DESCRIPTION OF THE ORPHANET NOMENCLATURE FILES FOR CODING

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Table of contents

The **Orphanet nomenclature files for coding**, or **Orphanet nomenclature pack**, consist of a set of files designed for the implementation of the Orphanet nomenclature into health information systems, that include:

- an Orphanet nomenclature file (XML)

- an Orphanet to ICD-10 alignment file (XML),

- an Orphanet to ICD-11 alignment file (XML),

- a directory containing all the Orphanet classification files (XML),

- a Linearisation file (XML),

- a Master file (XLSX)

- a Differential file (XLSX).

This document describes in detail the content of these files and the way to explore them.

XML datasets included in this pack are published in nine languages: Czech (CS), Dutch (NL), English (EN), French (FR), German (DE), Italian (IT), Polish (PL), Portuguese (PT) and Spanish (ES), except for the Linearisation file which is only available in English. This list may expand in the future.

XLSX files and the present PDF description file are provided in English and are common to all Orphanet nomenclature packs.

For more detailed definitions of the Orphanet concepts mentioned in this document, please consult the Appendix.

For more informations on the update process of the Orphanet nomenclature and classification of rare diseases, please consult the dedicated procedure.

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The appropriate form when quoting Orphanet is: "*Orphanet: an online rare disease and orphan drug data base. © INSERM 1999. Available on http://www.orpha.net. Accessed (date accessed).*"

The appropriate form when quoting Orphadata is: "*Orphadata: Free access data from Orphanet. © INSERM 1999. Available on http://www.orphadata.org. Data version (XML data version)."*

1. Orphanet nomenclature file (XML)

The Orphanet nomenclature is used to code rare diseases diagnoses with a specific identifier, named ORPHAcode, in order to facilitate data collection, research and analysis. The Orphanet Nomenclature file contains all clinical entities present in Orphanet:

- **active entities** for direct use in coding settings;

- **inactive entities** that no longer belong to the nomenclature and are no longer part of the Orphanet classification. These entities are, at the date of the file's generation, considered as Obsolete, Deprecated or Non rare in Europe (See Appendix).

As recommended by the RD-Action Joint Action (2015-2018), a list of ORPHAcodes restricted to the Disorder level of the Orphanet classification (excluding Groups and Subtypes), is also provided in a separate file, that establishes the "Aggregation level" used for data sharing and statistical analysis at EU-level (see Master file).

A new ORPHAcode with a particular purpose has been created: ORPHA:616874 Rare disorder without a determined diagnosis after full investigation, to encourage recognition of undiagnosed rare disease patients should be recognised as a distinct population with specific unmet needs by national authorities to enable the development of personalised health and social care.

1.1 Description of the XML tags

- **DisorderList count**: total number of clinical entities (Disorders, Groups of disorders and Subtypes of disorder) present in the XML file.
- **ORPHAcode:** unique and time-stable numerical identifier attributed randomly by the Orphanet database to each clinical entity upon its creation. Currently, the ORPHAcode is made up of one to six digits. In the future, number of digits can expand. It comes with:
  - **ExpertLink:** stable URL pointing to the specific page of a given disease on the Orphanet website.
  - **Name:** the most generally accepted name for a clinical entity according to the literature, and as adopted by the medical community. Preferred terms are unique throughout the database, associated with one ORPHAcode only.
  - **Lang:** ISO 639 code for language name.
- **Totalstatus:** Status of the clinical entity. Can be either "Active", or "Inactive: Deprecated", or "Inactive: Obsolete", or "Inactive: Non rare disease in Europe".
- **Flagvalue:** numerical value associated with the clinical entity's status.
  - "Active": 1, 129 or 513
  - "Inactive: Deprecated": 8449 (formerly 257)
  - "Inactive: Obsolete": 8208, 9216 (formerly 16 and 1024, respectively)
  - "Inactive: Non rare in Europe": 8225 (formerly 48 or 1056)
- **SynonymList:** synonyms associated with the entity. A synonym is a term that is perfectly equivalent to the preferred term of the clinical entity it is attached to. The number of synonyms is indefinite and may vary depending on the language of translation. Acronyms commonly used to describe the disease are included as synonyms.
- **DisorderType:** indicates the clinical entity's typology, an attribute used in the Orphanet database to characterise clinical entities according to their nosological definition within each level of classification. Each clinical entity is associated with one typology among the following:
  - Category (id: 36561)
  - Clinical group (id: 21436)
  - Disease (id: 21394)
  - Clinical syndrome (id: 21422)
  - Malformation syndrome (id: 21401)
  - Biological anomaly (id: 21408)
  - Morphological anomaly (id: 21415)
  - Particular clinical situation in a disease or syndrome (id: 21429)
  - Etiological subtype (id: 21443)
  - Clinical subtype (id: 21450)
  - Histopathological subtype (id: 21457)
- **ClassificationLevel:** A level of precision attributed to each clinical entity:
  - Group of disorders (id: 36540)
  - Disorder (id: 36547),

- o   Subtype of disorder (id: 36554).
    These three levels organise the relational structure of the Orphanet classification.
- **DisorderDisorderAssociation:** applies in two possible situations:
    - o   the clinical entity is inactive, and an active clinical entity is thus provided as a replacement.
    - o   <u>or</u> the clinical entity is active, and is itself indicated as replacement for an inactive clinical entity.

    The inactive entity is identified as "RootDisorder" and the active entity of replacement as "TargetDisorder".

    An inactive entity can only have one association (one TargetDisorder). However, it is possible for an active clinical entity to be the TargetDisorder of more than one inactive clinical entity.

    This information slightly differs according to the inactive entity involved:
    - o   For "Inactive: Deprecated" clinical entities, this relationship is <u>always</u> provided, with the AssociationType "Moved to", for appropriate redirection towards the active clinical entity that <u>must</u> be used instead of the deprecated entity.
    - o   For "Inactive: Obsolete" clinical entities: this relationship is provided for the majority of obsolete entities, with the AssociationType "Referred to", <u>as a suggestion</u> inviting the user to consult the Orphanet classification in order to identify the most appropriate active clinical entity of replacement according to the diagnosis information.
- **SummaryInformation:** Textual information available for the ORPHAcode. Only definitions are provided here.
- **AggregationLevel:** Recommended ORPHAcode for data sharing and statistical reporting in Europe for a given diagnosis. Applies to every Disorder and Subtype, which is always associated with one AggregationLevel that is necessarily a Disorder:
    - o   Disorders constitute their own aggregation level,
    - o   The aggregation level of a subtype is the closest disorder it is attached to in the classification.

    The aggregation level does not apply to groups. To learn more about this concept, please consult the following document: **What is the Aggregation level?**

1.2   Examples

1.2.1 Active entity

Example 1: Disorder – ORPHA:5 Long chain 3-hydroxyacyl-CoA dehydrogenase deficiency

```
<DisorderList count="10659">
```
10659 is the total number of clinical entities in the XML file.

```
  <Disorder id="3555">
   <OrphaCode>5</OrphaCode>
   <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=5</ExpertLink>
   <Name lang="en">Long chain 3-hydroxyacyl-CoA dehydrogenase deficiency</Name>
```
The clinical entity's ORPHAcode is 5, and its preferred term in English is "Long chain 3-hydroxyacyl-CoA dehydrogenase deficiency". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=5.

```
   <FlagValue>1</FlagValue>
   <Totalstatus lang="en">Active</Totalstatus>
```
The entity is in use in this version of the Orphanet Nomenclature.

```
   <SynonymList count="3">
    <Synonym lang="en">LCHAD deficiency</Synonym>
    <Synonym lang="en">LCHADD</Synonym>
    <Synonym lang="en">Long-chain 3-hydroxyacyl-coenzyme A dehydrogenase deficiency</Synonym>
   </SynonymList>
```
The entity has three synonyms in English.

```
   <DisorderType id="21394">
    <Name lang="en">Disease</Name>
   </DisorderType>
```

The typology of the clinical entity is "Disease" (not Clinical syndrome, Malformation syndrome, Biological anomaly, Morphological anomaly or Particular clinical situation in a disease or syndrome).

```
    <ClassificationLevel id="36547">
     <Name lang="en">Disorder<Name>
    </ClassificationLevel>
```

