



AQI XML Schema

The purpose of this document is to identify data the AQI collects, show the manner in which data is joined to AQI's XML schema, and to facilitate the proper use of the schema.

Collected information

What we collect

The AQI wants to collect any and all anesthesia related information. This can range from general administrative data to time specific, monitored physiological metrics. This wide range of information is broken down into several categories.

How the schema is organized

All data collected is based on a "case." A case consists of a single patient undergoing one or many procedures. Demographic data, staff attending / performing, medicines used, and any/all data collected is based upon this single instance of a patient and his/her procedure(s).

Requirements

At a minimum, the AQI would like to see demographic information, surgical CPTs, and the start and end time of each case.

Relating the schema

The AQI schema was designed to capture all this collected information categorically and by case. The schema is extremely flexible in that it can be used to send as little or as much information as mandated by the source being used to populate it.

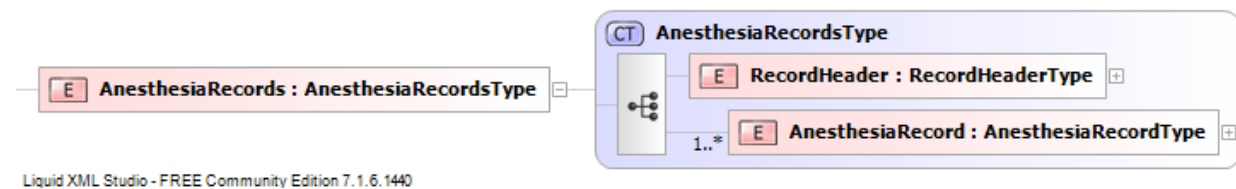
The following is a general outline of the schema. More detailed and technical information can be found within the **<xs:documentation/>** tags present throughout the schema itself.

AnesthesiaRecords

The “root” node of the schema is AnesthesiaRecords. Every case is a child to this element.

RecordHeader

Child of AnesthesiaRecords. RecordHeader includes general information about a practice.

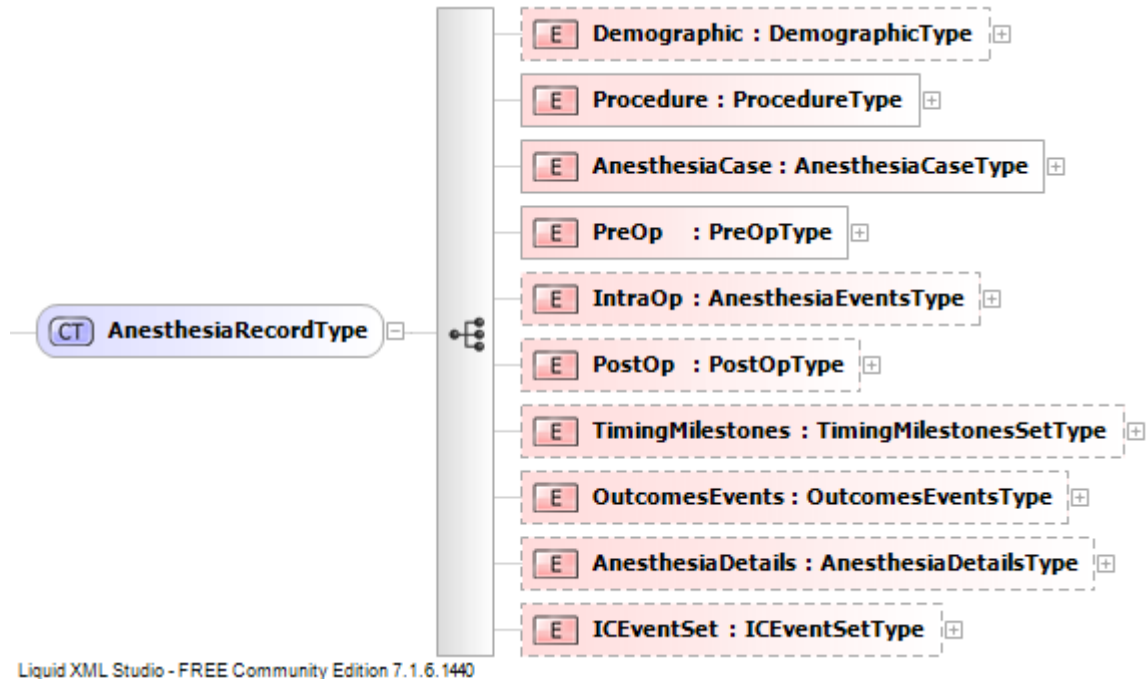


AnesthesiaRecord

This is the parent to all category level elements of a case.

