NTDS XSD Change Log

4/21/2016 – v2017 (Validator channel 109)

1. Update the NtdsVersion to Ntds_v2017
2. Update datatypes file to be used <xs:include schemaLocation="datatypes2017.xsd"/>
3. Races - Change the maxOccurs from 2 to 6
4. PrimaryECode – Removed field from XSD, as field is retired
5. LocationECode – Removed field from XSD, as field is retired
6. AdditionalECode – Removed field from XSD, as field is retired
7. ComorbidConditions
     a. List size remains 25 (maxOccurs="25")
     b. Retire values
          1   Other
          18   History of Peripheral Vascular Disease (PVD)
          28   Drug use disorder
     c. Add the values
          31   Anticoagulant Therapy
          32   Peripheral Arterial Disease (PAD)
          33   Substance Abuse Disorder
     d. Change the definition of menu value
          7   Congestive Heart Failure (CHF)
          10   Cerebral Vascular Accident
          16   Angina Pectoris
          17   Myocardial Infarction
          19   Hypertension
          27   Mental/Personality Disorders
8. HospitalComplications
     a. Change the list size to 21 (maxOccurs="21") to allow for revised menu values
     b. Retire values
          1   Other
          13   Drug or alcohol withdrawal syndrome
     c. Add the value
          36   Alcohol Withdrawal Syndrom
     d. Change the definition of menu value
          5   Acute Respiratory Distress Syndrome (ARDS)
          11   Pressure Ulcer
          18   Myocardial Infarction (MI)
          23   Superficial Incisional Surgical Site Infection
          30   Unplanned Return To The Operating Roo
          31   Unplanned Admission to the ICU
          33   Catheter-Associated Urinary Tract Infection (CAUTI)
          34   Central Line-Associated Bloodstream Infection
          35   Ventilator-Associated Pneumonia (VAP)

9. HospitalProcedure – Removed field from XSD, as field is retired
10. InjuryDiagnoses – Removed list and field InjuryDiagnosis from XSD, as field is retired
11. AlcoholUseIndicators – Removed field from XSD, as field is retired
12. DrugUseIndicators – Removed list and field InjuryDiagnosis from XSD, as field is retired

13. Add new fields:
          <DrugScreens>
               <item><DrugScreen></DrugScreen></item>
          </DrugScreens>
          <AlcoholScreen></AlcoholScreen>
          <AlcoholScreenResult></AlcoholScreenResult>

< NationalProviderIdentifier ></ NationalProviderIdentifier >

4/21/2016 – v2016 (Validator channel 108)

1. Update the NtdsVersion to Ntds_v2016
   `<xs:attribute name="NtdsVersion" use="required" fixed="Ntds_v2016"/>`
2. Corrected the XSD pattern for Zip from ^[A-Z0-9 -]{1,10}$ to [A-Z0-9 -]{1,10}

11/16/2015 – v2016.2 (Validator channel 108)

1. Update the NtdsVersion to Ntds_v2016.2
2. Update datatypes file to be used `<xs:include schemaLocation="datatypes2016.xsd"/>`
3. Revise text definitions:

   EdDischargeDate
   From: The date the patient was discharged from the ED.
   To: The date the order was written for the patient to be discharged from the ED.

   EdDischargeTime
   From: The time the patient was discharged from the ED.
   To: The time the order was written for the patient to be discharged from the ED.

   HospitalDischargeDate
   From: The date the patient was discharged from the hospital.
   To: The date the order was written for the patient to be discharged from the hospital.

   HospitalDischargeTime
   From: The time the patient was discharged from the hospital.
   To: The time the order was written for the patient to be discharged from the hospital.