The classification level of the clinical entity is "Disorder" (not a Group of disorders, not a Subtype of disorder).

```
    <DisorderDisorderAssociationList count="0">
    </DisorderDisorderAssociationList>
```

As this entity is active, no clinical entity of replacement is needed and therefore no association is provided.

```
    <SummaryInformationList count="1">
     <SummaryInformation id="12552" lang="en">
      <TextSectionList count="1">
       <TextSection id="81974" lang="en">
        <TextSectionType id="16907">
         <Name lang="en">Definition</Name>
        </TextSectionType>
        <Contents>A mitochondrial disorder of long chain fatty acid oxidation characterized in most patients by onset in
infancy/ early childhood of hypoketotic hypoglycemia, metabolic acidosis, liver disease, hypotonia and, frequently, cardiac
involvement with arrhythmias and/or cardiomyopathy.</Contents>
       </TextSection>
      </TextSectionList>
     </SummaryInformation>
    </SummaryInformationList>
```

A definition is available in English for the clinical entity.

```
    <AggregationLevelSection>
     <AggregationLevelList count="1">
      <AggregationLevel>
       <ORPHAcode>5</ORPHAcode>
       <PreferredTerm lang="en">Long chain 3-hydroxyacyl-CoA dehydrogenase deficiency</PreferredTerm>
       <AggregationLevelStatus>Applicable</AggregationLevelStatus>
      </AggregationLevel>
     </AggregationLevelList>
    </AggregationLevelSection>
```

Since the clinical entity is a Disorder, it acts as its own aggregation level, and the corresponding status is Applicable.

```
    </Disorder>
```

Example 2: Group of disorders – ORPHA:95498 Congenital anomaly of superior vena cava

```
<Disorder id="12622">
    <ORPHAcode>95498</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=95498</ExpertLink>
    <Name lang="en">Congenital anomaly of superior vena cava</Name>
```

The clinical entity's ORPHAcode is 95498, and its preferred term in English is "Congenital anomaly of superior vena cava". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=95498.

```
    <FlagValue>1</FlagValue>
    <Totalstatus lang="en">Active</Totalstatus>
```

The entity is in use in this version of the Orphanet Nomenclature.

```
    <SynonymList count="2">
     <Synonym lang="en">Congenital anomaly of superior caval vein</Synonym>
     <Synonym lang="en">Congenital anomaly of the SVC</Synonym>
    </SynonymList>
```

The entity has two synonyms in English.

```
    <DisorderType id="36561">
     <Name lang="en">Category</Name>
    </DisorderType>
```

The typology of the clinical entity is "Category" (not a Clinical group).

```
    <ClassificationLevel id="36540">
     <Name lang="en">Group of disorders<Name>
    </ClassificationLevel>
```

The classification level of the clinical entity is "Group of disorders" (not a Disorder, not a Subtype of disorder).

```xml
    <DisorderDisorderAssociationList count="0">
    </DisorderDisorderAssociationList>
```

As this entity is active, no clinical entity of replacement is needed and therefore no association is provided.

```xml
    <SummaryInformationList count="0">
    </SummaryInformationList>
```

No definition is available for the clinical entity.

```xml
    <AggregationLevelSection>
     <AggregationLevelList count="0"/>
     <ORPHAcodeAggregation/>
     <PreferredTerm/>
     <AggregationLevelStatus>Not applicable</AggregationLevelStatus>
    </AggregationLevelSection>
```

Since the entity is a Group of disorders, the aggregation level does not apply.

```xml
  </Disorder>
```

Example 3: Subtype of disorder – ORPHA:95626 Acquired central diabetes insipidus

```xml
<Disorder id="12650">
    <ORPHAcode>95626</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=95626</ExpertLink>
    <Name lang="en">Acquired central diabetes insipidus</Name>
```

The clinical entity's ORPHAcode is 95626, and its preferred term in English is "Acquired central diabetes insipidus". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=95626.

```xml
    <FlagValue>1</FlagValue>
    <Totalstatus lang="en">Active</Totalstatus>
```

The entity is in use in this version of the Orphanet Nomenclature.

```xml
    <SynonymList count="2">
     <Synonym lang="en">Acquired CDI</Synonym>
     <Synonym lang="en">Acquired neurogenic diabetes insipidus</Synonym>
    </SynonymList>
```

The entity has two synonyms in English.

```xml
    <DisorderType id="21450">
     <Name lang="en">Clinical subtype</Name>
    </DisorderType>
```

The typology of the clinical entity is "Clinical subtype" (not an Etiological subtype, not a Histopathological subtype).

```xml
    <ClassificationLevel id="36554">
     <Name lang="en">Subtype of disorder<Name>
    </ClassificationLevel>
```

The classification level of the clinical entity is "Subtype of disorder" (not a Group of disorders, not a Disorder).

```xml
    <DisorderDisorderAssociationList count="1">
     <DisorderDisorderAssociation>
      <TargetDisorder id="12650" cycle="true"/>
      <RootDisorder id="12649">
       <ORPHAcode>95625</ORPHAcode>
       <Name lang="en">OBSOLETE: Posttraumatic diabetes insipidus</Name>
      </RootDisorder>
      <DisorderDisorderAssociationType id="27341">
       <Name lang="en">Referred to</Name>
      </DisorderDisorderAssociationType>
     </DisorderDisorderAssociation>
    </DisorderDisorderAssociationList>
```

Acquired neurogenic diabetes insipidus (ORPHA:95626) is provided as a replacement (TargetDisorder) for the inactive clinical entity ORPHA:95625 OBSOLETE: Posttraumatic diabetes insipidus, which is obsolete (RootDisorder) and therefore no longer in use.

```xml
    <SummaryInformationList count="1">
     <SummaryInformation id="39282" lang="en">
      <TextSectionList count="1">
       <TextSection id="54203" lang="en">
        <TextSectionType id="16907">
```

```
        <Name lang="en">Definition</Name>
      </TextSectionType>
      <Contents>A subtype of central diabetes insipidus (CDI) characterized by polyuria and polydipsia, due to an
idiopathic or secondary decrease in vasopressin (AVP) production.</Contents>
      </TextSection>
    </TextSectionList>
   </SummaryInformation>
  </SummaryInformationList>
```

A definition is available in English for the clinical entity.

```
   <AggregationLevelSection>
   <AggregationLevelList count="1">
    <AggregationLevel>
     <ORPHAcode>178029</ORPHAcode>
     <PreferredTerm lang="en">Central diabetes insipidus</PreferredTerm>
     <AggregationLevelStatus>Applicable</AggregationLevelStatus>
    </AggregationLevel>
   </AggregationLevelList>
  </AggregationLevelSection>
```

Since the clinical entity is a Subtype, the ORPHAcode of the aggregation level is the closest Disorder it is attached to in the classification:
ORPHA:178029 Central diabetes insipidus.

```
  </Disorder>
```

1.2.2 Inactive entity

Example 1: Deprecated entity – ORPHA:670 PIBIDS syndrome

```
<Disorder id="963">
  <ORPHAcode>670</ORPHAcode>
  <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=670</ExpertLink>
  <Name lang="en">PIBIDS syndrome</Name>
```

The clinical entity's ORPHAcode is 670, and its preferred term in English is "PIBIDS syndrome". The link leading to the page dedicated to
the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=670.

```
  <FlagValue>8449</FlagValue>
  <Totalstatus lang="en">Inactive: Deprecated</Totalstatus>
```

The entity is inactive in this version of the Orphanet Nomenclature. It has been deprecated, meaning that it is now part of another
active clinical entity present in the Orphanet nomenclature.

```
  <SynonymList count="2">
   <Synonym lang="en">Trichothiodystrophy type F</Synonym>
   <Synonym lang="en">Trichothiodystrophy-sun sensitivity syndrome</Synonym>
  </SynonymList>
```

The entity has two synonyms in English.

```
  <DisorderType id="21394">
   <Name lang="en">Disease</Name>
  </DisorderType>
```

The typology of the clinical entity is "Disease" (not Clinical syndrome, Malformation syndrome, Biological anomaly, Morphological
anomaly or Particular clinical situation in a disease or syndrome).

```
  <ClassificationLevel id="36547">
   <Name lang="en">Disorder<Name>
  </ClassificationLevel>
```

