The Public Health Approach to Palliative Care

A. Catalonia World Health Organization Demonstration Project

In 1989, the Health Department of Catalonia (Spain) and the Cancer Unit at the WHO (Geneva) designed and planned a demonstration project for implementation of palliative care resources and services, based on the WHO Public Health Model.

The project’s aims were to:
1) implement palliative care services throughout Catalonia (cancer/non cancer) and
2) serve as a model for other countries/governments

The objectives of the Catalonia WHO Demonstration Project (WHO DP) were to achieve:
- public coverage for cancer and non-cancer patients,
- easy access to palliative care by every person who need it,
- equity in access across the region,
- high quality palliative care that is effective and efficient.

The project was initiated at the end of 1990, and evaluated at 10, 15, and 20 years after initiation. The following section sheds light on the implementation elements and results of the Catalonia WHO project over a period of 20 years.

Overview
Catalonia is one of Spain’s richest and most highly industrialised regions. About 17% of the 7.3 million population is older than 65 years (2009). The life expectancy is 79 years for men and 85 years for women (2010). There are 59,500 deaths per year (2009), chronic conditions account for more than two thirds of all deaths, (35,700 to 44,600 deaths): 28% of all deaths are due to cancer, and 32% to 47% are due to noncancer illnesses. Health care Catalonia is financed publicly and services are provided by a mixture of public and non-profit organizations. Health care resources include hospitals, an extended primary care system, and socio-health centres that care for geriatric, terminally ill, and chronically ill patients by offering rehabilitation, day-care and long-term care.

Project Implementation Highlights
To achieve the project’s objectives, the following elements of the WHO Public Health Model and related activities were implemented:

1. Assessment of population needs

Population needs for palliative care were assessed before initiating the project and periodically to inform planning and evaluation of palliative care services. To estimate the size of the populations in need of palliative care services, mortality data and prevalence estimations for chronic conditions in Catalonia were used, assuming:

- A mean duration of terminal status of 3 months for cancer patients and 9 to 12 months for non-cancer patients, and
- That 60% to 70% of the patients dying from cancer and 30% to 60% of patients with non-cancer life-limiting illnesses need palliative care interventions (Optimal direct coverage).

In 2009 the population needs assessment revealed that a total of 20,000 to 31,000 patients with chronic conditions needed palliative care (10,000 cancer patients and 10,000 to 21,000 non-cancer patients).

Results: Knowing this information, the planning for palliative care services was modelled within the context of disease demographics, socioeconomics, and health care system structure and resources of each of the 14 districts in Catalonia.

2. Restructuring the health services system

For each district, a palliative care service model was developed. The model outlines the levels of palliative care services using various demographic scenarios and proposes ways to integrate palliative care into the conventional health system using resources that already exist in the district. Criteria to access each level/type of palliative care services were described. (See Table 2)

### Table 2 Demographic scenarios and proposals of organization of specialist palliative care services

<table>
<thead>
<tr>
<th>Demographic Area</th>
<th>Demography (Citizens, n)</th>
<th>Examples</th>
<th>Conventional Resources</th>
<th>Proposed Model of PC Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metropolitan</td>
<td>500,000</td>
<td>5 areas of metropolitan Barcelona (Central, North, South)</td>
<td>University hospital reference + general hospitals + SHCs</td>
<td>Reference PCS (PCU, OC, HST, and training and research) at the University hospitals 2–3 SHCs with units</td>
</tr>
<tr>
<td>Urban</td>
<td>200,000</td>
<td>5 urban areas: Girona, Tarragona, and Lleida</td>
<td>University general hospital + 1–3 SHCs</td>
<td>HST + OC in hospital + PCU in hospital and/or SHC</td>
</tr>
<tr>
<td>Rural-Urban</td>
<td>80–150,000</td>
<td>16 districts: Osona, Bages, Empordà, and others</td>
<td>District general hospital + SHC</td>
<td>1 HST, 1 HCST 1 PCU in hospital or SHC Preferably as comprehensive system</td>
</tr>
<tr>
<td>Rural</td>
<td>&lt;50,000</td>
<td>High Pyrenees</td>
<td>Community hospital + SHC</td>
<td>Comprehensive system with an HST/HCST mixed acting in all levels No PCU needed</td>
</tr>
</tbody>
</table>

1 HCST/district/100,000 inhabitants + 1 HST in every hospital

*PCS = palliative care service (including one or more resources); PCU = palliative care unit; OC = outpatient clinic; HST = hospital support team; SHC = social health center (center with PC + intermediate + rehabilitation + long-term psychogeriatric care); HCST = home care support team.*

*From Gómez-Blas et al., 2010.*
Results:

- In 2010, there were 237 specialized palliative care services compared to only 2 palliative care units in acute hospitals in 1989. A typical palliative care service includes: a 16-bed unit, an outpatient clinic, a day unit, and a home care team.
- Palliative care services integrated into all levels of the health care system.
- More than 50% of services are provided in a community setting, nevertheless 83% of hospitals provide palliative care services.
- The number of doctors providing fulltime palliative care increased from 118 in 2001 to 240 in 2010.