7/1/2015 – v2016.1 (Validator channel 108)

14. Update the NtdsVersion to Ntds_v2016.1
15. HomeResidence:
    e. Retire value
       4   Foreign Visitor
16. AgeUnits:
    a. Add the value
       5   Minutes
17. ComorbidCondition:
    a. Change the definition of menu value
       18   History of Peripheral Vascular Disease (PVD)
18. HospitalComplication:
    a. Change the list size to 22 (maxOccurs="22") to allow for added menu values
    b. Retire values
       16   Graft/prosthesis/flap failure
       20   Pneumonia
       27   Urinary tract infection
       28   Catheter-related blood stream infection
    c. Add values
       33   Catheter-associated Urinary Tract Infection
       34   Central line associated bloodstream infection
       35   Ventilator associated pneumonia

  d. Change the definition of menu value
    8 Cardiac arrest with CPR
    14 Deep Vein Thrombosis (DVT)
19. AisCodes list – Remove the minOccurs=0, as no longer optional
20. AisVersion
  a. Remove the minOccurs=0, as no longer optional
  b. Retire values
    1 AIS 80
    2 AIS 85
    3 AIS 90
    4 AIS 95
    5 AIS 98
  c. Change the definition of menu value
    6 AIS 05, Update 08

21. IssRegion – Removed field from XSD, as field is retired
22. IssLocal - Removed field from XSD, as field is retired
23. HomeZip
  a. Revise XSD pattern to accomodate US and Non-US
24. InjuryZip
  a. Revise XSD pattern to accomodate US and Non-US

3/25/2015 – v2015.3 (Validator channel 107)

1. Update the NtdsVersion to Ntds_v2015.3
2. Add the ability to submit ICD-10 CA. Use the attribute icd10="ICD10CA" to call the ICD-10 CA version.
    `<xs:attribute name="icd10" use="optional" fixed="ICD10CA"/>`
3. Revised ICD related data elements to allow multiple versions. This effects
  • ECodeIcd10
  • PlaceOfInjuryCode
  • HospitalProcedureIcd10
  • DiagnosisIcd10

12/4/2014 – v2015.2 (Validator channel 107)

1. Update the NtdsVersion to Ntds_v2015.2
2. Add the ability to submit BIU attribute to AisPredot, AisSeverity, IssRegion, AisVersion, IssLocal

8/1/2014 – v2015.1 (Validator channel 107)

1. Update the NtdsVersion to Ntds_v2015.1 (to match Sdk version channel 107)
2. Revise to use datatypes2015.xsd
3. Add new field PrehospitalCardiacArrest
4. Change xs:sequence to xs:all so that the order of the elements no longer matters (as this was causing issues for ImageTrend) for the following:
  a. HospitalProcedures
  b. AisCodes
5. TotalIcuLos: Change max from 400 to 575
6. TotalVentDays: Change max from 400 to 575
7. Height: Change the type from integer to decimal
8. Weight: Change the type from integer to decimal
9. HospitalDischargeDisposition:

a. Change the definition of menu values
5   Deceased/Expired
6   Discharged to home or self-care (routine discharge)
10. EdDischargeDisposition:
d.   Change the definition of menu value
5   Deceased/Expired
11. TraumaCenterCriterion:
e.   Change the definition of menu value
1   Glasgow Coma Score <= 13
12. VehiclePedestrianOther:
a.   Change the list size to 14 (maxOccurs="14")
b.   Change the definition of menu value
4   Crash ejection (partial or complete) from automobile
c.   Add the values
9   For adults > 65; SBP < 110
10 Patients on anticoagulants and bleeding disorders
11 Pregnancy > 20 weeks
12 EMS Provider judgment
13 Burns
14 Burns with Trauma
13. ComorbidCondition:
a.   Change the list size to 25 (maxOccurs="25")
b.   Change the definition of menu value
2   Alcohol Use Disorder
10   Cerebrovascular Accident (CVA)
23   Chronic Obstructive Pulmonary Disease (COPD)
28   Drug use disorder
c.   Retire values
3   Ascites within 30 days
14   Esophageal varices
22   Obesity
29   Pre-hospital cardiac arrest with resuscitative efforts by healthcare
provider
d.   Add the values
30   Attention deficit disorder/attention deficit hyperactivity disorder
(ADD/ADHD)