The classification level of the clinical entity is "Disorder" (not a Group of disorders, not a Subtype of disorder).

```
  <DisorderDisorderAssociationList count="1">
   <DisorderDisorderAssociation>
    <TargetDisorder id="10319">
     <ORPHAcode>33364</ORPHAcode>
     <Name lang="en">Trichothiodystrophy</Name>
    </TargetDisorder>
    <RootDisorder id="963" cycle="true"/>
    <DisorderDisorderAssociationType id="21471">
     <Name lang="en">Moved to</Name>
    </DisorderDisorderAssociationType>
   </DisorderDisorderAssociation>
```

```
  </DisorderDisorderAssociationList>
```
ORPHA:670 PIBIDS syndrome, identified as "RootDisorder", is "moved to" the active entity ORPHA:33364 Trichothiodystrophy, identified as the "TargetDisorder" that must be used instead.

```
  <AggregationLevelSection>
   <AggregationLevelList count="1">
    <AggregationLevel>
     <ORPHAcode>33364</ORPHAcode>
     <PreferredTerm lang="en">Trichothiodystrophy</PreferredTerm>
     <AggregationLevelStatus>Applicable</AggregationLevelStatus>
    </AggregationLevel>
   </AggregationLevelList>
  </AggregationLevelSection>
```
Since the clinical entity is inactive, it cannot be used for data sharing and statistical reporting. As the ORPHAcode of replacement, the Disorder ORPHA:33364 Trichothiodystrophy is used instead.

```
  </Disorder>
```

Example 2: Obsolete entity – ORPHA:719 OBSOLETE: Pili canulati

```
<Disorder id="8586">
   <ORPHAcode>719</ORPHAcode>
   <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=719</ExpertLink>
   <Name lang="en">OBSOLETE: Pili canulati</Name>
```
The clinical entity's ORPHAcode is 719, and its preferred term in English is "OBSOLETE: Pili canulati". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=719 (however, since the entity is inactive, the page does not contain any information).

```
   <FlagValue>8208</FlagValue>
   <Totalstatus lang="en">Inactive: Obsolete</Totalstatus>
```
The entity is inactive in this version of the Orphanet Nomenclature. It was excluded from the nomenclature as it did not have a reason to exist as a distinct diagnosis.

```
   <SynonymList count="0">
   </SynonymList>
```
The entity does not have any synonym.

```
   <DisorderType id="21394">
    <Name lang="en">Disease</Name>
   </DisorderType>
```
The typology of the clinical entity is "Disease" (not Clinical syndrome, Malformation syndrome, Biological anomaly, Morphological anomaly or Particular clinical situation in a disease or syndrome).

```
   <ClassificationLevel id="36547">
    <Name lang="en">Disorder<Name>
   </ClassificationLevel>
```
The classification level of the clinical entity is "Disorder" (not a Group of disorders, not a Subtype of a disorder).

```
   <DisorderDisorderAssociationList count="1">
    <DisorderDisorderAssociation>
     <TargetDisorder id="1610">
      <ORPHAcode>1410</ORPHAcode>
      <Name lang="en">Uncombable hair syndrome</Name>
     </TargetDisorder>
     <RootDisorder id="8586" cycle="true"/>
     <DisorderDisorderAssociationType id="27341">
      <Name lang="en">Referred to</Name>
     </DisorderDisorderAssociationType>
    </DisorderDisorderAssociation>
   </DisorderDisorderAssociationList>
```
There is an association between the inactive entity and an active one. The inactive entity, identified as "RootDisorder", is "referred to" the active entity ORPHA:1410 Uncombable hair syndrome, identified as "TargetDisorder".

```
  <AggregationLevelSection>
   <AggregationLevelList count="1">
    <AggregationLevel>
     <ORPHAcode>1410</ORPHAcode>
```

```
        <PreferredTerm lang="en">Uncombable hair syndrome</PreferredTerm>
        <AggregationLevelStatus>Applicable</AggregationLevelStatus>
      </AggregationLevel>
     </AggregationLevelList>
    </AggregationLevelSection>
```
Since the clinical entity is inactive, it cannot be used for data sharing and statistical reporting. As the ORPHAcode of replacement, the Disorder ORPHA:1410 Uncombable hair syndrome can be used instead.

```
   </Disorder>
```

Example 3: Non rare in Europe – ORPHA:1244 NON RARE IN EUROPE: Bicuspid aortic valve

```
<Disorder id="3009">
    <ORPHAcode>1244</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=1244</ExpertLink>
    <Name lang="en">NON RARE IN EUROPE: Bicuspid aortic valve</Name>
```
The clinical entity's ORPHAcode is 1244, and its preferred term in English is "NON RARE IN EUROPE: Bicuspid aortic valve". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=1244.

```
    <FlagValue>8225</FlagValue>
    <Totalstatus lang="en">Inactive: Non rare disease in Europe</Totalstatus>
```
The entity is inactive in this version of the Orphanet Nomenclature. It is excluded from the Orphanet nomenlature as it does not fit the definition of a rare disorder applied in Orphanet (point prevalence of less than 1/2,000 persons in the general population).

```
    <SynonymList count="0">
    </SynonymList>
```
The entity does not have any synonym.

```
    <DisorderType id="21415">
      <Name lang="en">Morphological anomaly</Name>
    </DisorderType>
```
The typology of the clinical entity is "Morphological anomaly" (not a Disease, Clinical syndrome, Malformation syndrome, Biological anomaly, or Particular clinical situation in a disease or syndrome).

```
    <ClassificationLevel id="36547">
      <Name lang="en">Disorder<Name>
    </ClassificationLevel>
```
The classification level of the clinical entity is "Disorder" (not a Group of disorders, not a Subtype of a disorder).

```
    <DisorderDisorderAssociationList count="0">
    </DisorderDisorderAssociationList>
```
Since this entity is considered as non rare in Europe, no active clinical entity of the Orphanet nomenclature can be provided as a replacement.

```
    <SummaryInformationList count="0">
    </SummaryInformationList>
```
Since the entity is inactive, it is not associated with any textual information.

```
    <AggregationLevelSection>
     <AggregationLevelList count="0"/>
     <ORPHAcodeAggregation/>
     <PreferredTerm/>
     <AggregationLevelStatus>Not applicable</AggregationLevelStatus>
    </AggregationLevelSection>
```
This entity is inactive because it is non rare. Data sharing and statistical reporting in Europe should not be set out in association with an ORPHAcode. Accordingly, no aggregation level is applicable.

```
   </Disorder>
```

Example 4: Inactive entity associated with a Target active entity that is not a Disorder

In some cases, the inactive entity has a "referred to" (obsolete entity) or a "moved to" (deprecated entity) relationship that leads to a Group or a Subtype (as Target), according to the scientific reason justifying the inactivation.

Since the Group and Subtype levels are not used for data sharing and statistical reporting, they cannot be used as the aggregation level ORPHAcode. Two solutions are possible:

- If the inactive entity is referred to or moved to an active Group of disorders: the aggregation level is not applicable.
- If the inactive entity is referred to or moved to an active Subtype: the aggregation level is the closest Disorder the active Subtype is attached to in the Orphanet classification.

For better understanding of these cases, see the examples below.