These categories include:

- *Demographic* – detailed information about the patient
- *Procedure* – Procedure status, location type, facilityID, etc
 - Includes child element *CPTSet* which records all related surgical codes.
- *AnesthesiaCase* – information pertaining to a specific case (**unique case/node ID here**)
 - Includes child element *AnesthesiaStaffSet* to record provider information.
- *Preop* – general preoperative information about a patient
- *IntraOp* – A.I.M.S. related data during procedure(s)
- *PostOp* – general postoperative information
- *TimingMilestones* – Date time used to mark important events
- *OutcomesEvents* – Overall results (non-event or negative) of case
- *AnesthesiaDetails* – A “catch all” element for data collected without a current home within the schema.
- *ICEventSet* – Not currently used.

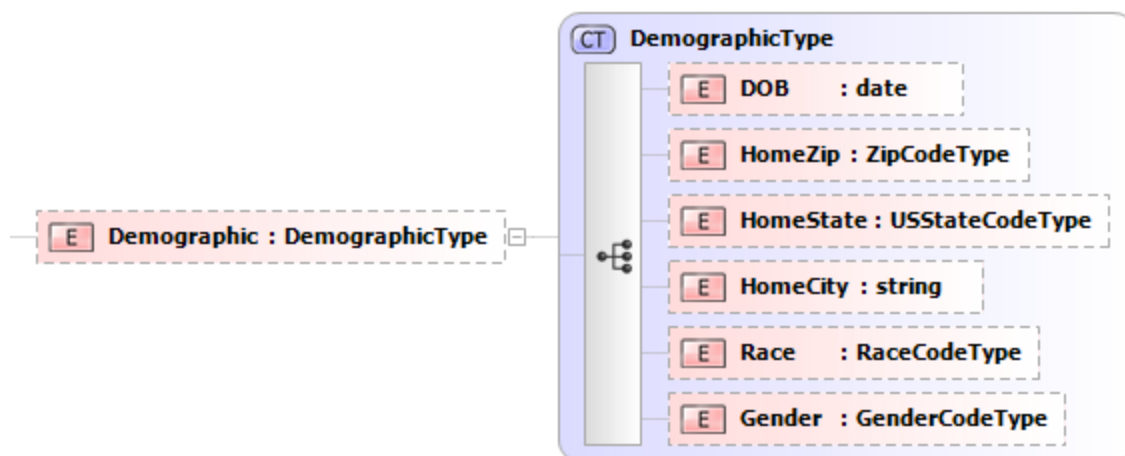


Category level Schema Elements (Children of AnesthesiaRecord)

All category level elements are described in more detail below. More detail is given to items most used in our schema. Further instruction can be found within the schema's documentation tags for each element type.

Demographic

Information specific to the patient stored here. No child elements.



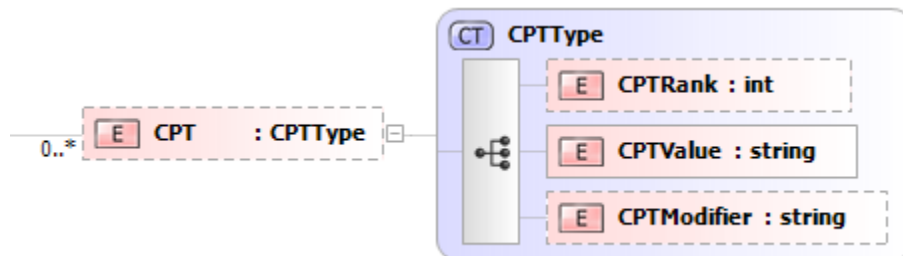
Procedure

Information specific to the procedures and facilities performed during a case. Each case has one procedure element.