14. PrimaryMethodPayment:
a.   Retire values
5   No Fault Automobile
8   Workers Compensation
9   Blue Cross/Blue Shield

8/1/2013 – v2014.1 (Validator channel 106)

1.   Updated the NtdsVersion to `Ntds_v2014.1` (to match Sdk version channel 106)

2.   GcsQualifier
a.   Change the list size to 3 (maxOccurs="3").

3.   HospitalDischargeDisposition:
b.   Change the definition of menu values
5   Deceased/Expired
6   Discharged to home or self-care (routine discharge)
c.   Remove the value
9 Discharged/Transferred to another type of rehabilitation or long-term care facility
d.   Add the values
10 Discharged/Transferred to court/law enforcement

11 Discharged/Transferred to inpatient rehab or designated unit
12 Discharged/Transferred to Long Term Care Hospital
13 Discharged/transferred to a psychiatric hospital or psychiatric distinct part unit of a hospital
14 Discharged/Transferred to another type of institution not defined elsewhere

4. Add New fields:
```
<AbuseReport></AbuseReport>
<AbuseInvestigation></AbuseInvestigation>
<CaregiverAtDischarge></CaregiverAtDischarge>
< TraumaCenterCriteria >
        <item>< TraumaCenterCriterion ></ TraumaCenterCriterion ></item>
< /TraumaCenterCriteria >

< VehicularPedestrianOthers >
        <item>< VehicularPedestrianOther ></ VehicularPedestrianOther ></item>
< /VehicularPedestrianOthers >
```

7/25/2012 – v2013.1.1 (Validator channel 105)

1. Updated the NtdsVersion to v2013.1.1 (to match Sdk version channel 105)
2. EdDischargeDisposition:
    a. Revise menu text value
        5 Died/Expired
3. ComorbidCondition:
    b. Revise menu text value
        16 History of angina within 30 days
        29 Pre-hospital cardiac arrest with resuscitative efforts by healthcare provider
4. Complication:
    c. Revise menu text value
        8 Cardiac arrest with resuscitative efforts by healthcare provider

5. Add New fields:
```
<Height></Height>
<Weight></Weight>
```

6. Add New fields to support ICD-10 (**NOTE: only the data element structure is introduced in this release. Next release will incorporate pattern and length restrictions**):

```
<PrimaryECodeIcd10></PrimaryECodeIcd10>
<PlaceOfInjuryCode></PlaceOfInjuryCode>
<AdditionalECodeIcd10></AdditionalECodeIcd10>
<DiagnosesIcd10>
   <item><DiagnosisIcd10></DiagnosisIcd10></item>
</DiagnosesIcd10>
<HospitalProcedures>
   <item>
   <HospitalProcedure></HospitalProcedure>
   <HospitalProcedureIcd10></HospitalProcedureIcd10>
   <HospitalProcedureStartDate></HospitalProcedureStartDate>
   <HospitalProcedureStartTime></HospitalProcedureStartTime>
```

```
    </item>
</HospitalProcedures>
```

8/4/2010 – v2012.1.1 (Validator channel 104)

1. Updated the NtdsVersion to v2012.1.1 (to match Sdk version channel 104)
2. GcsQualifier:
    a. Revise menu text value
        1   Patient chemically sedated or paralyzed
        2   Obstruction to the Patient's eye
        4   Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to the eye
3. ComorbidCondition:
    a. Change the maximum constraint from 25 to 29.
    b. Change the list size to 28 (maxOccurs="28").
    c. Change the definition of menu values
        5   Currently receiving chemotherapy for cancer
        9   Chronic renal failure
        13 Advanced directive limiting care
        17 History of myocardial infarction
        18 History of PVD
        23 Respiratory disease
    d. Remove the value 20 Impaired sensorium
    e. Add the values
        26 Dementia
        27 Major psychiatric illness
        28 Drug abuse or dependence
        29 Pre-hospital cardiac arrest with CPR
4. HospitalComplication:
    a. Change the definition of menu values
        4   Acute kidney injury
        5   Acute lung injury/Acute respiratory distress syndrome (ARDS)
5. HomeResidence: Revise menu value
        3 Migrant Worker
6. ProtectiveDevice: Revise menu value
        6 Child Restraint (booster seat or child car seat)