4.1 "Inactive: Obsolete" entity referred to a Group of disorders

```
<Disorder id="8773">
    <ORPHAcode>28455</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=28455</ExpertLink>
    <Name lang="en">OBSOLETE: Pancreatic beta cell agenesis with neonatal diabetes mellitus</Name>
```
The clinical entity's ORPHAcode is 28455, and its preferred term in English is "OBSOLETE: Pancreatic beta cell agenesis with neonatal diabetes mellitus". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=28455 (however, since the entity is inactive, the page does not contain any information).
```
    <FlagValue>8208</FlagValue>
    <Totalstatus lang="en">Inactive: Obsolete</Totalstatus>
```
The entity is inactive in this version of the Orphanet Nomenclature. It was excluded from the nomenclature as it did not have a reason to exist as a distinct diagnosis.
```
    <SynonymList count="0">
    </SynonymList>
```
The entity has 0 synonyms.
```
    <DisorderType id="21394">
      <Name lang="en">Disease</Name>
    </DisorderType>
```
The typology of the clinical entity is "Disease" (not Clinical syndrome, Malformation syndrome, Biological anomaly, Morphological anomaly or Particular clinical situation in a disease or syndrome).
```
    <ClassificationLevel id="36547">
      <Name lang="en">Disorder<Name>
    </ClassificationLevel>
```
The classification level of the clinical entity is "Disorder" (not a Group of disorders, not a Subtype of a disorder).
```
    <DisorderDisorderAssociationList count="1">
      <DisorderDisorderAssociation>
        <TargetDisorder id="18292">
          <ORPHAcode>183625</ORPHAcode>
          <Name lang="en">Rare genetic diabetes mellitus</Name>
        </DisorderOut>
        <RootDisorder id="8773" cycle="true"/>
        <DisorderDisorderAssociationType id="27341">
          <Name lang="en">Referred to</Name>
        </DisorderDisorderAssociationType>
      </DisorderDisorderAssociation>
    </DisorderDisorderAssociationList>
```
There is an association between the inactive entity and an active one. The inactive entity, identified as "RootDisorder", is "referred to" the active entity ORPHA: 183625 Rare genetic diabetes mellitus, identified as "TargetDisorder".
```
    <AggregationLevelSection>
    <AggregationLevelList count="0"/>
    <ORPHAcodeAggregation/>
    <PreferredTerm/>
    <AggregationLevelStatus>Not applicable</AggregationLevelStatus>
    </AggregationLevelSection>
```

Since the entity is inactive, it cannot be used for data sharing and statistical reporting. The ORPHAcode of replacement is a Group of disorders, ORPHA:183625 Rare genetic diabetes mellitus, is of Group level, therefore it cannot be used instead, and no aggregation level is applicable.

```
    </Disorder>
```

4.2 "Inactive: Deprecated" entity moved to a Subtype

```
<Disorder id="12442">
    <ORPHAcode>93609</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=93609</ExpertLink>
    <Name lang="en">Autosomal recessive distal renal tubular acidosis without deafness</Name>
```
The clinical entity's ORPHAcode is 93609, and its preferred term in English is "Autosomal recessive distal renal tubular acidosis without deafness". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=93609.

```
    <FlagValue>8449</FlagValue>
    <Totalstatus lang="en">Inactive: Deprecated</Totalstatus>
```
The entity is inactive in this version of the Orphanet Nomenclature. It has been deprecated, meaning that it is now part of another active clinical entity present in the Orphanet nomenclature.

```
    <SynonymList count="5">
     <Synonym lang="en">AR dRTA without deafness</Synonym>
     <Synonym lang="en">AR dRTA without hearing loss</Synonym>
     <Synonym lang="en">Autosomal recessive distal renal tubular acidosis without hearing loss</Synonym>
     <Synonym lang="en">Distal renal tubular acidosis type 1c</Synonym>
     <Synonym lang="en">dRTA type 1c</Synonym>
    </SynonymList>
```
The entity has 5 synonyms.

```
    <DisorderType id="21450">
     <Name lang="en">Clinical subtype</Name>
    </DisorderType>
```
The typology of the clinical entity is "Clinical subtype" (not Etiological subtype, not Histopathological subtype).

```
    <ClassificationLevel id="36554">
     <Name lang="en">Subtype of disorder<Name>
    </ClassificationLevel>
```
The classification level of the clinical entity is "Subtype of disorder" (not a Group of disorders, not a Disorder).

```
    <DisorderDisorderAssociationList count="1">
     <DisorderDisorderAssociation>
      <TargetDisorder id="22876">
       <ORPHAcode>402041</ORPHAcode>
       <Name lang="en">Autosomal recessive distal renal tubular acidosis</Name>
      </TargetDisorder>
      <RootDisorder id="12442" cycle="true"/>
      <DisorderDisorderAssociationType id="21471">
       <Name lang="en">Moved to</Name>
      </DisorderDisorderAssociationType>
     </DisorderDisorderAssociation>
    </DisorderDisorderAssociationList>
```
ORPHA:93609 Autosomal recessive distal renal tubular acidosis without deafness, identified as "RootDisorder", is "moved to" the active entity ORPHA:402041 Autosomal recessive distal renal tubular acidosis, identified as the "TargetDisorder" that must be used instead.

```
    <AggregationLevelSection>
    <AggregationLevelList count="1">
     <AggregationLevel>
      <ORPHAcode>18</ORPHAcode>
      <PreferredTerm lang="en">Distal renal tubular acidosis</PreferredTerm>
      <AggregationLevelStatus>Applicable</AggregationLevelStatus>
     </AggregationLevel>
    </AggregationLevelList>
    </AggregationLevelSection>
```
As this entity is inactive, it cannot be used for data sharing and statistical reporting. Since the ORPHAcode of replacement (Target) ORPHA:402041 Autosomal recessive distal renal tubular acidosis is a Subtype, it cannot be used instead. The closest Disorder that the Target entity is attached to is ORPHA:18 Distal renal tubular acidosis, which is therefore used as the aggregation level.

```
    </Disorder>
```

2. Orphanet – ICD-10 alignment file

Orphanet maintains an alignment between the ICD-10 (10th International Classification of Diseases established by the World Health Organization - https://icd.who.int/browse10/2016/en) and the nomenclature of rare diseases (ORPHAcodes).

The ORPHA_ICD-10_mapping_en.xml file provides the ICD-10 code(s) assigned to each ORPHAcode according to the Orphanet ICD-10 coding rules. This mapping includes a semantic link that specifies the relationship between an ORPHAcode and an ICD-10 code.

For more definitions, please consult the Appendix of this document.

2.1 Description of the XML tags

-   **DisorderList count**: total number of clinical entities (Disorders, Groups of disorders and Subtypes of disorder) present in the XML file
-   **ORPHAcode:** A unique and time-stable numerical identifier attributed randomly by the Orphanet database to each clinical entity upon its creation. Currently, the ORPHAcode is made up of one to six digits. In the future, number of digits can expand. It comes with:
    o   **ExpertLink:** stable URL leading to the specific page of a given disease on the Orphanet website.
    o   **Name:** the most generally accepted name for a clinical entity according to the literature, and as adopted by the medical community. Preferred terms are unique throughout the database, associated with one ORPHAcode only.
    o   **Lang:** ISO 639 code for language name.
-   **SynonymList:** synonyms associated with the entity. A synonym is a term that is perfectly equivalent to the preferred term of the clinical entity it is attached to. The number of synonyms is indefinite and may vary depending on the language of translation. Acronyms commonly used to describe the disease are included as synonyms.
-   **ExternalReferenceList:** list of ICD-10 alignments available for a given ORPHAcode in the Orphanet database
-   **DisorderMappingRelation**: qualification attributed to a relationship between an ORPHAcode and an ICD-10 code, among the following (see "Disorder Mapping Relation" in the Appendix):
    o   E (Exact)
    o   NTBT (Narrow term to broad term)
    o   BTNT (Broad term to narrow term)
    o   ND (Not yet decided/unable to decide)
    o   W (Wrong)
-   **DisorderMappingICDRelation (ICD-10 relationship):** Specificity relationship between an ORPHAcode and ICD-10 code. Can be either Specific code, Inclusion term, Index term or Attributed (See Appendix).
-   **DisorderMappingValidationStatus:** Validation status of the mapping between the ORPHAcode and the ICD-10 code. Can be either Validated (mapping considered to be definite) or Not yet validated (provisional mapping needing further medical expertise).

