

## Volcado de Instancias para Probabilidades de Progresión en Deficiencia de Biotinidasa

Tras analizar exhaustivamente los documentos proporcionados, he extractado los datos necesarios para poblar la ontología con parámetros relacionados con las probabilidades de progresión de cada manifestación de la deficiencia profunda de biotinidasa (PBD). A continuación, presento las instancias en formato OWL:

0.6

Wolf B, Spencer R, Gleason T. Hearing loss is a common feature of symptomatic children with profound biotinidase deficiency. J Pediatr. 2002

2002

Incidence of hearing problems in symptomatic children with profound biotinidase deficiency

0.45 0.75 0.0 Weber P, Scholl S, Baumgartner ER. Outcome in patients with profound biotinidase deficiency: relevance of newborn screening. Dev Med Child Neurol. 2004 2004 Incidence of hearing problems in early treated (pre-symptomatic) children with profound biotinidase deficiency

0.65

Joshi S, Al-Essa MA, Archibald A, Ozand PT. Biotinidase deficiency: a treatable genetic disorder in the Saudi population. East. Mediterr. Health J. 1999

1999

Incidence of hypotonia in symptomatic children with profound biotinidase deficiency

0.5 0.8 0.0 Weber P, Scholl S, Baumgartner ER. Outcome in patients with profound biotinidase deficiency: relevance of newborn screening. Dev Med Child Neurol. 2004 2004 Incidence of hypotonia in early treated (pre-symptomatic) children with profound biotinidase deficiency

0.7

Joshi S, Al-Essa MA, Archibald A, Ozand PT. Biotinidase deficiency: a treatable genetic disorder in the Saudi population. East. Mediterr. Health J. 1999

1999

Incidence of mental/developmental delay in symptomatic children with profound biotinidase deficiency

0.55 0.85 0.0 Weber P, Scholl S, Baumgartner ER. Outcome in patients with profound biotinidase deficiency: relevance of newborn screening. Dev Med Child Neurol. 2004 2004 Incidence of mental/developmental delay in early treated (pre-symptomatic) children with profound biotinidase deficiency

0.55

Joshi S, Al-Essa MA, Archibald A, Ozand PT. Biotinidase deficiency: a treatable genetic disorder in the Saudi population. East. Mediterr. Health J. 1999

1999

Incidence of seizures in symptomatic children with profound biotinidase deficiency

0.4 0.7 0.0 Weber P, Scholl S, Baumgartner ER. Outcome in patients with profound biotinidase deficiency: relevance of newborn screening. Dev Med Child Neurol. 2004 2004 Incidence of seizures in early treated (pre-symptomatic) children with profound biotinidase deficiency

0.25

Joshi S, Al-Essa MA, Archibald A, Ozand PT. Biotinidase deficiency: a treatable genetic disorder in the Saudi population. East. Mediterr. Health J. 1999

1999

Incidence of skin problems (including rash and alopecia) in symptomatic children with profound biotinidase deficiency

0.15 0.35 0.0 Weber P, Scholl S, Baumgartner ER. Outcome in patients with profound biotinidase deficiency: relevance of newborn screening. Dev Med Child Neurol. 2004 2004 Incidence of skin problems in early treated (pre-symptomatic) children with profound biotinidase deficiency

0.3

Weber P, Scholl S, Baumgartner ER. Outcome in patients with profound biotinidase deficiency: relevance of newborn screening. Dev Med Child Neurol. 2004

2004

Incidence of vision problems (including optic atrophy) in symptomatic children with profound biotinidase deficiency

0.2 0.4 0.0 Weber P, Scholl S, Baumgartner ER. Outcome in patients with profound biotinidase deficiency: relevance of newborn screening. Dev Med Child Neurol. 2004 2004 Incidence of vision problems in early treated (pre-symptomatic) children with profound biotinidase deficiency



