interRAI Palliative Care for assessment of patient’s needs: Italian Teseo-Arianna Project

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Director of the Section for the implementation of the principles in Law 38 of 15 March 2010, containing rules to ensure the access to palliative care and pain therapy - Technical Committee for Health - Ministry of Health (DM 20 May 2015 Ministry of Health)
Agenda

1. Introduction
2. Identification
3. Assessment
4. Results
5. Conclusions
PUBLIC HEALTH’S FUTURE CHALLENGE
How to improve care of identified patients? (1/2)

<table>
<thead>
<tr>
<th></th>
<th>Actions</th>
<th>Recommendations</th>
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</table>
| 1 | **Multidimensional assessment** of situation and start of integrated person-centered care | Explore all dimensions (physical symptoms, emotional, social, spiritual, ...) with validated tools  
Start integrated care process  
Assess caregivers’ needs |
| 2 | Explore values, performance and worries of patients and families       | Gradually start Advance Care Planning                                             |
| 3 | **Revise illness/condition** status                                    | Revise status, prognostic, objectives, possible complications Recommendations for prevention and response to crisis.  
Bear in mind static (severity) and dynamic (evolution or progression) aspects |
| 4 | Revise treatment                                                       | Update objectives, therapeutic adjustment, de-prescribing if necessary, therapeutic conciliation among services |
| 5 | Identify and take care of main caregiver                               | Needs and demands: Assessment (caring capacity, adjustment, complicated grief risk), Education and support, Empowerment |
How to improve care of identified patients? (2/2)

<table>
<thead>
<tr>
<th>Actions</th>
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<tbody>
<tr>
<td><strong>6</strong> Involve team and identify responsible</td>
<td>In: Evaluation, Therapeutic Plan, Roles Definition in follow-up and emergency care</td>
</tr>
<tr>
<td><strong>7</strong> Define, share and start Comprehensive and Multidimensional Therapeutic Plan</td>
<td>Respecting patients’ preferences, managing all dimensions, using the square of care, involving teams</td>
</tr>
<tr>
<td><strong>8</strong> Integrated Care: Organize care provision with all services involved with particular focus on defining the role of the specific palliative care and emergency services</td>
<td>Start case management and preventive care, shared-decisions process, care pathways between services, organizing transitions, building consensus among services, involve patients in the proposals</td>
</tr>
<tr>
<td><strong>9</strong> Registry and share relevant clinical information with all services involved</td>
<td>Shared clinical charts, sessions</td>
</tr>
<tr>
<td><strong>10</strong> Assess, review and monitor results</td>
<td>Frequent reviews and updates, audit post-care, generate evidence</td>
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### How to improve palliative care in health and social services? (1/2)

<table>
<thead>
<tr>
<th>Measures to improve palliative care</th>
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<tbody>
<tr>
<td>1. Design, establish and protocol a <strong>formal proposal of improvement</strong></td>
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<tr>
<td>2. <strong>Determine prevalence and identify persons</strong> with palliative care needs with validated instruments</td>
</tr>
<tr>
<td>3. Establish protocols, registries and instruments based on evidence to <strong>assess patients’ needs</strong> and respond to the most prevalent ones</td>
</tr>
<tr>
<td>4. <strong>Train the healthcare professionals</strong> in palliative care</td>
</tr>
<tr>
<td>5. Identify main <strong>caregivers</strong> and offer them support and education, including grief care</td>
</tr>
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How to improve palliative care in health and social services? (2/2)

<table>
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<tr>
<th>Measures to improve palliative care</th>
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<tbody>
<tr>
<td>6 Increase team work</td>
</tr>
<tr>
<td>7 In services with high prevalence, designate specific professionals (referents) with or advanced intermediate education and specific timeframes for palliative care</td>
</tr>
<tr>
<td>8 Increase offer and intensity of caring focused on improving identified patients’ quality of life</td>
</tr>
<tr>
<td>9 Integrated care: to establish care pathways, intervention criteria for conventional and specific services, to define roles in conventional, continuous and urgent care, to coordinate and share information among settings</td>
</tr>
<tr>
<td>10 Take into account and respond to ethical challenges of timely identification: to promote benefits and reduce risks and guaranteeing the patients’ rights</td>
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Objectives