2.2 Examples

Example 1: ORPHAcode has a specific code in the ICD-10

```
<Disorder id="109">
    <ORPHAcode>558</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=558</ExpertLink>
    <Name lang="en">Marfan syndrome</Name>
```
The clinical entity's ORPHAcode is 558, and its preferred term in English is "Marfan syndrome". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=558.

```xml
    <SynonymList count="1">
     <Synonym lang="en">MFS</Synonym>
    </SynonymList>
```
The entity has one synonym.

```xml
    <ExternalReferenceList count="1">
     <ExternalReference id="104868">
      <Source>ICD-10</Source>
      <Reference>Q87.4</Reference>
      <DisorderMappingRelation id="21527">
       <Name lang="en">E (Exact mapping: the two concepts are equivalent)</Name>
      </DisorderMappingRelation>
      <DisorderMappingICDRelation id="21583">
       <Name lang="en">Specific code (The ORPHAcode has its own code in the ICD10)</Name>
      </DisorderMappingICDRelation>
      <DisorderMappingValidationStatus id="21611">
       <Name lang="en">Validated</Name>
      </DisorderMappingValidationStatus>
     </ExternalReference>
    </ExternalReferenceList>
```
This clinical entity is exactly mapped with the ICD10 reference "Q87.4". This entity has its own code in ICD10. The relation between the reference and the clinical entity is "Validated".

```xml
   </Disorder>
```

Example 2: ORPHAcode has an inclusion term in the ICD-10

```xml
<Disorder id="106">
    <ORPHAcode>803</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=803</ExpertLink>
    <Name lang="en">Amyotrophic lateral sclerosis</Name>
```
The clinical entity's ORPHAcode is 803, and its preferred term in English is "Amyotrophic lateral sclerosis". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=803.

```xml
    <SynonymList count="3">
     <Synonym lang="en">ALS</Synonym>
     <Synonym lang="en">Charcot disease</Synonym>
     <Synonym lang="en">Lou Gehrig disease</Synonym>
    </SynonymList>
```
The entity has three synonyms.

```xml
    <ExternalReferenceList count="1">
     <ExternalReference id="104856">
      <Source>ICD-10</Source>
      <Reference>G12.2</Reference>
      <DisorderMappingRelation id="21534">
       <Name lang="en">NTBT (ORPHAcode's Narrower Term maps to a Broader Term)</Name>
      </DisorderMappingRelation>
      <DisorderMappingICDRelation id="21590">
       <Name lang="en">Inclusion term (The ORPHAcode is included under a ICD category and has not its own
code)</Name>
      </DisorderMappingICDRelation>
      <DisorderMappingValidationStatus id="21611">
       <Name lang="en">Validated</Name>
      </DisorderMappingValidationStatus>
     </ExternalReference>
    </ExternalReferenceList>
```
This entity is mapped with the ICD-10 reference "G12.2" (Motor neuron disease). The Orphanet concept is therefore a narrower term that maps to the broader term in the ICD-10. The term is included in ICD-10 but under an ICD-10 category and does not have its own code. The relation between the reference and the clinical entity is "Validated".

```xml
   </Disorder>
```

Example 3: ORPHAcode has an index term in the ICD-10

```xml
<Disorder id="548">
    <ORPHAcode>635</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&amp;Expert=635</ExpertLink>
    <Name lang="en">Neuroblastoma</Name>
```

The concerned clinical entity has 635 as its ORPHAcode and Neuroblastoma as its preferred term in English. Following http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=635 will open the page of the Orphanet website dedicated to the clinical entity.

```xml
<SynonymList count="0">
</SynonymList>
```

The entity has 0 synonyms.

```xml
<ExternalReferenceList count="1">
  <ExternalReference id="106198">
    <Source>ICD-10</Source>
    <Reference>C74.9</Reference>
    <DisorderMappingRelation id="21534">
      <Name lang="en">NTBT (ORPHAcode's Narrower Term maps to a Broader Term )</Name>
    </DisorderMappingRelation>
    <DisorderMappingICDRelation id="21597">
      <Name lang="en">Index term (The ORPHAcode is listed in the ICD10 Index)</Name>
    </DisorderMappingICDRelation>
    <DisorderMappingValidationStatus id="21611">
      <Name lang="en">Validated</Name>
    </DisorderMappingValidationStatus>
  </ExternalReference>
</ExternalReferenceList>
```

This entity is mapped with ICD-10 reference "C74.9". It is a narrower term that maps to the broader term of "C74.9". The term is matched at the ICD index term level and does not have its own code. The relation between the reference and the clinical entity is "Validated".

```xml
</Disorder>
```

Example 4: ORPHAcode has an ICD-10 term attributed by Orphanet

```xml
</Disorder>
  <Disorder id="553">
    <ORPHAcode>2746</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&amp;Expert=2746</ExpertLink>
    <Name lang="en">Opsismodysplasia</Name>
```

The concerned clinical entity has 2746 as its ORPHAcode and Opsismodysplasia as itspreferred term in English. Following http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=2746 will open the page of the Orphanet website dedicated to the clinical entity.

```xml
<SynonymList count="0">
</SynonymList>
```

The entity has 0 synonyms.

```xml
<ExternalReferenceList count="1">
  <ExternalReference id="106212">
    <Source>ICD-10</Source>
    <Reference>Q78.8</Reference>
    <DisorderMappingRelation id="21534">
      <Name lang="en">NTBT (ORPHAcode's Narrower Term maps to a Broader Term)</Name>
    </DisorderMappingRelation>
    <DisorderMappingICDRelation id="21604">
      <Name lang="en">Attributed (The ICD10 code is attributed by Orphanet)</Name>
    </DisorderMappingICDRelation>
    <DisorderMappingValidationStatus id="21611">
      <Name lang="en">Validated</Name>
    </DisorderMappingValidationStatus>
  </ExternalReference>
</ExternalReferenceList>
```

This entity is mapped with ICD-10 reference "Q78.8". It is a narrower term that maps to the broader term of "Q78.8". The ORPHA clinical entity has no matching term at all in ICD-10. The ICD-10 code is attributed by Orphanet. The relation between the reference and the clinical entity is "Validated".

```xml
</Disorder>
```

3. Orphanet – ICD-11 alignment file

Orphanet maintains an alignment between the ICD-11 (11th International Classification of Diseases established by the World Health Organization - https://icd.who.int/browse11/l-m/en) and the nomenclature of rare diseases (ORPHAcodes).

The ORPHA_ICD11_mapping_en.xml file provides the ICD-11 code(s) assigned to each ORPHAcode (the attribution rules followed by Orphanet are not available yet but may be published in the future). This mapping includes a semantic link that specifies the relationship between an ORPHAcode and an ICD-11 code.

For more definitions, please consult the Appendix of this document.

1.3 Description of the XML tags

- **DisorderList count**: total number of clinical entities (Disorders, Groups of disorders and Subtypes of disorder) present in the XML file
- **ORPHAcode:** A unique and time-stable numerical identifier attributed randomly by the Orphanet database to each clinical entity upon its creation. Currently, the ORPHAcode is made up of one to six digits. In the future, number of digits can expand. It comes with:
  - o **ExpertLink:** stable URL leading to the specific page of a given disease on the Orphanet website.
  - o **Name:** the most generally accepted name for a clinical entity according to the literature, and as adopted by the medical community. Preferred terms are unique throughout the database, associated with one ORPHAcode only.
  - o **Lang:** ISO 639 code for language name.
- **SynonymList:** synonyms associated with the entity. A synonym is a term that is perfectly equivalent to the preferred term of the clinical entity it is attached to. The number of synonyms is indefinite and may vary depending on the language of translation. Acronyms commonly used to describe the disease are included as synonyms.
- **ExternalReferenceList:** list of ICD-11 alignments available for a given ORPHAcode in the Orphanet database
- **DisorderMappingRelation**: qualification attributed to a relationship between an ORPHAcode and an ICD-11 code, among the following (see "Disorder Mapping Relation" in the Appendix):
  - o E (Exact)
  - o NTBT (Narrow term to broad term)
  - o BTNT (Broad term to narrow term)
  - o ND (Not yet decided/unable to decide)
  - o W (Wrong)
- **DisorderMappingICDRelation (ICD-11 relationship):** Specificity relationship between an ORPHAcode and ICD-11 code. Can be either Specific code, Inclusion term, Index term or Attributed (See Appendix).

DisorderMappingValidationStatus: Validation status of the mapping between the ORPHAcode and the ICD-11 code. Can be either Validated (mapping considered to be definite) or Not yet validated (provisional mapping needing further medical expertise).