12/13/2010 – v2011.1.1 (Validator channel 103)

1. Updated the NtdsVersion to v2011.1.1 (to match Sdk version channel 103)
2. GcsQualifier:
    a. Change the maximum constraint from 3 to 4.
    b. Change list size to 4.
    c. Add menu value 4 (Valid GCS: Patient was not sedated, not intubated, and did not have obstruction to eye)
3. DeathInEd (Signs of Life)
    a. Change the maximum constraint from 3 to 2.
    b. Change menu value meanings for 1 and 2, remove 3.
        1 Arrived with NO signs of life
        2 Arrived with signs of life
4. ComorbidCondition:

a. Change the maximum constraint from 24 to 25.
b. Change list size to 25.
c. Change the menu values.
  i. Change the definition of menu value 1 from "No NTDS co-morbidities are present" to "Other".
  ii. Add the value 25 (Cirrhosis)

5. AisVersion:
  a. Change the maximum constraint from 15 to 6.
  b. Change the menu values.
    i. Revise text description for menu values:
       1 AIS 80
       2 AIS 85
       3 AIS 90
       4 AIS 95
       5 AIS 98
       6 AIS 05
    ii. Remove/retire values 7 – 15.

6. HospitalComplication:
  a. Change the maximum constraint from 26 to 32.
  b. Change list size to 23.
  c. Change menu values
    i. Change the definition of menu value 1 from "No NTDS listed medical complications occurred" to "Other".
    ii. Remove/Retire menu values 2, 3, 6, 7, 9, 10, 17, 24, 26.
    iii. Add new menu values
       27 Urinary Tract Infection
       28 Catheter-Related Blood Stream Infection
       29 Osteomyelitis
       30 Unplanned return to the OR
       31 Unplanned return to the ICU
       32 Severe sepsis

11/9/2010 – v2010.1.5 (Validator channel 102) – This will be the XSD generated from MDL

Generate the XSD from Node Editor MDL, to replace existing XSD. See doc 'Instructions to generate XSD.doc' in svn://kennel2:3690/trauma/apps/NTR/TRUNK/Dev/DOC

Summary of generated XSD differences from old XSD (manually created):
- Dates are validated against min/max year only (old XSD included month and day)
- Every tag is no longer required. Only LastModifiedDateTime, FacilityId, and PatientId tags are Required.
- Tags do NOT need to be in a specific order.
- An empty list does NOT produce an error. Old XSD produced Empty content not valid for content model: '(item,)'
       EXAMPLE <ProtectiveDevices></ProtectiveDevices>

11/8/2010 – v2010.1.5 (Validator channel 102)

1. minOccurs
    a. Remove minOccurs on NtdsRecord
        i. Change minOccurs from 1 to 0
           <xs:element name="NtdsRecord" minOccurs="0" maxOccurs="unbounded">

2. Updated the NtdsVersion to v2010.1.5 (to match Sdk version channel 102)
3. Removed ICD10 pattern support
    a. Injury Diagnosis
       <xs:pattern value="((([vV]|[0-9])\d{2}(\.\d{1,2})?))|((([a-t]|[A-T])\d{2,4}))"/>
       Changed to
       <xs:pattern value="((([vV]|[0-9])\d{2}(\.\d{1,2})?))"/>
    b. HospitalProcedure
        i. <xs:restriction base="xs:string">
              <xs:minLength value="4"/>
              <xs:maxLength value="7"/>
              <xs:pattern value="(\d{2}\.\d{1,2})|(\d{7})"/>
           </xs:restriction>
        ii. Changed to
           <xs:restriction base="xs:string">
              <xs:minLength value="4"/>
              <xs:maxLength value="5"/>
              <xs:pattern value="(\d{2}\.\d{1,2})"/>
           </xs:restriction>

    c. PrimaryECode

       <xs:pattern value="((\d{3}(\.\d{1})?))|(([vVwWxXyY]\d{2,4}))"/>
       Changed to
       <xs:pattern value="((\d{3}(\.\d{1})?))"/>

