An integrated pathway for Acquired Brain Injuries: a regional policy in Tuscany, Italy

Valeria Di Fabrizio

and E. Desideri, F. Posteraro, S. Rodella

on behalf of the Regional Workgroup for ABI

e-mail: valeria.difabrizio@arsanita.toscana.it

Regional Agency for Healthcare in Tuscany
Quality and Equity Unit Florence, Italy
Main Goals

Aim: to improve the continuum of care for Acquired Brain Injuries (ABI) in a regional population

**ABI** is injury to the brain which results in deterioration in cognitive, physical, emotional or independent functioning. ABI can occur as result of trauma, hypoxia, infection, tumour, substance abuse, degenerative neurological disease or stroke. These impairments to cognitive abilities or physical functioning may be either temporary or permanent and cause partial or total disability or psychosocial maladjustment. *(Department of Human Services and Health 1994)*

**ABIs are a crucial issue for healthcare and social services.**
## The size of the problem

<table>
<thead>
<tr>
<th>Country</th>
<th>EUROPE * (TBI) 330 millions</th>
<th>ITALY ** (ABI) 60 millions</th>
<th>TUSCANY ** (ABI) 3.5 millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incidence</td>
<td>775,500 per year (average rate 235/100,000 inhab)</td>
<td>6000-9000 per year</td>
<td>350-525 per year</td>
</tr>
<tr>
<td>Prevalence</td>
<td>3/4 million people (2003)</td>
<td>180,000-481,000 people</td>
<td>10,500-28,000 people</td>
</tr>
</tbody>
</table>


** Italian Consensus Conference (CC-Verona 2005)
The answer to the problem in Italy

1st CC, Modena 2000
- collect epidemiological data;
- define transferability criteria;
- define patients’ pathway

2nd CC, Verona 2005
- define long-term needs
- define intervention to improve community integration

How?

Gracer project – network which organizes post-hospital rehabilitation – [from 2001 and from 1st may 2004 start registry]

Giscar study – collect data on rehabilitation – [1st oct 2001 – 30th sept 2003]

National registry – online registry - [from June 2008]
Tuscany: problems to be solved

- Length of stay is too long in acute phase (high cost of ICUs)
- Access to early rehabilitation should be improved
- A standardized pathway is missing
- A better monitoring system is required
Tuscany: a good starting point

Size of the problem

- current data sources (hospital records, ....)
- clinical databases

Policy

- Regional health plans (2005-2010)
- Regional Working Groups and projects (2004-2008)
- 2008-2009: a new regional regulation and a system project
The size of the problem:
ABI in TUSCANY – current data sources


Yearly average cases

New BI

2.138

6 cases/die

alive

1.699 (79.5%)

dead in hospital

439 (20.5%)

26%

1 yr mortality

Our estimates are confirmed by the literature and clinical databases of ICUs
2009 regional regulation
The standardized pathway

Phase 1
Hyperacute
3-15 d (N=100)

Phase 2
Acute / sub acute
10-15 d /not >3 d after weaning (N=60)

Phase 3
Early intensive hospital rehabilitation
20-180 d (N=75)

Phase 4
Intensive hospital rehabilitation
10-40 d (N=45)

Phase 5 (a & b)
Vegetative state, minimum responsiveness or severe disability nursing home - LT care (N=20)

Home
Primary care to assist and monitor

Home
& rehabilitation (continuum of care)
Goals

- Standardized pathway (5 phases)
- Rehabilitation oriented model (phase 2)
- Length of stay (and cost) in acute phase reduced
- In-hospital pathway - including rehabilitation - better defined (max 10 months)
- Flexible transition across clinical and social phases ("circular model")
- Hospital beds better planned
Problems

- Admission to a hospital with neurosurgery and ICU
- Transfers across phases: strict protocols are needed
- Early rehabilitation: starting in phase 2
- Communication between hospital and primary care
Future monitoring of the project

Collaborative network ⇒ integrating data and actions

- Real Pathway
- Check regional pathway

Patient & family information needs in:
- disease
- social services available

To make accessible information

Current data source
Clinical database
COHORT of patients
survey
Conclusions

This model of care is now being implemented throughout the region, addressing some readjustments of hospital beds, shared adoption of clinical protocols and integration between social and health care, different professional skills and subsequent levels of care.

This standardized pathway establishes the foundation for improving ABI patient care in Tuscany.
Thank you!

you may contact me:

by mail: valeria.difabrizio@arsanita.toscana.it

by phone: +39 055 4624386