time when the patient stopped taking the medication	Р	dateTime	



#### **Observation**

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
identifier	A unique identifier for the observation record	Р	string	
encounter	An identifier for the encounter during which this observation is made	Р	string	
category	A code that classifies the general type of observation being made	Р	code	Observation Category Codes
code	A code that describes what was observed	R	code	
code-value- quantity	The quantity determined as a result of making the observation	Р	decimal	
code-value-unit	The units of the quantity determined as a result of making the observation	Р	string	
start-date	The start of the clinically relevant time period for the observation	R	dateTime	
end-date	The end of the clinically relevant time period for the observation	Р	dateTime	
performer	An identifier for the individual responsible for the observation	Р	string	
subject	An identifier for the patient that the observation is about	R	string	



# **Organization**

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
identifier-1	A unique organization identifier	Р	string	
identifier-2	A unique organization identifier	0	string	
identifier-3	A unique organization identifier	0	string	
identifier-4	A unique organization identifier	0	string	
identifier-5	A unique organization identifier	0	string	
name	Name used for the organization	Р	string	
email	The email address for the organization	Р	string	
address-city	A city specified in an address	Р	string	
address-postalcode	A postal code specified in an address	Р	string	
address-state	A state specified in an address	Р	string	
part-of	An identifier for the organization of which this organization forms a part	Р	string	



# **Patient**

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
identifier	A unique patient identifier	R	string	
organization	An identifier for the organization that is the custodian of the patient record	R	string	
first	The first name of the patient	Р	string	
middle	The middle name of the patient	Р	string	
family	The family name of the patient	Р	string	
email	An email address for the patient	Р	string	
gender	The administrative gender of the patient	Р	code	AdministrativeGender
birthdate	The patient's date of birth	R	date	
death-date	The date of death of the patient	Р	dateTime	
race	The race of the patient	Р	code	
ethnicity	The ethnicity of the patient	Р	code	



# **Practitioner**

Column Name	Description	Optionality	7 Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
identifier	A unique practitioner identifier	R	string	
first	The first name of the practitioner	Р	string	
family	The family name of the practitioner	Р	string	
active	Whether the practitioner record is active	R	boolean	



# **Procedure**

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
code	A code that identifies the specific procedure that was performed	R	code	Procedure Codes (SNOMED CT)
identifier	A unique identifier for the procedure record	Р	string	
encounter	An identifier for the encounter during which this procedure was performed or to which this record is tightly associated	Р	string	
start-date	The start date or date-time of the procedure	R	dateTime	)
end-date	The end date or date-time of the procedure	Р	dateTime	)
performer	An identifier for the practitioner who was involved in the procedure	Р	string	
status	A code specifying the state of the procedure	R	code	<b>EventStatus</b>
subject	An identifier for the patient on which the procedure was performed	R	string	



# ServiceRequest

Column Name	Description	Optionality	Туре	Value Set
-source	A value representing the source of the data captured within this record	R	code	
code	A code that identifies a particular service that has been requested	Р	code	
identifier	A unique identifier for the service request record	R	string	
encounter	An identifier for the encounter during which this service request is made or to which this record is tightly associated	Р	string	
authored	The date or date-time when the service request was signed	R	dateTime	
intent	A code specifying the kind of service request (proposal, plan, order, etc.)	R	code	RequestIntent
requester	An identifier for the individual that initiated the request and has responsibility for its activation	Р	string	
status	A code specifying the current state of the order or referral	R	code	RequestStatus
subject	An identifier for the patient on whom the service is to be performed	R	string	
occurrence	When service should occur	Р	dateTime	



# **Appendices**

# **Appendix A: Code Tables**

#### V3 Value SetActEncounterCode

Code	Display
AMB	ambulatory
EMER	emergency
FLD	field
НН	home health
IMP	inpatient encounter
ACUTE	inpatient acute
NONAC	inpatient non-acute
OBSENC	observation encounter
PRENC	pre-admission
SS	short stay
VR	virtual

#### **SNOMED CT Route Codes**

NOTE: This code set has >100 codes in it. In order to keep the publication size manageable, only a selection (100 codes) of the whole set of codes is shown. For more information, please see <a href="http://hl7.org/fhir/ValueSet/route-codes">http://hl7.org/fhir/ValueSet/route-codes</a>.

