Revision of arthroplasty registers: international experiences

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Introduction

• Existing registers have been collecting data systematically

• A revision of these experiences could help in the development of a Spanish register of arthroplasties
Aim

• Describe the structure, functioning and content of international arthroplasty registers
Method

- Search on Internet of registers, technical reports and doctoral thesis

- Search on Pubmed of references to the development or validation of registers

Key words: arthroplasty, endoprosthesis, prosthesis, hip, knee, register, country (ex. Norway)

- Exhaustiveness
  - contact with key persons
  - register links in web pages
Method (II)

• Information on each register was described
  ✓ Name, contact details
  ✓ Structure, participants, financial sources
  ✓ Information sources
  ✓ Method to collect information
  ✓ Event determining effectiveness
  ✓ Variables collected
  ✓ Strategy of analysis and results
  ✓ Dissemination of results
  ✓ Quality of data
  ✓ Limitations of the register
  ✓ Other results from the register

• Content analysis was carried out
Results

Registers identified through the Internet and PubMed (n=15)

European registers
- Scotland (1999)
- Denmark (hip, 1995)
- Finland (1980)
- Italy (Emilia-Romana, 1990)
- Norway (1987)
- Rumania (2001)
- Sweden (hip, 1979)
- Sweden (knee, 1975)
- European Register (2002)

Other registers
- Australia (1999)
- Canada (2000)
- Ontario (2000)
- New Zealand (1998)

Registers identified through contact with key person (n=7)

- Germany
- Slovakia
- France
- Hungary
- Moldavia Republic
- Check Republic
- Turkey

* Dr. Gerold Labek, vice president of EAR register
## Structure and functioning

<table>
<thead>
<tr>
<th>Register</th>
<th>Finance source</th>
<th>Committees</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>England &amp; Wales</strong></td>
<td>- Government</td>
<td>- Clinical committee</td>
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<tr>
<td></td>
<td></td>
<td>- Regional advisory committee</td>
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<td></td>
<td></td>
<td>- Quality review committee</td>
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<tr>
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<td></td>
<td>- Investigation committee</td>
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<td></td>
<td></td>
<td>- Patient measures committee</td>
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<tr>
<td><strong>Norway</strong></td>
<td>- Government</td>
<td>- Scientific society committee</td>
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<td></td>
<td></td>
<td>- Advisory Committee</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Executive committee</td>
</tr>
<tr>
<td><strong>Sweden (knee)</strong></td>
<td>- Government</td>
<td>- Scientific society committee</td>
</tr>
<tr>
<td></td>
<td>- Specific grants</td>
<td>- Advisory Committee</td>
</tr>
<tr>
<td></td>
<td>- Lund hospital</td>
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<tr>
<td><strong>Australia</strong></td>
<td>- Government</td>
<td>- Scientific society committee</td>
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<tr>
<td></td>
<td>- Scientific society</td>
<td>- Advisory Committee</td>
</tr>
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<td></td>
<td>- Private companies</td>
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</tbody>
</table>
### Structure and functioning (II)

<table>
<thead>
<tr>
<th>Register</th>
<th>Information sources</th>
<th>Dissemination</th>
</tr>
</thead>
</table>
| **England and Wales** | - Clinical forms  
|                   | - MBDS                                                    | - Annual report        |
|                   |                                                          | - Internet site        |
|                   |                                                          | - Conferences          |
| **Norway**        | - Clinical forms  
|                   | - MBDS                                                    | - Annual report        |
|                   | - Vital statistics                                       | - Internet site        |
|                   | - Register for TB and CC                                  | - Conferences          |
|                   | - Norwegian register fractures                           | - Publications         |
| **Sweden (knee)** | - Clinical forms                                          | - Annual report        |
|                   | - MBDS                                                    | - Internet site        |
|                   | - Population census and vital statistics                 | - Conferences          |
|                   |                                                          | - Publications         |
| **Australia**     | - Clinical forms                                          | - Annual report        |
|                   | - MBDS                                                    | - Internet site        |
|                   | - Mortality register                                      | - Conferences          |
|                   | - Register of health costs                                |                        |
Outcome measures of registers

- Survival of the prosthesis is the main outcome of effectiveness

- In some registers additional follow-up studies are carried out
  - Satisfaction
  - Functional status
  - HRQL
  - Pain
  - Complications
  - Mortality
  - Costs
Collected variables

**Structure**
- **Hospital characteristics**
  - Type of hospital
  - Number of procedures
  - Type of operating theatre
  - Surgeon and assistant profile

**Process**
- **Surgical technique and procedure characteristics**
  - Type of prophylaxis and anaesthesia
  - Use of minimally invasive surgery
  - Bone grafts
  - Computer-assisted surgery
  - Trochanteric osteotomy

- **Prosthesis characteristics**
  - Type of arthroplasty (primary, revision, hip, knee)
  - Side (left, right)
  - Components: make, model, reference and batch number, use of cement, polyethylene insert

**Outcome**
- Prosthesis survival
- Complications
- Mortality
- Health related quality of life, pain, functional status or satisfaction with the procedure

**Health system**
- **Health system characteristics**
  - Accessibility or geographic variation

**Patients**
- **Patient characteristics**
  - Sex, age, personal identification code, place of residence
  - Primary diagnosis and reason for revision, comorbidities, previous interventions, height and weight, pre-surgical risk (ASA), bone defects
Limitations

- Missing information on registers in development, without Internet site
- Aspects not included in annual reports in some registers
- Need of external revision of this report
Registres internacionals d’artroplàsties
Vicky Serra-Sutton, Alejandro Allepuz


Els registres d’artroplàsties constitueixen una eina per a la vigilància epidemiològica i l’anàlisi de l’efectivitat de les intervencions segons els diferents models de protesi i els factors associats. L’objectiu d’aquesta revisió ha estat descriure la seva estructura, funcionament i variables recollides per ajudar en el disseny d’un registre d’artroplàsties a Catalunya.

Mètodes
Es va realitzar una cerca d’informes tècnics a Internet així com una revisió de la literatura relacionada amb el tema. L’objectiu principal va ser identificar les variables recollides en els registres d’artroplàsties internacionals.

www.aatrm.net
Preliminary conclusions

1. Newly created registers should have support of scientific societies and healthcare administration.

2. It is recommended to create committees related to the register.

3. A part from clinical forms, it is important to use other sources of information.
Preliminary conclusions (II)

4. The most effective strategy to collect data is an online automated data retrieval system.

5. It is important that each register defines the event that determines effectiveness.

6. Prosthesis survival, even if limited, is a robust outcome measure.
Preliminary conclusions (III)

7. It is necessary to report on other outcomes of effectiveness (pain, functional status).

8. It is recommended to develop an annual report and Internet site for the dissemination of results.

9. Information on the prosthesis, surgical technique, patients and centres should be collected.