Breakdown:

- ProcedureID – Generally NOT REQUIRED. Different from a case's unique ID.
- FacilityID – The coded value for the **name** of a specific facility within a practice.
- ProcedureLocation – uses child element *LocationType* to store the **type of facility**
- ProcedureStartTime – time that the procedure(s) started AFTER administration of anesthesia. Different than Anesthesia Start Time.
- ProcedureEndTime – time that the procedure(s) ended before termination of anesthesia. Different than Anesthesia End Time.
- AdmissionStatus/ProcStatus – Degree of urgency in case. See enumerated values.
- TransferStatus – Describes transfer of patient. See enumerated values.
- ProcedureNotes – Extra information provided about the procedures stored here.
- CPTSet – Listing of surgical CPT codes (NOT ASA crosswalk codes).
 - Uses child element CPTValue to store five digit CPT code.
 - Uses child element CPTModifier to store MOD codes (Ex. QS)
 - Uses child element CPTRank to store importance of CPT (If procedures in dataset are ranked)

CPT (Child of Procedure\CPTSet)



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Example of CPT storage

```
<CPTSet>
```

```
<CPT>
```

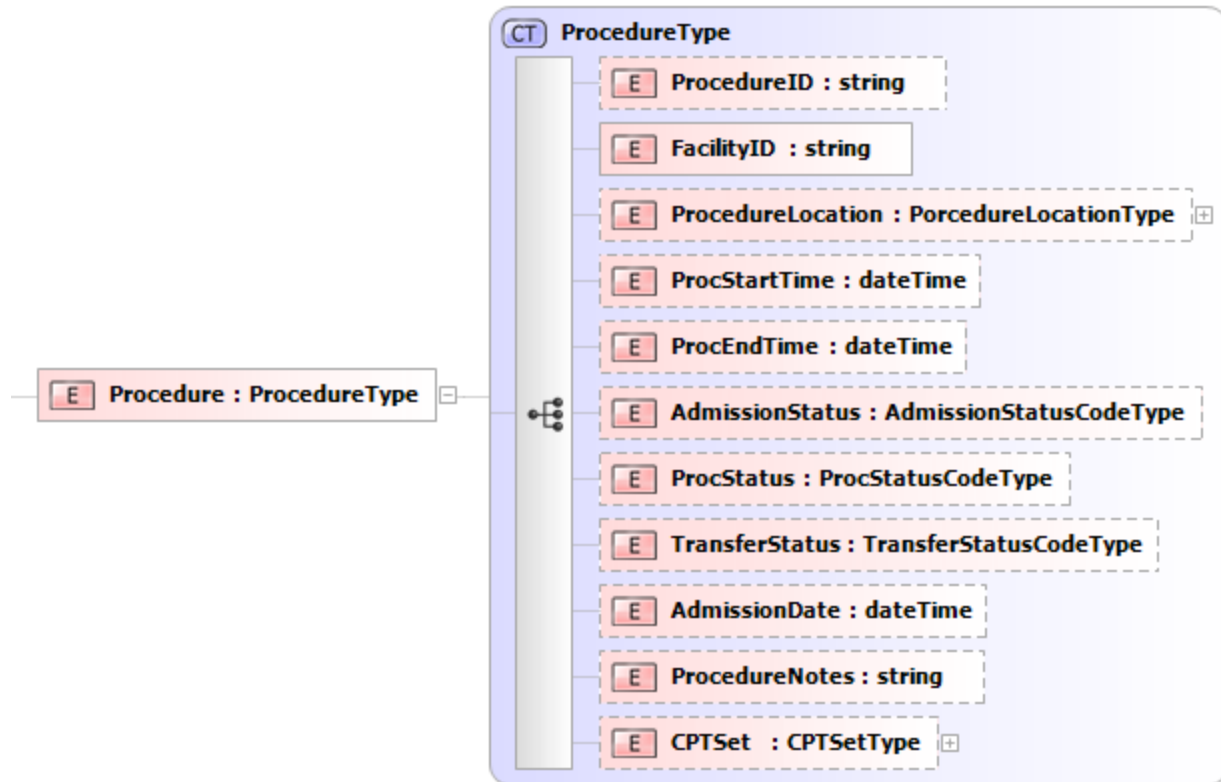
```
<CPTRank>1</CPTRank>
```

```
<CPTValue>33426</CPTValue>
```

```
<CPTModifier>QZ</CPTModifier>
```

```
</CPT>
```

```
</CPTSet>
```



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AnesthesiaCase

This category element contains general information about the case and other miscellaneous data.

Breakdown:

- AnesthesiaRecordID – This is the **unique identifier** for the case.
- AnesthesiaCoverage - Type of provider coverage present during the case.
- AnesthesiaStaffSet – Staff assigned to the case
 - Uses child element *AnesthesiaStaff*
 - StaffID – unique identifier for a provider
 - StaffResponsibility – See enumerated values
 - StaffRole – See enumerated values
 - StaffSign(In/Out) – log of time provider was present during case
 - StaffNotes – any extra information stored here
- MonitoringSet – Describes devices used to monitor patient during the case.
- AnesthesiaMethodSet – listing of different types of anesthesia used during the case.
- AirwayManagementSet – Specifics about airway management are stored in a list here.
- CPTAnessSet – ASA CPT Crosswalk codes are stored in a list here.