4. EmsRespiratoryRate – Changed max from 99 to 120
5. RespiratoryRate – Changed max from 99 to 120

6/4/2010 – v2010.1.4

1. Updated the following menu descriptions which were out of sync with the Data Dictionary

XSD tagname	MENU_DESCRIPTION	MENU_VALUE
AlcoholUseIndicators	No (not tested)	1
DeathInEd	DOA: Declared dead on arrival with minimal or no resuscitation attempt (no invasive procedures attempted)	1
HospitalDischargeDisposition	Discharged/Transferred to a short-term general hospital for inpatient care	1
HospitalDischargeDisposition	Discharged/Transferred to an Intermediate Care Facility (ICF)	2

HospitalDischargeDisposition	Discharge/Transferred to home under care of organized home health service	3
HospitalDischargeDisposition	Left against medical advice or discontinued care	4
DrugUseIndicator	No (not tested)	1

03/19/09 – v2010.1.3

1. Enumerated lists for GcsMotor and GcsVerbal
2. In the annotation of some elements, the word "patient's" had a single quote mark instead of an apostrophe. All instances of the single quote mark were replaced with an apostrophe.

11/23/09 – v2010.1.2

1. Updated the NtdsVersion to v2010.1.2 (to match Sdk version channel 102)
2. TotalIcuLos: Change the minimum constraint from 0 to 1, as 0 is not valid.
3. TotalVentDays: Change the minimum constraint from 0 to 1, as 0 is not valid.

11/23/09 – v2009.1.1

1. Updated the NtdsVersion to v2009.1.1 (to match Sdk version channel 101)

11/1/08 – v1.2.5

1. Updated the NtdsVersion to v1.2.5 (to match Sdk version)
2. EmsRespiratoryRate and RespiratoryRate – changed the max from 59 to 99.
3. EmsSbp and Sbp – changed the max from 299 to 300.
4. Changed the maxOccurs for Complications from 10 to 25.
5. Changed the maxOccurs for Comorbidities from 5 to 23.
6. HospitalProcedure – corrected minLength from 1 to 4. Changed maxLength from 5 to 7 to allow icd10 codes.
7. Changed text for BIU 2 from "Not Known" to "Not Known/Not Recorded"
8. Commented out BIU 3 as it is no longer applicable.
9. Added format checks (Pattern value) for both ICD9 and ICD10 for InjuryDiagnosis, HospitalProcedure, PrimaryEcode, and AdditionalEcode.

   Example:
```
simpleType name="InjuryDiagnosis">
<xs:union memberTypes="Blank">
    <xs:simpleType>
      <xs:restriction base="xs:string">
        <xs:minLength value="3"/>
        <xs:maxLength value="6"/>
        <xs:pattern value="((([vV]|[0-9])\d{2}(\.\d{1,2})?))|((([a-t]|[A-T])\d{2,4}))"/>
      </xs:restriction>
    </xs:simpleType>
</xs:union>
```

4/3/08 - v1.2.4

1. Updated the NtdsVersion to v1.2.4 (to match Sdk version)
2. Temperature – changed from integer to decimal and enforce one decimal place. Updated min to 0.0 and max to 45.0.