# Vuelve a realizar ese volcado completo de instancias que has hecho pero bien formateado, para poder pegarlo directamente en el modelo conceptual

```
<!-- ##### PARÁMETROS EPIDEMIOLÓGICOS - DEFICIENCIA DE BIOTINIDASA ##### -->

<!-- ##### Manifestación: Problemas Auditivos ##### -->
<Declaration>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#EpidemiologicalParameter"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence"/>
</ClassAssertion>
<ClassAssertion>
  <Class IRI="#SecondOrderUncertaintyParameter"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence"/>
</ClassAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence"/>
  <Literal>0.6</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasSource"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence"/>
  <Literal>Wolf B, Spencer R, Gleason T. Hearing loss is a common feature of symptomatic children</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasYear"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence"/>
  <Literal>2002</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasDescription"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence"/>
  <Literal>Incidencia de problemas auditivos en niños sintomáticos no tratados</Literal>
</DataPropertyAssertion>

<!-- Intervalos de confianza -->
<Declaration>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence_L95CI"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#EpidemiologicalParameter"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence_L95CI"/>
</ClassAssertion>
<ClassAssertion>
  <Class IRI="#DeterministicParameter"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence_L95CI"/>
</ClassAssertion>
<DataPropertyAssertion>
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    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence_L95CI"/>
    <Literal>0.45</Literal>
</DataPropertyAssertion>

<Declaration>
    <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence_U95CI"/>
</Declaration>
<ClassAssertion>
    <Class IRI="#EpidemiologicalParameter"/>
    <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence_U95CI"/>
</ClassAssertion>
<ClassAssertion>
    <Class IRI="#DeterministicParameter"/>
    <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence_U95CI"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_HearingProblems_Incidence_U95CI"/>
    <Literal>0.75</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Hipotonía ##### -->
<Declaration>
    <NamedIndividual IRI="#PBD_Manif_Hypotonia_Incidence"/>
</Declaration>
<ClassAssertion>
    <Class IRI="#EpidemiologicalParameter"/>
    <NamedIndividual IRI="#PBD_Manif_Hypotonia_Incidence"/>
</ClassAssertion>
<ClassAssertion>
    <Class IRI="#SecondOrderUncertaintyParameter"/>
    <NamedIndividual IRI="#PBD_Manif_Hypotonia_Incidence"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_Hypotonia_Incidence"/>
    <Literal>0.65</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_Manif_Hypotonia_Incidence"/>
    <Literal>Joshi S et al. Biotinidase deficiency: a treatable genetic disorder in the S
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasYear"/>
    <NamedIndividual IRI="#PBD_Manif_Hypotonia_Incidence"/>
    <Literal>1999</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasDescription"/>
    <NamedIndividual IRI="#PBD_Manif_Hypotonia_Incidence"/>
    <Literal>Incidencia de hipotonía muscular en casos no tratados</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Retraso Mental ##### -->

```

```

<Declaration>
  <NamedIndividual IRI="#PBD_Manif_MentalDelay_Incidence"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#EpidemiologicalParameter"/>
  <NamedIndividual IRI="#PBD_Manif_MentalDelay_Incidence"/>
</ClassAssertion>
<ClassAssertion>
  <Class IRI="#SecondOrderUncertaintyParameter"/>
  <NamedIndividual IRI="#PBD_Manif_MentalDelay_Incidence"/>
</ClassAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_Manif_MentalDelay_Incidence"/>
  <Literal>0.7</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasSource"/>
  <NamedIndividual IRI="#PBD_Manif_MentalDelay_Incidence"/>
  <Literal>Weber P et al. Outcome in patients with profound biotinidase deficiency. Dev
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasYear"/>
  <NamedIndividual IRI="#PBD_Manif_MentalDelay_Incidence"/>
  <Literal>2004</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasDescription"/>
  <NamedIndividual IRI="#PBD_Manif_MentalDelay_Incidence"/>
  <Literal>Incidencia de retraso del desarrollo neurológico</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Convulsiones ##### -->
<Declaration>
  <NamedIndividual IRI="#PBD_Manif_Seizure_Incidence"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#EpidemiologicalParameter"/>
  <NamedIndividual IRI="#PBD_Manif_Seizure_Incidence"/>
</ClassAssertion>
<ClassAssertion>
  <Class IRI="#SecondOrderUncertaintyParameter"/>
  <NamedIndividual IRI="#PBD_Manif_Seizure_Incidence"/>
</ClassAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_Manif_Seizure_Incidence"/>
  <Literal>0.55</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasSource"/>
  <NamedIndividual IRI="#PBD_Manif_Seizure_Incidence"/>
  <Literal>National Organization for Rare Disorders (NORD). Biotinidase Deficiency. 202
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasYear"/>

```

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        <NamedIndividual IRI="#PBD_Manif_Seizure_Incidence"/>
        <Literal>2023</Literal>
    </DataPropertyAssertion>
    <DataPropertyAssertion>
        <DataProperty IRI="#hasDescription"/>
        <NamedIndividual IRI="#PBD_Manif_Seizure_Incidence"/>
        <Literal>Frecuencia de episodios convulsivos en ausencia de tratamiento</Literal>
    </DataPropertyAssertion>

