CONFERENCE

“Integrated services: organizational healthcare models in the framework of chronic diseases”.

THE EMILIA ROMAGNA REGION CHRONIC DISEASE MANAGEMENT IN PRIMARY CARE ORGANIZATIONAL MODEL

26-27 March 2018
Turin, C.so Regina Margherita, 174

Elena Berti
Agenzia Sanitaria e Sociale Regionale (ASSR)
## Health care in Emilia-Romagna

### A few figures (2017)

<table>
<thead>
<tr>
<th></th>
<th>Emilia-Romagna</th>
<th>Italy</th>
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</thead>
<tbody>
<tr>
<td>Residents (x 1,000)</td>
<td>4,457</td>
<td>60,589</td>
</tr>
<tr>
<td>% &gt; 65 yrs</td>
<td>23.7</td>
<td>22.2</td>
</tr>
<tr>
<td>GDP (000’s €), per capita</td>
<td>33.6</td>
<td>27.1</td>
</tr>
<tr>
<td>Infant mortality ‰</td>
<td>2.37</td>
<td>2.90</td>
</tr>
<tr>
<td>Public health expenditure (€), percapita</td>
<td>1,890</td>
<td>1,846</td>
</tr>
<tr>
<td>Hospital beds ‰ residents</td>
<td>3.9</td>
<td>3.2</td>
</tr>
</tbody>
</table>

*Source: Health for all Italy (2017)*

* Or nearest year
The Regional Health Service

- 8 Local Health Units
  - 38 Health Districts
  - 53 Hospitals
  - 103 Community Health Centers
- 5 Hospital Trusts (4 Teaching)
- 4 Research Hospitals

- 60,528 dipendenti del Ssr
- 26,154 infermieri
- 4,494 medici
- 2,993 GPs
Community Health Centers
(Casa della Salute: DGR 291/2010, DGR 2128/2016)

- single point of access for citizens
- continuity of care
- coordination of responses for citizens
- integration with the hospital
- prevention programs
- promotion of citizens’ participation
- ongoing education and training for healthcare workers
103 Community Health Centers
Coverage: 2 million residents
Population Health Management

A Regional Predictive Model - RiskER

• predictive model to identify patients at high risk of hospitalization and frailty, developed with Jefferson University (BMJ open 2014:4:e005223 Louis DZ)

• ‘patient risk profiles’ providing information on high-risk patients to general practitioners (GPs) and nurses in the Case della Salute (Community Health Centers)

http://assr.regione.emilia-romagna.it/it/servizi/pubblicazioni/rapporti-documenti/report-risker-2018
A Regional Predictive Model - RiskER

- risk of hospitalization for ACSC or death
- adult population of the Region
- use of regional health/administrative data
- Risk Score calculation
- high level of statistic accuracy (C= 0.85)
Concentration of expenditure: 1% patients...13% expenditure
84% of the residents are low risk...

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<th>PC</th>
<th>PR</th>
<th>RE</th>
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<th>IM</th>
<th>FE</th>
<th>ROM</th>
<th>RER</th>
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<tbody>
<tr>
<td></td>
<td>83.6</td>
<td>84.6</td>
<td>85.7</td>
<td>85.2</td>
<td>84.0</td>
<td>83.8</td>
<td>82.0</td>
<td>84.3</td>
<td>84.3</td>
</tr>
</tbody>
</table>
....3.3% are very high risk
Risk-ER Users

Community Health Centres

- GPs
- Hospital specialists
- Nurses
- Social workers
- FKT
- Voluntary sector
Risk-ER Actions

✓ Risk Profiles provided to GPs

✓ Activation of Professional Teams
  ✓ GPs, specialists, nurses, physiotherapists, social workers
  ✓ a proactive response...

✓ Interdisciplinary Paths
  ✓ prevention, clinical appropriateness and adherence, health education...

✓ Participation of Community,
  ✓ Patients, Caregivers, Associations
Risk-ER project results in 6 CHC

3.453 high risk patients

2.568 very high risk patient

Social care

No action (patient already known)

Medical encounter to discuss therapy

Compliance improvement programs

Drug therapy review

Home care activation

Chronic care management programs

Social care

No action (patient already known)

Medical encounter to discuss therapy

Compliance improvement...