✔ Foster the assess to PC by early identifying people with chronic diseases, both cancer and non cancer, with limited life expectancy

✔ To test, within the Local Network of PC, an organizational model based on multidimensional evaluation and on the integration between primary and specialized care, as expected by the intesa Stato Regioni del 25/7/2012

Methods

✔ The adoption of certified tools able to guarantee the early identification (GSF) and the multidimensional assessment of patients with needs of Palliative Care (interRAI – PC)

✔ The creation of a structured and efficient system to communicate clinical care information within all professionals (Teseo-AriannaMG e Atlante)

✔ The evaluation of interventions through the systematic collection and statistical analysis of structural, process and outcomes indicators
Methods – Multicenter observational longitudinal study

The study involved:

- **10 Home Palliative Care Units (HPCUs):**
  - **Primary PC** (GPs + consult by PC physician and nurse)
  - **Specialized** (PC physician and nurse + GPs and other professionals)

- **94 GPs**
Local Network of Palliative Care

GPs

Hospital

Patient and family

Hospice

HPCU
Teseo-Arianna’s Focus

- GPs
- Patient and family
- HPCU
- Hospital
- Hospice
Methods – Study Design

1st Mar 2014 to 31 Aug 2015

- T0
- T1-T2

- GPs' identification
- HPCU assessment
- HPCU take in charge
- Death

START
RECRUITING
TOTAL OBSERVATION TIME
END OF STUDY
Methods – ICT infrastructure and data exchange

Positive to the surprise question

Home Palliative Care Unit (HPCU)

Consulting using interRAI PC

Assistance w/ Palliative Care Assessment

Primary PC

Specialized PC

Deceased

T₀

T₁b/₁s/₂

GP Clinical record

Managed through interRAI PC

HPCU

• InterRAI PC
• Hospital discharge form
• Emergency Room
• Service delivered

Not assisted or assisted In Hospice

Not managed

Web Services

BOARD (anonymous data from HPCU)
Results – Flow Chart

Patients assisted by GPs
N=139,071

Early Identified by GPs
N=937

Sent to HPCUs for MDA
N=433

Patients assisted by HPCUs
N=329

interRAI Assessment System
interRAI Palliative Care (PC)

interRAI

the gold standards framework

Atl@nte
Key Points

1. IDENTIFICATION
   - Early identification

2. ASSESSMENT
   - Impeccable assessment

3. PLAN

The Italian Teseo-Arianna Project
Gianlorenzo Scaccabarozzi, MD

April 13, 2016
Results - Early identification

Tool based on GSF («GSF Prognostic Indicator Guidance»):

- **Surprise Question**: “Would you be surprised if this patient were to die in the next 12 months?”
- General indicators of decline-deterioration
- Specific clinical indicators related to certain conditions

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>&gt; 75 years</th>
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<tbody>
<tr>
<td>Identified T0</td>
<td>937</td>
<td>732</td>
</tr>
<tr>
<td>% on Assisted Patients</td>
<td>0.67%</td>
<td>3.67%</td>
</tr>
</tbody>
</table>

**Positive Predictive Value (PPV)** of the tool = Dead before 1 year / All identified

\[
\frac{517}{937} = 55.2\%
\]

## Results - Main characteristics of Patients (N = 937)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coding</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age in years, median</td>
<td>Years</td>
<td>82.4 (IQR= 12.9)</td>
</tr>
<tr>
<td>Sex, n (%)</td>
<td>F</td>
<td>515 (55.0%)</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>422 (45.0%)</td>
</tr>
<tr>
<td>Cancer</td>
<td>Yes</td>
<td>556 (59.3%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>381 (40.7%)</td>
</tr>
<tr>
<td>Deceased</td>
<td>Yes</td>
<td>517 (55.2%)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>420 (44.8%)</td>
</tr>
</tbody>
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Multidimensional Assessment in Palliative Care

1\textsuperscript{a} Generation
Evaluation of only one problematic area
E.g.: ADL, IADL, MMSE, etc..