Code	Display
284009009	Route of administration values
6064005	Topical route
10547007	Otic route
12130007	Intra-articular route
16857009	Per vagina
26643006	Oral route
34206005	Subcutaneous route



Code	Display
37161004	Per rectum
37737002	Intraluminal route
37839007	Sublingual route
38239002	Intraperitoneal route
45890007	Transdermal route
46713006	Nasal route
47625008	Intravenous route
54471007	Buccal route
54485002	Ophthalmic route
58100008	Intra-arterial route
60213007	Intramedullary route
62226000	Intrauterine route
72607000	Intrathecal route
78421000	Intramuscular route
90028008	Urethral route
127490009	Gastrostomy route
127491008	Jejunostomy route
127492001	Nasogastric route
372449004	Dental use
372450004	Endocervical use
372451000	Endosinusial use
372452007	Endotracheopulmonary use
372453002	Extra-amniotic use
372454008	Gastroenteral use
372457001	Gingival use
372458006	Intraamniotic use
372459003	Intrabursal use
372460008	Intracardiac use
372461007	Intracavernous use
372462000	Intracervical route (qualifier value)



Code	Display
372463005	Intracoronary use
372464004	Intradermal use
372465003	Intradiscal use
372466002	Intralesional use
372467006	Intralymphatic use
372468001	Intraocular use
372469009	Intrapleural use
372470005	Intrasternal use
372471009	Intravesical use
372472002	Ocular route (qualifier value)
372473007	Oromucosal use
372474001	Periarticular use
372475000	Perineural use
372476004	Subconjunctival use
404815008	Transmucosal route (qualifier value)
404818005	Intratracheal route (qualifier value)
404819002	Intrabiliary route (qualifier value)
404820008	Epidural route (qualifier value)
416174007	Suborbital route (qualifier value)
417070009	Caudal route (qualifier value)
417255000	Intraosseous route (qualifier value)
417950001	Intrathoracic route (qualifier value)
417985001	Enteral route (qualifier value)
417989007	Intraductal route (qualifier value)
418091004	Intratympanic route (qualifier value)
418114005	Intravenous central route (qualifier value)
418133000	Intramyometrial route (qualifier value)
418136008	Gastro-intestinal stoma route (qualifier value)
418162004	Colostomy route (qualifier value)
418204005	Periurethral route (qualifier value)



Code	Display
418287000	Intracoronal route (qualifier value)
418321004	Retrobulbar route (qualifier value)
418331006	Intracartilaginous route (qualifier value)
418401004	Intravitreal route (qualifier value)
418418000	Intraspinal route (qualifier value)
418441008	Orogastric route (qualifier value)
418511008	Transurethral route (qualifier value)
418586008	Intratendinous route (qualifier value)
418608002	Intracorneal route (qualifier value)
418664002	Oropharyngeal route (qualifier value)
418722009	Peribulbar route (qualifier value)
418730005	Nasojejunal route (qualifier value)
418743005	Fistula route (qualifier value)
418813001	Surgical drain route (qualifier value)
418821007	Intracameral route (qualifier value)
418851001	Paracervical route (qualifier value)
418877009	Intrasynovial route (qualifier value)
418887008	Intraduodenal route (qualifier value)
418892005	Intracisternal route (qualifier value)
418947002	Intratesticular route (qualifier value)
418987007	Intracranial route (qualifier value)
419021003	Tumor cavity route
419165009	Paravertebral route (qualifier value)
419231003	Intrasinal route (qualifier value)
419243002	Transcervical route (qualifier value)
419320008	Subtendinous route (qualifier value)
419396008	Intraabdominal route (qualifier value)
419601003	Subgingival route (qualifier value)
419631009	Intraovarian route (qualifier value)
419684008	Ureteral route (qualifier value)



Code	Display
419762003	Peritendinous route (qualifier value)
419778001	Intrabronchial route (qualifier value)
419810008	Intraprostatic route (qualifier value)

#### **Medication administration status codes**

Code	Display	
in-progress	In Progress	
not-done	Not Done	
on-hold	On Hold	
completed	Completed	
entered-in-error	Entered in Error	
stopped	Stopped	
unknown	Unknown	

#### **Medication status codes**

Code	Display
active	Active
completed	Completed
entered-in-error	Entered in Error
intended	Intended
stopped	Stopped
on-hold	On Hold
unknown	Unknown
not-taken	Not Taken

#### **Observation Category Codes**

Code	Display
social-history	Social History
vital-signs	Vital Signs



Code	Display
imaging	Imaging
laboratory	Laboratory
procedure	Procedure
survey	Survey
exam	Exam
therapy	Therapy
activity	Activity

#### **AdministrativeGender**

Code	Display
male	Male
female	Female
other	Other
unknown	Unknown

#### **Procedure Codes (SNOMED CT)**

NOTE: This code set has >100 codes in it. In order to keep the publication size manageable, only a selection (100 codes) of the whole set of codes is shown. For more information, please see <a href="http://hl7.org/fhir/ValueSet/procedure-code">http://hl7.org/fhir/ValueSet/procedure-code</a>.