Example of Staff storage

```
<AnesthesiaStaffSet>
```

```
  <AnesthesiaStaff>
```

```
    <StaffID>IDofMD</StaffID>
```

```
    <StaffResponsibility>Medically responsible</StaffResponsibility>
```

```
    <StaffRole>MD</StaffRole>
```

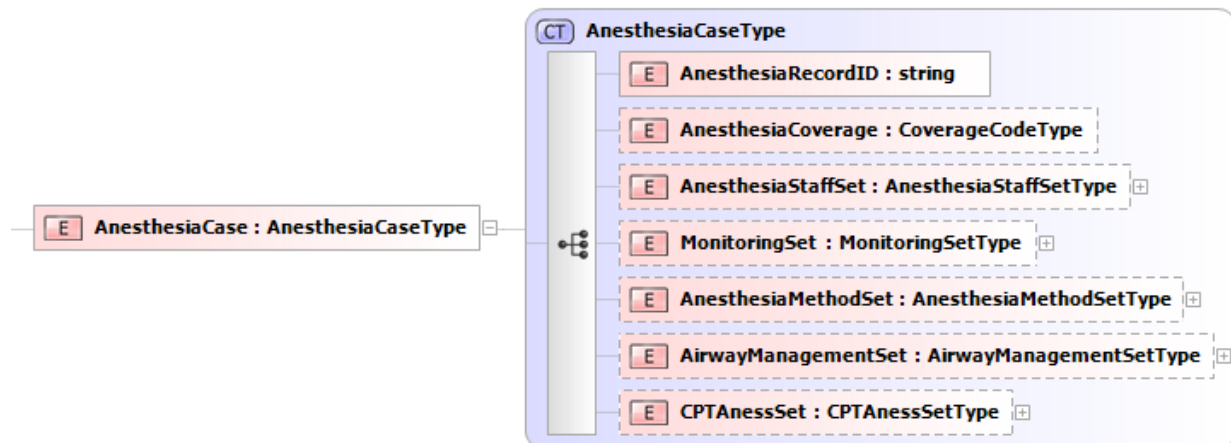
```
    <StaffSignIn>1971-09-26T01:58:13.32</StaffSignIn>
```

```
    <StaffSignOut>2009-08-11T03:54:35.38</StaffSignOut>
```

```
    <StaffNotes />
```

```
  </AnesthesiaStaff>
```

```
</AnesthesiaStaffSet>
```



PreOp

This category provides detailed preoperative information about the patient.

Breakdown:

- Age – Age of the patient (years)
- Weight – Weight of the patient (lbs)
- Height – Height of the patient (in)
- ASAClass – ASA Classification of the patient, 1 – 6(E) (I-VI)
 - E present if case is emergent
- PreAnesthStatus – State of patient (Awake, calm, asleep...)
- ICDSet – A listing of ICDs for the case
 - Uses child element *ICD*
 - ICDRank – If prioritized, numeric value stored here
 - ICDValue – ICD Code
- PreRiskSet – Any collected observations and co morbidity factors
- PreLabSet – Any measures or other laboratory results (Ex. O2 sat, pulse)

Example of ICD storage

```
<ICDSet>
```

```
  <ICD>
```

```
    <ICDRank>1</ICDRank>
```

```
    <ICDValue>532.12</ICDValue>
```

```
  </ICD>
```

