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National Institute of Health – Rome, Italy

NATIONAL REGISTRIES OF RARE DISEASES IN EUROPE: AN OVERVIEW BY THE EPIRARE PROJECT.

ICORD 2014, Ede (NL), 7-9 October, 2014
The RD Registries in EU

- More than 600 rare disease registries (Orphanet and other sources)
- No uniform standards for the storing and management of data
- Registries set up for a small fraction of rare diseases, multiple registries for the same disease
- Need to increase data comparability and sharing
- Need to harmonise existing regulations (EU, national and regional)
COUNCIL RECOMMENDATION on an action in the field of rare diseases (2009):

- Recommends that Member States support at all appropriate levels, for epidemiological purposes, registries and databases

Funding priorities include RD registries and disease networks

- EPIRARE – EU Platform for RD registries (Building Consensus and Synergies for EU Registration of RD patients)
- RD-Connect
- PARENT
- ERNs
- Other disease-specific projects

EU Platform for the Registration of RD patients (JRC, Ispra)
The European RDR Platform objectives

To Increase sustainability

To improve data comparability, by means:
- Reference set of Common Data Elements
- Reference coding and catalogues
- Reference data quality assurance procedures
- Provision of useful tools
The opportunity offered by National (institutional) registries

Improved epidemiological information on RD, by means of:

- Integration of multiple national sources
  - Mortality/Population Registry
  - E-prescription
  - Electronic Health Records

- Increased completeness of case ascertainment
  - E.g.: designation of CoE linked to case notification and follow-up
  - E.g.: Mandatory registration of patients
  - E.g.: Registration linked to prescriptions

- Appropriate management of data protection rules
  - E.g.: Legal basis of data collection
  - E.g.: Appropriate procedures for data protection
National (institutional) RD Registries

**Running:**
- Italy (2001)
- France (2005; 2007)
- Spain (2008)
- Belgium (2013)
- Nordic Countries (Denmark, Finland, Norway and Sweden): craniofacial diseases, being expanded to all very rare diseases
- Finland (a general disease registry, including RD)

**Under planning:**
- Bulgaria
- Germany (very rare and undiagnosed diseases)
- Sweden
National Registries of Rare Diseases in Europe: An Overview of the Current Situation and Experiences.


Abstract

The European Union (EU) policy for healthcare requires the establishment of a system of European Reference Networks, union-wide information databases, and registries for rare diseases (RDs) based on shared criteria. In pursuing its goals, the 'Building Consensus and Synergies for the EU Registration of RD Patients in Europe' (EPIRARE) project convened a meeting with experts of the competent health authorities to discuss the role of national institutional RD patient registries in supporting EU patient registration and the room for international cooperation. With this aim, this paper comparatively analyses the current situation of national institutional RD registries in the EU. © 2014 S. Karger AG, Basel.
# National Registries (NR) operation

<table>
<thead>
<tr>
<th>Country</th>
<th>Legal basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium, France, Italy</td>
<td>The NR activity is part of the mandatory activities of the healthcare network of centres dedicated to RD.</td>
</tr>
<tr>
<td>Spain</td>
<td>The NR is funded as a research project, with the Involvement of institutional, scientific, patient, and industry stakeholders.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Patient coding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium, Italy, Spain</td>
<td>Univocal, but not common, patient coding system</td>
</tr>
<tr>
<td>France</td>
<td>De-identification</td>
</tr>
</tbody>
</table>
## National Registries (NR) operation

<table>
<thead>
<tr>
<th>Country</th>
<th>Scope</th>
<th>Aims</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>All diagnosed RD</td>
<td>+patient recruitment, clinical research</td>
</tr>
<tr>
<td>France</td>
<td>All diagnosed RD</td>
<td>+patient recruitment, source integration (EHR)</td>
</tr>
<tr>
<td>Italy</td>
<td>All diagnosed RD</td>
<td>+clinical research (not supported yet)</td>
</tr>
<tr>
<td>Spain</td>
<td>All diagnosed RD</td>
<td>+patient recruitment, translational research,</td>
</tr>
<tr>
<td></td>
<td>surveillance, public health</td>
<td>social policies</td>
</tr>
<tr>
<td></td>
<td>planning +...</td>
<td></td>
</tr>
</tbody>
</table>
### National Registries (NR) operation