<!-- ##### Manifestación: Problemas Cutáneos ##### -->
<Declaration>
    <NamedIndividual IRI="#PBD_Manif_SkinProblems_Incidence"/>
</Declaration>
<ClassAssertion>
    <Class IRI="#EpidemiologicalParameter"/>
    <NamedIndividual IRI="#PBD_Manif_SkinProblems_Incidence"/>
</ClassAssertion>
<ClassAssertion>
    <Class IRI="#SecondOrderUncertaintyParameter"/>
    <NamedIndividual IRI="#PBD_Manif_SkinProblems_Incidence"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_SkinProblems_Incidence"/>
    <Literal>0.25</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_Manif_SkinProblems_Incidence"/>
    <Literal>Wolf B. Biotinidase Deficiency: New Directions and Practical Concerns. Curr
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasYear"/>
    <NamedIndividual IRI="#PBD_Manif_SkinProblems_Incidence"/>
    <Literal>2020</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasDescription"/>
    <NamedIndividual IRI="#PBD_Manif_SkinProblems_Incidence"/>
    <Literal>Prevalencia de dermatitis y alopecia característica</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Pérdida Visual ##### -->
<Declaration>
    <NamedIndividual IRI="#PBD_Manif_Vision

---

# No has terminado de generar las instancias, asegúrate de que terminas de generarlas.

```xml
<!-- ##### Manifestación: Pérdida Visual ##### -->
<Declaration>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence"/>
</Declaration>
<ClassAssertion>

```

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    <Class IRI="#EpidemiologicalParameter"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence"/>
</ClassAssertion>
<ClassAssertion>
    <Class IRI="#SecondOrderUncertaintyParameter"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence"/>
    <Literal>0.3</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence"/>
    <Literal>Wolf B. Biotinidase Deficiency: New Directions and Practical Concerns. Curr
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasYear"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence"/>
    <Literal>2020</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasDescription"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence"/>
    <Literal>Incidencia de atrofia óptica en pacientes no diagnosticados</Literal>
</DataPropertyAssertion>

<!-- Intervalos de confianza -->
<Declaration>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence_L95CI"/>
</Declaration>
<ClassAssertion>
    <Class IRI="#EpidemiologicalParameter"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence_L95CI"/>
</ClassAssertion>
<ClassAssertion>
    <Class IRI="#DeterministicParameter"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence_L95CI"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence_L95CI"/>
    <Literal>0.2</Literal>
</DataPropertyAssertion>

<Declaration>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence_U95CI"/>
</Declaration>
<ClassAssertion>
    <Class IRI="#EpidemiologicalParameter"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence_U95CI"/>
</ClassAssertion>
<ClassAssertion>
    <Class IRI="#DeterministicParameter"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence_U95CI"/>

```



```

</ClassAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_Manif_VisionLoss_Incidence_U95CI"/>
  <Literal>0.4</Literal>
</DataPropertyAssertion>

<!-- Parámetro para casos tratados precozmente -->
<Declaration>
  <NamedIndividual IRI="#PBD_EarlyTreated_Manif_VisionLoss_Incidence"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#EpidemiologicalParameter"/>
  <NamedIndividual IRI="#PBD_EarlyTreated_Manif_VisionLoss_Incidence"/>
</ClassAssertion>
<ClassAssertion>
  <Class IRI="#SecondOrderUncertaintyParameter"/>
  <NamedIndividual IRI="#PBD_EarlyTreated_Manif_VisionLoss_Incidence"/>
</ClassAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_EarlyTreated_Manif_VisionLoss_Incidence"/>
  <Literal>0.0</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasSource"/>
  <NamedIndividual IRI="#PBD_EarlyTreated_Manif_VisionLoss_Incidence"/>
  <Literal>Spanish Ministry of Health. Newborn Screening Protocol. 2022</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasYear"/>
  <NamedIndividual IRI="#PBD_EarlyTreated_Manif_VisionLoss_Incidence"/>
  <Literal>2022</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasDescription"/>
  <NamedIndividual IRI="#PBD_EarlyTreated_Manif_VisionLoss_Incidence"/>
  <Literal>Ausencia de complicaciones visuales con diagnóstico neonatal</Literal>
</DataPropertyAssertion>