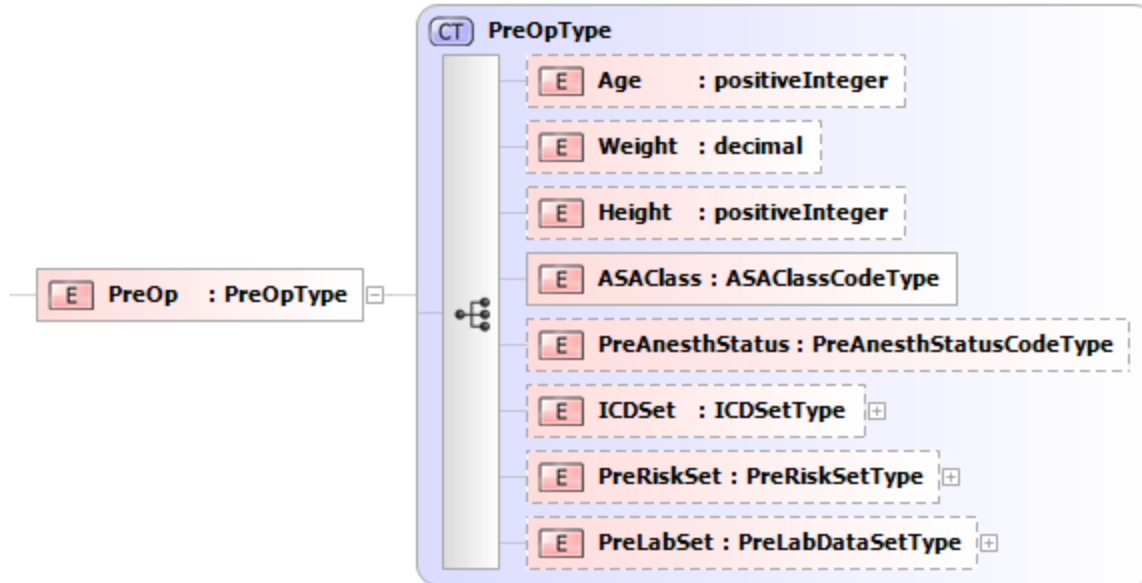
```
  <ICD>
```

```
    <ICDRank>2</ICDRank>
```

```
    <ICDValue>432.12</ICDValue>
```

```
  </ICD>
```

```
</ICDSet>
```



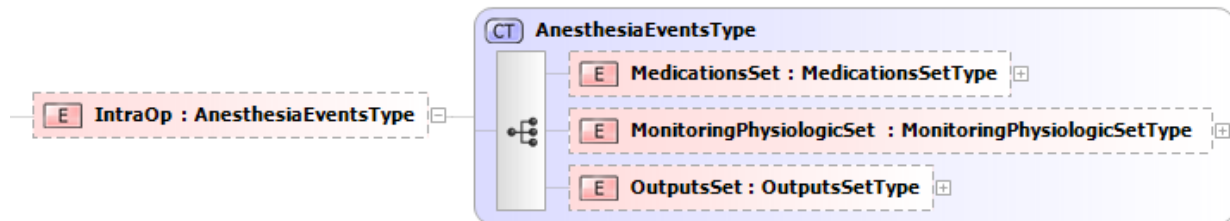
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IntraOp

This category provides a means to capture AIMS related data

Breakdown:

- MedicationsSet – listing of medication given during case
- MonitoringPhysiologicSet – Monitoring and Physiologic data associated with case
- OutputsSet – Details about the output (urine, EBL)



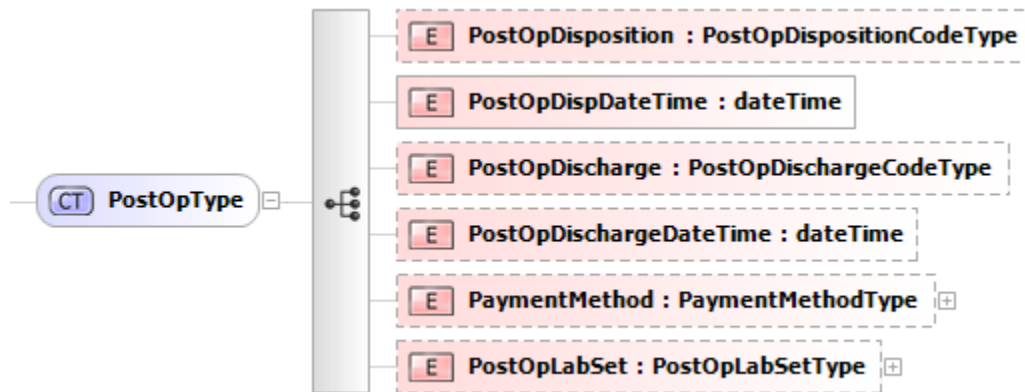
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PostOp

General postoperative data is placed here

Breakdown:

- PostOpDisposition – status of patient after anesthesia
- PostOpDispDateTime – time status of patient disposition was observed
- PostOpDischarge – status of patient after being released from facility/hospital
- PostOpDischargeDateTime- time status of patient discharge disposition was observed
- PaymentMethod – listing of payment methods used by patient
- PostOpLabSet – lab results or other measurements collected after procedure



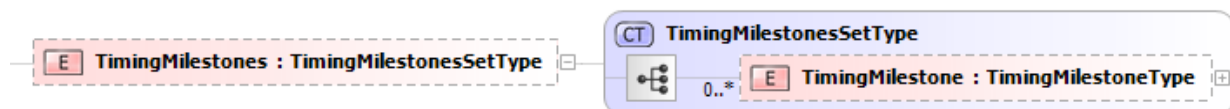
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Timing Milestones

Catch all bucket for recording timed events. This can be used to store all possible time stamps for items defined within the AACD procedure time glossary.