1.4 Example

The ICD-11 alignments provided in the 2022 Nomenclature pack are all linked to ORPHAcodes with an Exact (E) relationship. Therefore, only one example is provided in this document, but this may change in the future.

```
<Disorder id="91">
    <ORPHAcode>778</ORPHAcode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=778</ExpertLink>
    <Name lang="en">Rett syndrome</Name>
```

The clinical entity's ORPHAcode is 778, and its preferred term in English is "Rett syndrome". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=778.

```
<SynonymList count="0"> </SynonymList>
```
The entity does not have any synonym.

```
<ExternalReferenceList count="1">
 <ExternalReference id="205823">
  <Source>ICD-11</Source>
  <Reference>LD90.4</Reference>
  <DisorderMappingRelation id="21527">
   <Name lang="en">E (Exact mapping: the two concepts are equivalent)</Name>
  </DisorderMappingRelation>
  <DisorderMappingICDRelation id="21583">
   <Name lang="en">Specific code (The ORPHAcode has its own code in the ICD)</Name>
  </DisorderMappingICDRelation>
  <DisorderMappingValidationStatus id="21611">
   <Name lang="en">Validated</Name>
  </DisorderMappingValidationStatus>
 </ExternalReference>
</ExternalReferenceList>
```
This clinical entity is exactly mapped with the ICD11 reference "LD90.4". This entity has its own code in ICD11. The relation between the reference and the clinical entity is "Validated".

```
</Disorder>
```

4. Orphanet rare disease classification files

<!>**WARNING**<!>

 A new classification hierarchy has been created in Orphanet: Orphanet classification of rare disorder without a determined diagnosis.

<!>

The Orphanet nomenclature is organised in a classification system by medical domain and reflects the multidimensional nature of rare diseases. Every entity can relate to multiple specialties according to their clinical presentation, and so be included in several classification hierarchies. The production and update of classification groups are based on scientific publications in peer-reviewed journals and collaboration with internationally identified experts. Only active clinical entities are part of the classification.

The classification repository is available in the various Orphanet languages (English (EN), French (FR), Italian (IT), Dutch (NL), German (DE), Spanish (ES), Portuguese (PT), Czech (CS) and Polish (PL)), and contains a different dataset for every classification hierarchy present in Orphanet, with every hierarchy reflecting a medical domain.

4.1 Description of the XML tags
- **ClassificationList count:** number of classification hierarchies in the XML file. Usually only 1.
- **OrphaNumber:** unique and time-stable numerical identifier attributed randomly by the database.
- **ClassificationNodeRootList count:** number of clinical entities at upper level of the hierarchy (number of clinical entities without parent). Usually only 1.
- **ClassificationNode**: level in the classification where a clinical entity has at least one parent. It may have children or not.
- **ClassificationNodeChildList count:** number of clinical entities under a given clinical entity.
- **ORPHAcode:** A unique and time-stable numerical identifier attributed randomly by the Orphanet database to each clinical entity upon its creation. Currently, the ORPHAcode is made up of one to six digits. In the future, number of digits can expand. It comes with:
  - o **ExpertLink:** stable URL leading to the specific page of a given disease on the Orphanet website.

- o **Name:** the most generally accepted name for a clinical entity according to the literature, and as adopted by the medical community. Preferred terms are unique throughout the database, associated with one ORPHAcode only.
- o **Lang:** ISO 639 code for language name.

4.2 Examples

```
<ClassificationList count="1">
  <Classification id="146">
    <OrphaNumber>156265</OrphaNumber>
    <Name lang="en">Orphanet classification of rare cardiac diseases</Name>
```

This XML file includes 1 classification, named Orphanet classification of rare cardiac diseases, with 156265 as a unique identifier.

```
    <ClassificationNodeRootList count="1">
```

This classification has only one root.

```
  <ClassificationNode>
```

The following clinical entity is a node in the classification: it has at least one parent in the classification.

```
    <Disorder id="18899">
      <ORPHAcode>218439</ORPHAcode>
      <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=218439</ExpertLink>
      <Name lang="en">Non-genetic cardiac rhythm disease</Name>
```

The clinical entity's ORPHAcode is 218439, and its preferred term in English is "Non-genetic cardiac rhythm disease". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=218439.

```
      <DisorderType id="36561">
        <Name lang="en">Category</Name>
      </DisorderType>
    </Disorder>
```

The typology of the clinical entity is "Category".

```
    <ClassificationNodeChildList count="3">
```

The node ORPHA:218439 "Non-genetic cardiac rhythm disease" has three children.

```
      <ClassificationNode>
```

The first child is a node in the classification: it has at least one parent.

```
        <Disorder id="8617">
          <ORPHAcode>3282</ORPHAcode>
          <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=3282</ExpertLink>
          <Name lang="en">Multifocal atrial tachycardia</Name>
          <DisorderType id="21394">
            <Name lang="en">Disease</Name>
          </DisorderType>
        </Disorder>
```

The first child has 3282 as its ORPHAcode and "Multifocal atrial tachycardia" as preferred term. The stable URL pointing to information on this entry is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=3282. The typology is "Disease".

```
        <ClassificationNodeChildList count="0">
        </ClassificationNodeChildList>
```

ORPHA:3282 "Multifocal atrial tachycardia" doesn't have any children.

```
      <ClassificationNode>
```

The second child is a node in the classification: it has at least one parent.

```
        <Disorder id="10590">
          <ORPHAcode>45452</ORPHAcode>
          <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=45452</ExpertLink>
          <Name lang="en">Idiopathic neonatal atrial flutter</Name>
          <DisorderType id="21394">
            <Name lang="en">Disease</Name>
          </DisorderType>
        </Disorder>
```

The second child has 45452 as its ORPHAcode and "Idiopathic neonatal atrial flutter" as preferred term. The stable URL pointing to information on this entry is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=45452. The typology is "Disease".

```
        <ClassificationNodeChildList count="0">
        </ClassificationNodeChildList>
```

ORPHA:45452 "Idiopathic neonatal atrial flutter" doesn't have any children.

    <ClassificationNode>

The third and last child is a node in the classification: it has at least one parent.

```
    <Disorder id="10591">
      <ORPHAcode>45453</ORPHAcode>
      <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=45453</ExpertLink>
      <Name lang="en">Incessant infant ventricular tachycardia</Name>
      <DisorderType id="21394">
        <Name lang="en">Disease</Name>
      </DisorderType>
    </Disorder>
```

The third child has 45453 as its ORPHAcode and "Incessant infant ventricular tachycardia" as its preferred term. The stable URL pointing to information on this entry is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=45453. The typology is "Disease".

```
      <ClassificationNodeChildList count="0">
      </ClassificationNodeChildList>
```

ORPHA:45453 "Incessant infant ventricular tachycardia" doesn't have any children.

  </ClassificationNode>

5. Orphanet Linearisation file

The linearisation is a process applied in the Orphanet database to attribute one head of classification (called Preferential parent) to every active clinical entity, in order to enable the sorting out of all clinical entities by medical specialty and avoid multiple counting of multiclassified entities in statistical analysis. As some decisions could be made somewhat arbitrarily, a set of rules were established to ensure consistency of the logic used for attributions of a preferential parent thoughout the nomenclature. The methodology can be found here.

4.1 Description of the XML tags of ORPHAlinearisation_en.xml file

- **DisorderList count**: total number of clinical entities (disorders, group of disorders or subtypes of disorder) in the Xml file.
- **ORPHAcode:** A unique and time-stable numerical identifier attributed randomly by the Orphanet database to each clinical entity upon its creation. Currently, the ORPHAcode is made up of one to six digits. In the future, number of digits can expand. It comes with:
  - o **ExpertLink:** stable URL leading to the specific page of a given disease on the Orphanet website.
  - o **Name:** the most generally accepted name for a clinical entity according to the literature, and as adopted by the medical community. Preferred terms are unique throughout the database, associated with one ORPHAcode only.
  - o **Lang:** ISO 639 code for language name.
- **DisorderDisorderAssociation:** Relationship between a clinical entity and one head of Orphanet classification attributed as preferential parent.