2/29/08 – v1.2.3

1. Updated the NtdsVersion to v1.2.3 (to match Sdk version)
2. AlcoholUseIndicators – changed enumerated value 1 from 'No (not suspected)' to 'No (not suspected, not tested)'
3. DrugUseIndicator – changed enumerated value 1 from 'No (not suspected)' to 'No (not suspected, not tested)'
4. HospitalComplication
   a. Changed enumerated value 14 from 'Deep Vein Thrombosis DVT / thrombophlebitis' to 'Deep Vein Thrombosis (DVT) / thrombophlebitis'.
   b. Changed enumerated value 17 from 'Intracranial pressure elevation' to 'Intracranial pressure'.
5. Temperature – changed the range from 0 to 120 to 0 to 45.
6. AisSeverity – Added enumerated value 9 'Not Possible to Assign'
7. Various spelling corrections.

1/23/08 – v1.2.1

1. AisCodes, AisVersion, IssLocal – added minOccurs = 0
2. Updated the NtdsVersion to v1.2.1

12/03/07 – v1.2.0

1. Changed xs:all to xs:sequence for Hospital Complications. The line below was not validating because the <maxOccurs> indicator can only be set to 1 when using the <all> indicator.

```
<xs:element name="HospitalComplications">
   <xs:complexType>
      <xs:all>  -- changed this line
         <xs:element name="item" maxOccurs="10">   -- error line
```

11/26/07

1. Changed InterFacilityTransfer and SupplementalOxygen enumerated values from 0 and 1 to 1 and 2 (to match the DD).
2. HospitalProcedure changed max length from 6 to 5.
3. Various documentation / annotation corrections.
   a. Corrected enumeration values and descriptions to match the DD
      - DrugUseIndicator (value 2)
      - PatientsOccupationalIndustry (values 11 and 14)
      - EdDischargeDisposition (value 8)
   b. HospitalArrivalTime - Changed to use the Time simple type and comment out the 'HospitalArrivalTime' simple type
   c. Commented out the below simple types since they are no longer used (these were replaced with the Time simpleType):
      EmsLeftTime
      EmsArrivalTime
      IncidentTime
      EmsNotifyTime
      EdDischargeTime
      HospitalProcedureStartTime
      HospitalDischargeTime

11/13/07

1. InjuryDiagnosis changed max from 5 to 6.

11/6/2007

1. Bound Race at 2 items
2. Ethnicity becomes a single item – no longer a List
3. Add the following new elements:
    - IncidentCountry same data type as PatientCountry
    - AisPredot, AisSeverity, IssRegion, AisVersion, IssLocal – no biu since optional
4. OtherTransport bounded to 5 items
5. SBP (Field and ED) range now 0 to 299
6. PulseRate (Field and ED) range now 0 to 299
7. RespRate (Field and ED) range now 0 to 59
8. Temperature range now 0 to 120
9. Procedures bounded to 200 items
10. Diagnoses bounded to 50 items
11. ProtectiveDevices bounded to 10 items
12. AirbagDeployments bounded to 4 items
13. Removed Facility elements
14. Commented out HomeZip and InjuryZip simple types since they weren't being used and changed the Zip simple type to require min 5 digits or max 5 + "-" + 4 digits.
15. Complications bounded to 10 items.

9/6/2007

1. Valid range for Age changed to 0 - 120.
2. Valid range for EmsTotalGcs and TotalGcs changed to 3 - 15.
3. LocationECode minExclusive = 0 changed to minInclusive = 0 to include 0 as a valid value.
4. HomeCountry changed to 2 character string with pattern A - Z.
5. HomeState and IncidentState changed to both be a 2 character string with pattern 0 - 9.
6. HomeCounty and IncidentCounty changed to both be a 3 character string with pattern 0 - 9.
7. HomeCity and IncidentCity changed to both be a 5 character string with pattern 0 - 9.
8. ComorbidCondition, PatientsOccupationalIndustry, EdDischargeDisposition, DeathInEd, and HospitalComplication all changed to type integer.
9. PrimaryEcode and AdditionalEcode changed to be type string with minimum 3 maximum 5 characters.
10. InjuryDiagnosis changed to introduce a minimum of 3 characters and a maximum of 5.

8/17/2007

1. RespiratoryAssistance was missing from the XSD (the type was declared only).
2. Various documentation / annotation corrections.