Drug therapy review

Home care activation

Chronic care management...
Gli aspetti organizzativi.
La valutazione di impatto quantitativa.
La valutazione qualitativa

http://www.ccm-network.it/progetto.jsp?id=node/1904&idP=740
6/12 months Risk-ER/individual care plan (PAI) monitoring

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<thead>
<tr>
<th></th>
<th>6 months</th>
<th>12 months</th>
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<tbody>
<tr>
<td></td>
<td>PAI monitored/PAI activated</td>
<td>Interrupted PAI</td>
</tr>
<tr>
<td>Emilia Romagna</td>
<td>458/488</td>
<td>30</td>
</tr>
<tr>
<td>Veneto</td>
<td>273/330</td>
<td>30</td>
</tr>
<tr>
<td>Toscana</td>
<td>410/464</td>
<td>45</td>
</tr>
<tr>
<td>Sardegna</td>
<td>131/131</td>
<td>32</td>
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</table>
The evaluated Risk-ER cohort

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>%</th>
</tr>
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<tbody>
<tr>
<td>M</td>
<td>221</td>
<td>45.2</td>
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<table>
<thead>
<tr>
<th>Age classes</th>
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<tbody>
<tr>
<td>45-59</td>
<td>24</td>
<td>5</td>
</tr>
<tr>
<td>60-74</td>
<td>54</td>
<td>11</td>
</tr>
<tr>
<td>75-84</td>
<td>140</td>
<td>30</td>
</tr>
<tr>
<td>85+</td>
<td>258</td>
<td>53</td>
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<table>
<thead>
<tr>
<th>Chronic diseases number</th>
<th></th>
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<tbody>
<tr>
<td>1</td>
<td>115</td>
<td>23.6%</td>
</tr>
<tr>
<td>2</td>
<td>288</td>
<td>59.0%</td>
</tr>
<tr>
<td>3</td>
<td>54</td>
<td>11.1%</td>
</tr>
<tr>
<td>4</td>
<td>23</td>
<td>4.7%</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>1.6%</td>
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# RISK-ER CLINICAL IMPACT EVALUATION

<table>
<thead>
<tr>
<th></th>
<th>Exposed incidence rate (n=488)</th>
<th>Not exposed incidence rate (n=488)</th>
<th>Incidence rate ratio (exposed vs not exposed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>95%CI</td>
<td>Value</td>
</tr>
<tr>
<td>Emergency departments visits</td>
<td>236 (48,4)</td>
<td>(43,9-52,8)</td>
<td>299 (61,3)</td>
</tr>
<tr>
<td>Hospital admissions</td>
<td>107 (21,9)</td>
<td>(18,3-25,6)</td>
<td>136 (27,9)</td>
</tr>
<tr>
<td>ACSC admissions</td>
<td>22 (4,5)</td>
<td>(2,7-6,3)</td>
<td>36 (7,4)</td>
</tr>
<tr>
<td>Mortality</td>
<td>20 (4,1)</td>
<td>(2,3-5,9)</td>
<td>27 (5,5)</td>
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</table>
Evaluation of CHC disease management programs

- Patient Assessment Chronic Illness Care-PACIC:

  Patients point-of-view in cooperation with patients’ associations (CHF, diabetes, COPD, ESRD)

- Assessment Chronic Illness Care- ACIC:

  Health care team point-of-view focus-group: GPs, nurses, social workers, ambulatory specialists, Primary Care Department)
Patient Assessment Chronic Illness Care-PACIC

Participation in the definition of care pathways

- Interaction: 55.8
- Sustainability: 81.4
- Identification of clinical tasks: 66.9
- Counselling: 69.1
- Follow-up: 55.6
Future actions

• Risk-ER tool diffusion to other CHC
• Ministry of Health Grant (CCM 2017): Emilia-Romagna, Lombardia, Lazio, Campania:
  – Economic evaluation of risk stratification
  – Impact of risk stratification on outcome indicators
  – Analysis of motivational tools (counselling, conversation maps, Barrows Cards,...)
  – Impact on professional integration (PACIC, ACIC)
THANKS FOR YOUR ATTENTION

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