<table>
<thead>
<tr>
<th>Country</th>
<th>Common Data Elements (central repository)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>Patient ID code and demographic data, death date, registering centre and treating physicians codes; first symptom onset date, diagnosis and its features, and different options of patient consent.</td>
</tr>
<tr>
<td>France</td>
<td>Patient ID code and demographic data, patient consent, familiarity of the disease, death date and cause, drug treatment, services data, diagnosis and its features, fetus and newborn data, data on research participation and biological sample donations.</td>
</tr>
<tr>
<td>Italy</td>
<td>Patient ID code and demographic data, live or dead status and death date, diagnosis, diagnosis date, diagnosis centre data, first symptom onset date, prescribed orphan drug, cost exemption code</td>
</tr>
<tr>
<td>Spain</td>
<td>Temporarily: patient ID code, demographic data, diagnosis.</td>
</tr>
</tbody>
</table>
National Registries: hurdles or opportunities?

National Registries are developing independently from each other.

- Different CDEs
- Different patient univocal coding systems
- Partially overlapping aims
- Possibly different indicators
The Italian Network for the Registration of RD patients

NATIONAL REGISTRY FOR RARE DISEASES

Minimum Data Set

Regional Registry of RD - Interregional Reference Centre

Trusted Centres in a given region
**Rare Diseases in NRRD (2013)**

*grouped by ICD-9 Chapters*  
*(N = 110841 records)*

<table>
<thead>
<tr>
<th>Disease Category</th>
<th>Records</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diseases of the Central Nervous System and Sense Organs</td>
<td>28784</td>
<td>26</td>
</tr>
<tr>
<td>Congenital Anomalies</td>
<td>21836</td>
<td>19.7</td>
</tr>
<tr>
<td>Endocrine, Nutritional, Metabolic Diseases, and Immunity Disorders</td>
<td>19279</td>
<td>17.4</td>
</tr>
<tr>
<td>Diseases of the Blood and Blood-Forming Organs</td>
<td>18452</td>
<td>16.6</td>
</tr>
<tr>
<td>Diseases of the Musculoskeletal System and Connective Tissue</td>
<td>6124</td>
<td>5.5</td>
</tr>
<tr>
<td>Neoplasms</td>
<td>5596</td>
<td>5</td>
</tr>
<tr>
<td>Diseases of the Circulatory System</td>
<td>4738</td>
<td>4.3</td>
</tr>
<tr>
<td>Diseases of the Skin and Subcutaneous Tissue</td>
<td>3666</td>
<td>3.3</td>
</tr>
<tr>
<td>Diseases of the Digestive System</td>
<td>1484</td>
<td>1.3</td>
</tr>
<tr>
<td>Diseases of the Genitourinary System</td>
<td>627</td>
<td>0.6</td>
</tr>
<tr>
<td>Infectious and Parasitic Diseases</td>
<td>144</td>
<td>0.1</td>
</tr>
<tr>
<td>Certain Conditions Originating in the Perinatal Period</td>
<td>108</td>
<td>0.1</td>
</tr>
<tr>
<td>Symptoms, Signs, and Ill-Defined Conditions</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>
Thank you for your attention!

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The Spanish RDR
The Spanish RDR

From Manuel Posada, presented at the EPIRARE Workshop on National Rare Diseases Registries. Rome, 5 March 2014
The Spanish RDR

From Manuel Posada, presented at the EPIRARE Workshop on National Rare Diseases Registries. Rome, 5 March 2014
The French network

Domains, systems, objectives and interoperability

Objectives
- Public Health
- Epidemiology
- Patients support of care
- Clinical trials Cohorts

Systems
- Data bases
- Electronic Health Record
- Case Report Forms

Domains
- Epidemiology
- Care
- Research

Interoperability of systems and data

Source: BaMaRa 2013

From Paul Landais, presented at the EPIRARE Workshop on National Rare Diseases Registries. Rome, 5 March 2014
The French network

From Paul Landais, presented at the EPIRARE Workshop on National Rare Diseases Registries. Rome, 5 March 2014
The Ra.Di.Co. section

From Paul Landais, presented at the EPIRARE Workshop on National Rare Diseases Registries. Rome, 5 March 2014
The Ba.Ma.Ra. section

Inventory

Some figures...

- Reference centres
- Upcoming
- Other databases (in progress)
- CEMARA

- 350 medical care facilities
- 4,200 different diseases
- 235,000 patients

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