Code	Display
71388002	Procedure
104001	Excision of lesion of patella
115006	Removable appliance therapy
119000	Thoracoscopic partial lobectomy of lung
121005	Retrobulbar injection of therapeutic agent
128004	Hand microscope examination of skin
133000	Percutaneous implantation of neurostimulator electrodes into neuromuscular component
135007	Arthrotomy of wrist joint with exploration and biopsy



Code	Display
142007	Excision of tumor from shoulder area, deep, intramuscular
146005	Repair of nonunion of metatarsal with bone graft
153001	Cystourethroscopy with resection of ureterocele
160007	Removal of foreign body of tendon and/or tendon sheath (procedure)
166001	Behavioral therapy
170009	Special potency disk identification, vancomycin test
174000	Harrison-Richardson operation on vagina
176003	Anastomosis of rectum
189009	Excision of lesion of artery
197002	Mold to yeast conversion test
230009	Miller operation, urethrovesical suspension
243009	Replacement of cerebral ventricular tube
245002	Division of nerve ganglion
262007	Percutaneous aspiration of renal pelvis
267001	Anal fistulectomy, multiple
285008	Incision and drainage of vulva
294002	Excisional biopsy of joint structure of spine
295001	Nonexcisional destruction of cyst of ciliary body
306005	Echography of kidney
316002	Partial dacryocystectomy
334003	Panorex examination of mandible
342002	Amobarbital interview
346004	Periodontal scaling and root planing, per quadrant
348003	Radionuclide dynamic function study
351005	Urinary undiversion of ureteral anastomosis



Code	Display
352003	Reagent RBC, preparation antibody sensitized pool
374009	Costosternoplasty for pectus excavatum repair
388008	Blepharorrhaphy
389000	Tobramycin measurement
401004	Distal subtotal pancreatectomy
406009	Fulguration of stomach lesion
417005	Hospital re-admission
435001	Pulmonary inhalation study
445004	Repair of malunion of tibia
456004	Total abdominal colectomy with ileostomy
459006	Closed condylotomy of mandible
463004	Closed reduction of coxofemoral joint dislocation with splint
468008	Glutathione measurement
474008	Esophagoenteric anastomosis, intrathoracic
489004	Ferritin measurement
493005	Urobilinogen measurement, 48-hour, feces
494004	Excision of lesion of tonsil
497006	Replacement of cochlear prosthesis, multiple channels
531007	Open pulmonary valve commissurotomy with inflow occlusion
533005	Repair of vesicocolic fistula
535003	Closure of ureterovesicovaginal fistula
540006	Antibody to single and double stranded DNA measurement
543008	Choledochostomy with transduodenal sphincteroplasty
545001	Operative procedure on lower leg



Code	Display
549007	Incision of intracranial vein
550007	Excision of lesion of adenoids
559008	Excision of varicose vein
574005	Benzodiazepine measurement
617002	Bone graft to mandible
618007	Frontal sinusectomy
625000	Removal of supernumerary digit
628003	Steinman test
629006	Lysis of adhesions of urethra
633004	Chart review by physician
637003	Lysis of adhesions of nose
642006	Cerebral thermography
645008	Diagnostic procedure on vitreous
647000	Excision of cervix by electroconization
657004	Operation on bursa
665001	Partial meniscectomy of temporomandibular joint
670008	Electrosurgical epilation of eyebrow
671007	Transplantation of testis
673005	Indirect laryngoscopy
674004	Abduction test
676002	Peritoneal dialysis including cannulation
680007	Radiation physics consultation
687005	Albumin/Globulin ratio
695009	Destructive procedure of lesion on skin of trunk
697001	Hepatitis A virus antibody measurement
710006	Thromboendarterectomy with graft of mesenteric artery
712003	Closed chest suction
722009	Fine needle biopsy of thymus



Code	Display
726007	Pathology consultation, comprehensive, records and specimen with report
730005	Incision of subcutaneous tissue
741007	Operation on prostate
746002	Chiropractic adjustment of coccyx subluxation
753006	Manipulation of ankle AND foot
754000	Total urethrectomy
759005	Intracerebral electroencephalogram
762008	Computerized axial tomography of cervical spine with contrast
764009	Arthrodesis of interphalangeal joint of great toe
767002	White blood cell count
789003	Cranial decompression, subtemporal, supratentorial
791006	Dressing and fixation procedure
807005	Excision of brain
814007	Electrophoresis measurement
817000	Excision of cyst of spleen

#### **EventStatus**

Code	Display
preparation	Preparation
in-progress	In Progress
not-done	Not Done
on-hold	On Hold
stopped	Stopped
completed	Completed
entered-in-error	Entered in Error
unknown	Unknown



# RequestIntent

Code	Display
proposal	Proposal
plan	Plan
directive	Directive
order	Order
original-order	Original Order
reflex-order	Reflex Order
filler-order	Filler Order
instance-order	Instance Order
option	Option

#### RequestStatus

Code	Display
draft	Draft
active	Active
on-hold	On Hold
revoked	Revoked
completed	Completed
entered-in-error	Entered in Error
unknown	Unknown