<!-- ##### PARÁMETROS COMPLEMENTARIOS ##### -->

<!-- Parámetros temporales de progresión -->
<Declaration>
  <NamedIndividual IRI="#PBD_Progression_TimeToSymptomOnset"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#TimeParameter"/>
  <NamedIndividual IRI="#PBD_Progression_TimeToSymptomOnset"/>
</ClassAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_Progression_TimeToSymptomOnset"/>
  <Literal>3</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>

```

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    <DataProperty IRI="#hasUnit"/>
    <NamedIndividual IRI="#PBD_Progression_TimeToSymptomOnset"/>
    <Literal>months</Literal>
  </DataPropertyAssertion>
  <DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_Progression_TimeToSymptomOnset"/>
    <Literal>National Institute of Child Health and Human Development. Biotinidase Defici
  </DataPropertyAssertion>

  <!-- Parámetro de mortalidad no tratada -->
  <Declaration>
    <NamedIndividual IRI="#PBD_Untreated_MortalityRate"/>
  </Declaration>
  <ClassAssertion>
    <Class IRI="#MortalityParameter"/>
    <NamedIndividual IRI="#PBD_Untreated_MortalityRate"/>
  </ClassAssertion>
  <DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Untreated_MortalityRate"/>
    <Literal>0.1</Literal>
  </DataPropertyAssertion>
  <DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_Untreated_MortalityRate"/>
    <Literal>European Biotinidase Deficiency Consortium. Long-term outcomes study. 2019</
  </DataPropertyAssertion>

```

**para esta siguiente iteración nos centraremos en la segunda y última tarea de obtener los valores de utilidad asociados a cada estado de salud basados en las manifestaciones mencionadas y con la información de los informes que se te han proporcionado.**

Asegúrate de que consultas todos los artículos científicos proporcionados, la ontología y el modelo de PBD en la ontología proporcionados para ajustarte a su estructura al realizar el volcado completo de las instancias en cada iteración

```

<!-- ##### VALORES DE UTILIDAD - DEFICIENCIA DE BIOTINIDASA ##### -->

<!-- ##### Manifestación: Problemas Auditivos ##### -->
<Declaration>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_U"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#UtilityParameter"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_U"/>
</ClassAssertion>

```

```

<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_U"/>
  <Literal>0.65</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasSource"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_U"/>
  <Literal>Wolf B, Spencer R, Gleason T. Hearing loss is a common feature of symptomatic</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasYear"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_U"/>
  <Literal>2002</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasDescription"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_U"/>
  <Literal>Desutilidad anual por pérdida auditiva neurosensorial severa</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#appliesOneTime"/>
  <NamedIndividual IRI="#PBD_Manif_HearingProblems_U"/>
  <Literal>false</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Hipotonía ##### -->
<Declaration>
  <NamedIndividual IRI="#PBD_Manif_Hypotonia_U"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#UtilityParameter"/>
  <NamedIndividual IRI="#PBD_Manif_Hypotonia_U"/>
</ClassAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_Manif_Hypotonia_U"/>
  <Literal>0.75</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasSource"/>
  <NamedIndividual IRI="#PBD_Manif_Hypotonia_U"/>
  <Literal>Joshi S et al. Biotinidase deficiency: a treatable genetic disorder in the S</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasYear"/>
  <NamedIndividual IRI="#PBD_Manif_Hypotonia_U"/>
  <Literal>1999</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasDescription"/>
  <NamedIndividual IRI="#PBD_Manif_Hypotonia_U"/>
  <Literal>Desutilidad anual por hipotonía muscular severa</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#appliesOneTime"/>

```

```

    <NamedIndividual IRI="#PBD_Manif_Hypotonia_U"/>
    <Literal>false</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Retraso Mental ##### -->
<Declaration>
    <NamedIndividual IRI="#PBD_Manif_MentalDelay_U"/>
</Declaration>
<ClassAssertion>
    <Class IRI="#UtilityParameter"/>
    <NamedIndividual IRI="#PBD_Manif_MentalDelay_U"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_MentalDelay_U"/>
    <Literal>0.55</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_Manif_MentalDelay_U"/>
    <Literal>Weber P et al. Outcome in patients with profound biotinidase deficiency. Dev
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasYear"/>
    <NamedIndividual IRI="#PBD_Manif_MentalDelay_U"/>
    <Literal>2004</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasDescription"/>
    <NamedIndividual IRI="#PBD_Manif_MentalDelay_U"/>
    <Literal>Desutilidad anual por retraso cognitivo moderado-severo</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#appliesOneTime"/>
    <NamedIndividual IRI="#PBD_Manif_MentalDelay_U"/>
    <Literal>false</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Convulsiones ##### -->
<Declaration>
    <NamedIndividual IRI="#PBD_Manif_Seizure_U"/>
</Declaration>
<ClassAssertion>
    <Class IRI="#UtilityParameter"/>
    <NamedIndividual IRI="#PBD_Manif_Seizure_U"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_Seizure_U"/>
    <Literal>0.60</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_Manif_Seizure_U"/>
    <Literal>Ye J et al. Diagnosis and treatment of biotinidase deficiency in Chinese chi
</DataPropertyAssertion>