Breakdown:

- TimingMilestoneSet – Uses child TimingMilestone
 - TimingMilestone
 - TMStartTime – Time event started
 - TMEndTime – Time event ended
 - TMType – Classification / Name of event
 - Enumerated values for TMType include ... Arrival in PACU, Anesthesia Start time, etc.



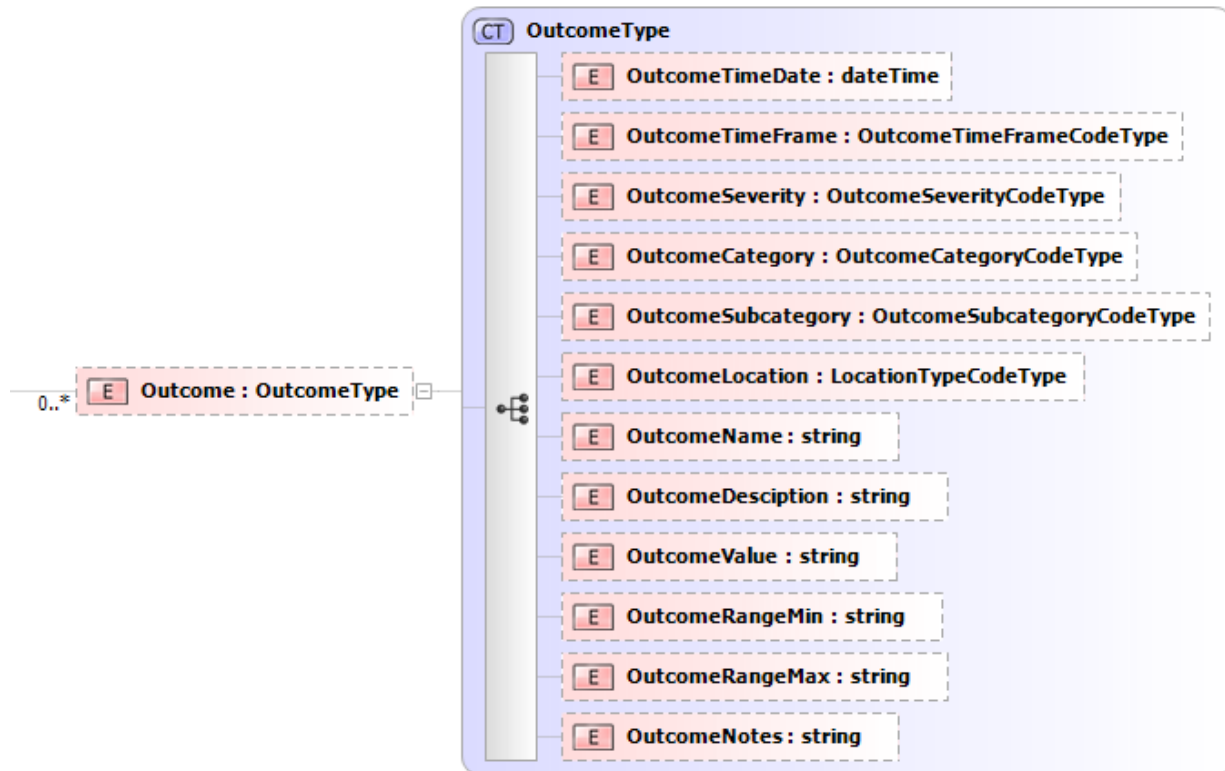
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Outcome Events

Any adverse outcome related to the case.

Breakdown:

- ICEventSet – not used
- OutcomeSet –



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The fields can further be explored to see a suggested list of values.

Outcome name (what happened) is the only required field in this set.

Further Instruction and available resources

The schema itself is thoroughly documented. Questions about a specific element can often be found within the documentation tags.

The AQI [schema](#) is available for reference on the AQI website.

Testing a schema

Once XML is generated, the file can be validated using the [XML Validation Tool](#) on the AQI website.