2\textsuperscript{a} Generation
They have all-comprehensive value (>350 items)
They are specific for settings of care
They include symptoms evaluation, scales and treatments

3\textsuperscript{a} Generation
They are the actual evolution: E.g. Inter RAI
Modularity: 70\% of common items, 30\% «specific» settings
They foster the continuity of information management
They support the care planning
They stimulate the development of ICT

R. Bernabei et al. “Second and Third Generation Assessment Instruments: The Birth of Standardization in Geriatric Care”. Journal of Gerontology 2008 Vol. 63\textdegree, N\textdegree 3 308-313
Multidimensional Assessment and «dynamic» governance of care pathway

- **PLAN**
- **DO**
- **CHECK**
- **REASSESSMENT?**

**Results Control**

**Multidimensional Assessment**

**Care Plan**

YES

NO
InteRAI - Palliative Care

### Dyspnea

- Not taken in charge: 21%
- Taken in charge: 92%
- Basic service: 57%
- Specialized service: 127%

### Fatigue

- Not taken in charge: 36%
- Taken in charge: 81%
- Basic service: 31%
- Specialized service: 108%

### Delirium

- Not taken in charge: 19%
- Taken in charge: 92%
- Basic service: 33%
- Specialized service: 112%

### Pain

- Not taken in charge: 15%
- Taken in charge: 48%
- Basic service: 15%
- Specialized service: 33%

### Undernutrition

- Not taken in charge: 10%
- Taken in charge: 60%
- Basic service: 24%
- Specialized service: 46%

### ADL Hierarchy Scale

- 3-6: 14%
- 0-2: 45%
CHESS measures the clinical complexity and instability of the health status such as: vomiting, dehydration, leftover food, weight loss, shortness of breath, edema, the final stage of the disease, the decline cognition and ADL.

Higher scores indicate higher levels of clinical complexity.
Survival Analysis stratified by CHESS index

### COX MODEL: Factors associated with mortality

<table>
<thead>
<tr>
<th></th>
<th>HR</th>
<th>lower .95</th>
<th>upper .95</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEX</td>
<td>M</td>
<td>1.360</td>
<td>1.0377</td>
</tr>
<tr>
<td>ONC</td>
<td>onc</td>
<td>2.943</td>
<td>2.1864</td>
</tr>
<tr>
<td>PHP.</td>
<td>CHESS.1</td>
<td>1.462</td>
<td>0.9730</td>
</tr>
<tr>
<td>PHP.</td>
<td>CHESS.2</td>
<td>1.335</td>
<td>0.8847</td>
</tr>
<tr>
<td>PHP.</td>
<td>CHESS.3</td>
<td>2.836</td>
<td>1.7894</td>
</tr>
<tr>
<td>PHP.</td>
<td>CHESS.4</td>
<td>3.319</td>
<td>1.9804</td>
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</tbody>
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Relation CHESS and professionals’ accesses

Relation between NURSE accesses and CHESS

Relation between MED accesses and CHESS

Group 0: CHESS 0,1
Group 1: CHESS 2,3,4

Kruskal-Wallis test (H0: same median):

p-value = 0.004618

p-value = 0.0002862
Results

HOSPITALIZATION RATE

PLACE OF DEATH
Hospitalization rate for 1.000 - T0-T2 path

Avoidable hospitalizations?

- T0 - T2 >= 3 months: 1.646,0
- T0 - T2 >= 6 months: 1.391,3
- T0 - T2 >= 9 months: 1.018,0
- T0 - T2 >= 12 months: 941,7

PERSON YEAR

- T0: 148,8
- T0: 112,1
- T0: 68,8
- T0: 5,830,0
Conclusions / 1

Why is it necessary an integrated care path?
• The needs have changed (patients with advanced and chronic conditions)
• It is necessary to reorganize the network of services, designing new models
• It is essential to adopt appropriateness criteria (evidence of effectiveness, fairness, proportionality, ethics, sustainability)

Which are the core features?
• Early identifications
• Multidimensional assessment
• Care planning
• Multidisciplinary
• Training of professionals
What is needed to achieve it?

• Shared protocols between primary and specialized care
• Primary Palliative Care (patients and families in touch with PC)
• Organizational and welfare standards (PC network, Primary PC, Specialized PC)
• Dedicated information systems ICT

How to measure the results?

• Process indicators: care planning in relation to assessed needs, intensity and duration of primary care, intensity, complexity and duration of PC
• Outcome indicators: symptoms control, use of hospital admissions, place of death