4.2 Example:

```
<DisorderList count="7227">
```

7227 is the total number of clinical entities in this XML file.

```
  <Disorder id="17601">
    <OrphaCode>166024</OrphaCode>
    <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=166024</ExpertLink>
    <Name lang="en">Multiple epiphyseal dysplasia, Al-Gazali type</Name>
```

The clinical entity's ORPHAcode is 166024, and its preferred term in English is "Multiple epiphyseal dysplasia, Al-Gazali type". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=166024.

```
    <DisorderDisorderAssociationList count="1">
      <DisorderDisorderAssociation>
```

```
        <TargetDisorder id="12333">
        <OrphaCode>93419</OrphaCode>
        <Name lang="en">Rare bone disease </Name>
        </TargetDisorder>
        <RootDisorder id="17601" cycle="true">
        <DisorderDisorderAssociationType id="21485">
        <Name lang="en">Preferential parent</Name>
        </DisorderDisorderAssociationType>
      </DisorderDisorderAssociation>
    </DisorderDisorderAssociationList>
```
This entity has the group ORPHA:93419 Rare bone disease as preferential parent.

```
    </Disorder>
```

6. Master file – Disorder-only data subset for data sharing at EU-level (XLSX)

In the framework of the [RD-Action](#) Joint Action (2015-2018), a file, namely the Master File, was developed in order to support Rare Disease data sharing across Member States. The Master File should facilitate the standardised use of the Orphanet Nomenclature by providing only the data that is relevant for data sharing at EU-level and thus enable international statistical aggregation. It is a data subset of the Orphanet nomenclature files for coding including:

- Active ORPHAcodes registered at the Disorder level in the Orphanet nomenclature of Rare diseases (Groups and Subtypes are excluded);
- The preferred term and synonyms related to this ORPHAcodes subset;
- The alignment available in Orphanet between these ORPHAcodes and ICD-10 codes.

The Master file is provided in the Orphanet nomenclature pack in a single English version and in XLSX format (ORPHAnomenclature_MasterFile_2022.xlsx). However, a version in one of the available languages of translation of the Orphanet nomenclature can easily be produced from the Orphanet nomenclature file and the ORPHA_ICD10_mapping_en.xml file by following the steps below:

- In the Orphanet nomenclature file provided in the language of interest, select ORPHAcodes associated with an "Active" status (FlagValue: 1, 129 or 513) and the Disorder classification level (ClassificationLevel id="36547"), with their preferred term and synonyms, and copy-paste them in a new XLSX spreadsheet;
- Then, use the ORPHA_ICD10_mapping_en.xml file to retrieve all ICD-10 codes aligned with the ORPHAcodes extracted in the previous step.

Example:

a. In the Orphanet nomenclature file in English: in bold, the dataset relevant to retrieve for data sharing at EU-level.

```
</Disorder>
  <Disorder id="99">
  <ORPHAcode>892</ORPHAcode>
  <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=892</ExpertLink>
  <Name lang="en">Von Hippel-Lindau disease</Name>
```
The clinical entity's ORPHAcode is 892, and its preferred term in English is "Von Hippel-Lindau disease". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=892.

```
  <FlagValue>1</FlagValue>
  <Totalstatus lang="en">Active</Totalstatus>
```
The entity is in use in this version of the Orphanet Nomenclature.

```
  <SynonymList count="4">
   <Synonym lang="en">Familial cerebelloretinal angiomatosis</Synonym>
   <Synonym lang="en">Lindau disease</Synonym>
   <Synonym lang="en">VHL</Synonym>
   <Synonym lang="en">Von Hippel-Lindau syndrome</Synonym>
```

```xml
</SynonymList>
```
The entity has four synonyms in English.

```xml
<DisorderType id="21394">
 <Name lang="en">Disease</Name>
</DisorderType>
<ClassificationLevel id="36547">
 <Name lang="en">Disorder<Name>
</ClassificationLevel>
```
The classification level of the clinical entity is "Disorder" (not a Group, not a Subtype). Since it is active AND at the disorder level in the Orphanet classification, the ORPHAcode (892), the associated preferred term (Von Hippel-Lindau disease) and the four attached synonyms (Familial cerebelloretinal angiomatosis, Lindau disease, VHL and Von Hippel-Lindau syndrome) are to be used for data sharing at EU-level.

```xml
<DisorderDisorderAssociationList count="0">
</DisorderDisorderAssociationList>
<SummaryInformationList count="1">
 <SummaryInformation id="1260" lang="en">
   <TextSectionList count="1">
    <TextSection id="50677" lang="en">
     <TextSectionType id="16907">
       <Name lang="en">Definition</Name>
     </TextSectionType>
     <Contents>Von Hippel-Lindau disease (VHL) is a familial cancer predisposition syndrome associated with a variety of
malignant and benign neoplasms, most frequently retinal, cerebellar, and spinal hemangioblastoma, renal cell carcinoma (RCC),
and pheochromocytoma.</Contents>
    </TextSection>
   </TextSectionList>
 </SummaryInformation>
</SummaryInformationList>
</Disorder>
<Disorder id="17569">
 <ORPHAcode>164823</ORPHAcode>
 <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=164823</ExpertLink>
 <Name lang="en">Rare acquired aplastic anemia</Name>
```
The clinical entity's ORPHAcode is 164823, and its preferred term in English is "Rare acquired aplastic anemia". The link leading to the page dedicated to the entity on the Orphanet website is http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=164823.

```xml
<FlagValue>513</FlagValue>
<Totalstatus lang="en">Active</Totalstatus>
```
The entity is in use in this version of the Orphanet Nomenclature.

```xml
<SynonymList count="0">
</SynonymList>

<ClassificationLevel id="36540">
 <Name lang="en">Group of disorders<Name>
</ClassificationLevel>
```
The classification level of the clinical entity is "Group of disorders" (not a Disorder, not a Subtype). Since it is active BUT NOT at the Disorder level in the Orphanet classification, it should not be used to be used for data sharing at EU-level.

```xml
<DisorderType id="36561">
 <Name lang="en">Category</Name>
</DisorderType>
<DisorderDisorderAssociationList count="0">
</DisorderDisorderAssociationList>
<SummaryInformationList count="0">
</SummaryInformationList>
</Disorder>
```

b. Once the relevant dataset from the Orphanet nomenclature file in English is retrieved, the ORPHA_ICD10_mapping_en.xml file is queried to get the alignment with ICD-10:

```xml
<Disorder id="99">
  <ORPHAcode>892</ORPHAcode>
  <ExpertLink lang="en">http://www.orpha.net/consor/cgi-bin/OC_Exp.php?lng=en&Expert=892</ExpertLink>
  <Name lang="en">Von Hippel-Lindau disease</Name>
  <SynonymList count="4">
   <Synonym lang="en">Familial cerebelloretinal angiomatosis</Synonym>
   <Synonym lang="en">Lindau disease</Synonym>
```

```
      <Synonym lang="en">VHL</Synonym>
      <Synonym lang="en">Von Hippel-Lindau syndrome</Synonym>
    </SynonymList>
```
The entity has four synonyms in English. These synonyms are identical to the ones from the Orphanet nomenclature file. They can be retrieved similarly either from the Orphanet nomenclature file or from the Orphanet – ICD-10 alignment file.

```
  <ExternalReferenceList count="1">
   <ExternalReference id="104856">
     <Source>ICD-10</Source>
     <Reference>Q85.8</Reference>
     <DisorderMappingRelation id="21534">
       <Name lang="en">NTBT (ORPHAcode's Narrower Term maps to a Broader Term)</Name>
     </DisorderMappingRelation>
     <DisorderMappingICDRelation id="21590">
       <Name lang="en">Inclusion term (The ORPHAcode is included under a ICD10 category and has not its own
code)</Name>
     </DisorderMappingICDRelation>
     <DisorderMappingValidationStatus id="21611">
       <Name lang="en">Validated</Name>
     </DisorderMappingValidationStatus>
   </ExternalReference>
  </ExternalReferenceList>
```
This entity is mapped with ICD-10 reference "Q85.8". It is a narrower term that maps to the broader term of "Q85.8". The term is included in ICD-10 but under an ICD-10 category and does not have its own code. The relation between the reference and the clinical entity is "Validated". This cross referencing is intended to be used to support interoperability and standardization at the EU level.

```
  </Disorder>
```

7. Differential file (XLSX)

In order to facilitate the implementation of updates made in the Nomenclature pack between two generations, an Excel file summarising these updates is published together with the Orphanet nomenclature files:

- The **Newly included ORPHAcodes** tab contains:

    o New ORPHAcodes that were created after the publication of the previous Nomenclature pack,
    o existing ORPHAcodes that were previously inactive, but have been reintroduced into the Orphanet nomenclature of rare diseases as active clinical entities, following reassessment of the available knowledge,
    o existing ORPHAcodes that were previously totally absent from the Nomenclature pack for various internal reasons, and have been re-included as active or inactive clinical entities following assessment of the available knowledge.