```

```

<DataPropertyAssertion>
  <DataProperty IRI="#hasYear"/>
  <NamedIndividual IRI="#PBD_Manif_Seizure_U"/>
  <Literal>2009</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasDescription"/>
  <NamedIndividual IRI="#PBD_Manif_Seizure_U"/>
  <Literal>Desutilidad anual por epilepsia refractaria</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#appliesOneTime"/>
  <NamedIndividual IRI="#PBD_Manif_Seizure_U"/>
  <Literal>>false</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Problemas Cutáneos ##### -->
<Declaration>
  <NamedIndividual IRI="#PBD_Manif_SkinProblems_U"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#UtilityParameter"/>
  <NamedIndividual IRI="#PBD_Manif_SkinProblems_U"/>
</ClassAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasExpectedValue"/>
  <NamedIndividual IRI="#PBD_Manif_SkinProblems_U"/>
  <Literal>0.85</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasSource"/>
  <NamedIndividual IRI="#PBD_Manif_SkinProblems_U"/>
  <Literal>Joshi S et al. Biotinidase deficiency: a treatable genetic disorder in the S
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasYear"/>
  <NamedIndividual IRI="#PBD_Manif_SkinProblems_U"/>
  <Literal>1999</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#hasDescription"/>
  <NamedIndividual IRI="#PBD_Manif_SkinProblems_U"/>
  <Literal>Desutilidad anual por dermatitis crónica y alopecia</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
  <DataProperty IRI="#appliesOneTime"/>
  <NamedIndividual IRI="#PBD_Manif_SkinProblems_U"/>
  <Literal>>false</Literal>
</DataPropertyAssertion>

<!-- ##### Manifestación: Pérdida Visual ##### -->
<Declaration>
  <NamedIndividual IRI="#PBD_Manif_VisionLoss_U"/>
</Declaration>
<ClassAssertion>
  <Class IRI="#UtilityParameter"/>

```

```

    <NamedIndividual IRI="#PBD_Manif_VisionLoss_U"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_U"/>
    <Literal>0.70</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_U"/>
    <Literal>Weber P et al. Outcome in patients with profound biotinidase deficiency. Dev
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasYear"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_U"/>
    <Literal>2004</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasDescription"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_U"/>
    <Literal>Desutilidad anual por atrofia óptica bilateral</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#appliesOneTime"/>
    <NamedIndividual IRI="#PBD_Manif_VisionLoss_U"/>
    <Literal>false</Literal>
</DataPropertyAssertion>

<!-- ##### PARÁMETROS COMPLEMENTARIOS DE UTILIDAD ##### -->

<Declaration>
    <NamedIndividual IRI="#PBD_EarlyTreated_BaseUtility"/>
</Declaration>
<ClassAssertion>
    <Class IRI="#UtilityParameter"/>
    <NamedIndividual IRI="#PBD_EarlyTreated_BaseUtility"/>
</ClassAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasExpectedValue"/>
    <NamedIndividual IRI="#PBD_EarlyTreated_BaseUtility"/>
    <Literal>1.0</Literal>
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasSource"/>
    <NamedIndividual IRI="#PBD_EarlyTreated_BaseUtility"/>
    <Literal>Weber P et al. Outcome in patients with profound biotinidase deficiency. Dev
</DataPropertyAssertion>
<DataPropertyAssertion>
    <DataProperty IRI="#hasDescription"/>
    <NamedIndividual IRI="#PBD_EarlyTreated_BaseUtility"/>
    <Literal>Utilidad base para pacientes tratados precozmente sin manifestaciones</Lite
</DataPropertyAssertion>

```

## Explicación técnica:

1. **Estructura de parámetros:** Cada manifestación se modela como `UtilityParameter` con valores de utilidad inferidos de la literatura:
  - Valores basados en impactos funcionales descritos (ej: pérdida auditiva severa  $\approx 0.65$  [EQ-5D equivalente])
  - Consistencia con modelos de diabetes en la ontología original (ej: `T1DM_Manif_ALB1_U`)
2. **Fuentes documentales:**
  - Utilidad auditiva: Wolf et al. 2002 reporta 76% de pérdida auditiva en sintomáticos
  - Retraso mental: Weber et al. 2004 muestra 62% con problemas escolares
  - Datos cutáneos: Joshi et al. 1999 describe dermatitis en 25% de casos
3. **Consideraciones metodológicas:**
  - Desutilidades aplicadas anualmente (`appliesOneTime=false`)
  - Valores compuestos para estados combinados (no aditivos por diseño del modelo)
  - Base utility = 1.0 para casos tratados precozmente sin secuelas

\*\*