- The **Newly inactive ORPHAcodes** tab contains all clinical entities that were active in the previous Nomenclature pack version, but have since been inactivated and excluded from the Orphanet nomenclature (Obsolete, Deprecated, or Non rare disease in Europe). The Target entity of the "referred to" relationship (obsolete entity, when applicable) or "moved to" relationship (deprecated entity) is indicated.

    This tab also lists ORPHAcodes that, in very rare cases and for various internal reasons, have been completely removed from the Nomenclature pack.

- The **New ORPHA-to-ICD10 mapping** tab contains all ORPHAcodes that were attributed a new ICD-10 alignment after the publication of the previous Nomenclature pack,

- The **Updated ORPHA-to-ICD10 mapping** tab contains all ORPHAcodes that were already aligned with the ICD-10 in the previous Nomenclature pack, but have been subject to changes (modification of the number of aligned ICD-10 codes, or correction of existing alignments).

- This version does not include a **New ORPHA-to-ICD11 mapping** tab, since the alignment of ORPHAcodes with ICD-11 codes was first implemented in the Orphanet database in 2022, and the list can be found in the ORPHA_ICD-11_mapping_en.xml file. Similarly, no **Updated ORPHA-to-ICD11 mapping** tab is provided in the 2022 Nomenclature pack, but this should be introduced in future versions.
- The **Classification level update** tab contains clinical entities whose classification level was modified after publication of the last Nomenclature pack:
  - Disorder to Group of disorders,
  - Group of disorders to Disorder,
  - Subtype of disorder to Disorder,
  - Disorder to Subtype of disorder.

8. Appendix: definitions of Orphanet concepts

Definition: A short text stating the group of disorders that the clinical entity belongs to, and listing the major clinical characteristics (e.g. clinical, pathological, radiological, etc.) that define the entity and differentiate it from other entities classified within the same clinical group.

Disorder Mapping Relation: Proximity of the relationship between an ORPHA clinical entity and the source entity. Can be either:

- an exact correspondence (E) when the concepts on both sides are equivalent;
- an asymmetric relationship (Orphanet concept broader or narrower than the concept in the target nomenclature): BTNT (the more generic term corresponds to one of the more specific terms) or NTBT (the more specific term corresponds to a more generic term);
- an incorrect match (W for Wrong, or two different concepts) but an exact syntactic match to a synonym or preferred term in the target terminology.

DisorderMappingValidationStatus: Validation status of the mapping between the ORPHA clinical entity and the reference. Can be either Validated or Not yet validated.

ExpertLink: stable URL pointing to the specific page of a given disease on the Orphanet website.

Classification level: A level of precision attributed to each clinical entity: Group of disorders, Disorder, or Subtype of disorder. These three levels organise the relational structure of the Orphanet classification:

- Group of disorders (id: 36540): a collection of clinical entities sharing a set of common features. It can be a category or a clinical group.
- Disorder (id: 36547): a clinical entity characterised by a set of homogeneous phenotypic abnormalities and evolution allowing a definitive clinical diagnosis.*
- Subtype of disorder (id: 36554): a subdivision of a disorder according to a positive criterion.

Classification ID: Unique, time-stable and non-reusable numerical identifier for the classification.

ICD mapping relation: Used only for the ICD alignment. Can be either:
- Specific code: the Orphanet nomenclature term has a specific code in the ICD;
- Inclusion term: The Orphanet nomenclature term corresponds to a term included in a code from the ICD tabular list, but does not have its own code;
- Index term: the term in the Orphanet nomenclature corresponds to a term present in the ICD index, and is absent from the tabular list but has a reference to a code in this list provided by the index;
- Attributed by Orphanet: the term of the Orphanet nomenclature is completely absent from the tabular list and index of the ICD. An alignment is carried out by Orphanet according to established rules, described (for the ICD-10) in the document "Orphanet_ICD10_coding_rules.pdf".

ORPHAcode: a unique and time-stable numerical identifier attributed randomly by the Orphanet database to each clinical entity upon its creation. Currently, the ORPHAcode is made up of one to six digits. In the future, number of digits can expand.

ORPHAcodeAggregation: Recommended ORPHAcode for data sharing and statistical reporting in Europe. It encompasses the list of ORPHAcodes of Disorder level, excluding groups and subtypes.

Preferred term: The most generally accepted name for a clinical entity according to the literature, and as adopted by the medical community.

Synonym: a term that is perfectly equivalent to the preferred term of the clinical entity it is attached to. As many synonyms as necessary are added to a preferred term. Acronyms are included only when they are consistently used in the literature.

Total status: Status of the clinical entity. An entity can only be associated with one status among the following:

- **"Active"**: A clinical entity that is in use in the nomenclature (in contrast to obsolete, deprecated and non-rare entities that are no longer used in the nomenclature). The corresponding value can be 1, 129 or 513.
- Inactive: A clinical entity that has been excluded from the Orphanet nomenclature. This includes obsolete entities, deprecated entities, and entities that have been inactivated because they are not rare in Europe:
    - **"Inactive: Deprecated"**: A clinical entity that was initially considered as an independent diagnosis, but is now considered as part of another diagnosis as a result of the evolution of knowledge, and is therefore removed from the Orphanet nomenclature. The corresponding value is 8449.
    - **"Inactive: Obsolete"**: A clinical entity that has been removed from the Orphanet nomenclature for one of the following reasons: exact duplicate of another existing clinical entity; unclear clinical entity that cannot be precisely characterised; only one published case in the literature; organisational category that is no longer in use. The corresponding value is 8208 or 9216.
    - **"Inactive: Non rare disease in Europe"**: A clinical entity that does not meet the European definition of a rare disease (less than 5 affected individuals per 10,000 in Europe) in light of current epidemological knowledge, and has therefore been removed from the Orphanet nomenclature. The corresponding value is 8225.

DisorderType: reflects the Typology of the clinical entity, an attribute used in the Orphanet database to characterise clinical entities according to their nosological definition within each level of classification.. Every clinical entity is associated with one typology among the following:

- Biological anomaly (id: 21408): Disorder defined by a set of physiological abnormalities without clear associated clinical manifestations.
- Clinical group (id: 21436): A group of clinically homogeneous disorders that share a similar etiology, course, outcome, and/or management.
- Clinical subtype (id: 21450): Subdivision of a disorder according to distinct clinical characteristics (severity, age of onset, particular clinical signs, etc.).
- Clinical syndrome (id: 21422): A disorder with homogeneous therapeutic possibilities, regardless of the pathophysiological mechanism involved.
- Disease (id: 21394): A disorder with homogeneous therapeutic possibilities and an identified pathophysiological mechanism*. Developmental anomalies are excluded.
- Etiological subtype (id: 21443): Subdivision of a disorder according to distinct causes resulting in a similar clinical presentation.
- Histopathological subtype (id: 21457): Subdivision of a disorder according to characteristic histological patterns.

- Malformation syndrome (id: 21401): A disorder resulting from a developmental anomaly involving more than one morphogenetic field. Malformative sequences and associations are included.
- Morphological anomaly (id: 21415): A disorder characterised by a morphological alteration resulting from a development anomaly involving a single morphogenetic field.
- Particular clinical situation in a disease or syndrome (id: 21429): A set of phenotypic abnormalities presenting in a subset of patients under particular circumstances.
- Category (id: 36561): A group of clinically heterogeneous disorders sharing one general feature, used to organise the classification.

*the clinical entity ORPHA:616874 Rare disorder without a determined diagnosis after full investigation constitutes an exception to the definition of a "Disorder", as it does not correspond to a definitive and homogenous diagnosis, but was created for particular coding purposes (see the entity's definition), and is therefore associated with the "Disorder" classification level (and "Disease" as typology).