Table 3 Catalonia WHO Project- Palliative Care Services (1989-2010)

<table>
<thead>
<tr>
<th>Types of Palliative Care Services</th>
<th>1989</th>
<th>2001</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home care support teams*</td>
<td>0.5</td>
<td>52</td>
<td>70</td>
<td>72</td>
</tr>
<tr>
<td>Palliative care units</td>
<td>1</td>
<td>50</td>
<td>63</td>
<td>60</td>
</tr>
<tr>
<td>Hospital support teams</td>
<td>0.5</td>
<td>20</td>
<td>34</td>
<td>49</td>
</tr>
<tr>
<td>Outpatient clinics</td>
<td>—</td>
<td>—</td>
<td>14</td>
<td>50</td>
</tr>
<tr>
<td>Psychosocial support teams</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total services</strong></td>
<td>2</td>
<td>122</td>
<td>181</td>
<td>237</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Location of Palliative Care Services</th>
<th>1989</th>
<th>2001</th>
<th>2005</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>2</td>
<td>31</td>
<td>NA</td>
<td>49</td>
</tr>
<tr>
<td>Sociohealth centres</td>
<td>—</td>
<td>39</td>
<td>NA</td>
<td>60</td>
</tr>
<tr>
<td>Community</td>
<td>—</td>
<td>52</td>
<td>NA</td>
<td>128</td>
</tr>
<tr>
<td><strong>Total services</strong></td>
<td>2</td>
<td>122</td>
<td>181</td>
<td>237</td>
</tr>
</tbody>
</table>

3. Development of a public financing system for palliative services.

Results:

- Palliative care services including medications are offered completely free of charge at the point of care.

4. Legislation and standards

- Change/revise legislation and standards governing provision of services to ensure high quality, culturally sensitive, consistent and equitable services to all those in need.
- Revise legislation/policies governing availability and delivery of opioid analgesics to support effective pain management in palliative care.

Results:

- Right of access to palliative care became a basic human right in the Catalan Government’s Statute on Health.
- In 1990, palliative care services were legislated by a government decree.
In 1993, the Catalan standards for palliative care services were released. The standards emphasize multi-professional care, advance care planning, continuing care, and case management as essential elements in service provision. In 1993, morphine/opoid availability and delivery were promoted by a decree of the Spanish Ministry of Health.

5. Training and education of primary health care professionals

Results:
- Training: About 70% of the primary care professionals received training in palliative care (3.4% up to Advanced/Master’s degree, 15.2% intermediate, and 51.9% basic level).
- Education: A total of 423 health care professionals (60% physicians and 40% nurses) earned a Master’s degree in palliative care at the University of Barcelona. All nursing schools, 50% of medical schools, and social work courses now include modules of palliative care. Most generalists have a 1-2 month palliative care course included in their training.

6. Develop a monitoring and evaluation strategy to drive quality improvement

Results:
- The activities, outputs, and outcomes of the project have been evaluated periodically over 20 years. The results of 3 comprehensive evaluations were published in the Journal of Pain and Symptom Management.
- The problems encountered during implementation were addressed through improvement actions.

7. Promoting research and innovation

Results:
- Several palliative research and training units were established.
- From 1998 to 2010, five epidemiological studies, three clinical trials, five observational studies and 3 qualitative studies were conducted. The gaps detected through these studies prompted program improvement activities.
- The WHO established (QUALY) observatory, a WHO Collaborating Centre for Public Health Palliative Care Programs, at the Catalan Institute of Oncology to support other countries in the development of palliative care programs as an element of public health element, and to generate evidence and knowledge in the field through research.

Project Outcomes
- High coverage (indicating easy equitable access to care)
  - As of 2010, 100% of the population in Catalonia have access to a wide range of palliative care services that are available in acute care hospitals, socio-health centres, and in the community throughout the 14 rural and urban districts. The 10 and 15
The Public Health Approach to Palliative Care

Year evaluations also reported high geographic coverage (~ 95%). This indicates easy equitable access to care by anyone who needs it.
- The palliative care coverage for cancer is one of the highest described (>70%)
- Between 30-50% of advanced geriatric and chronically ill patients received palliative care in their homes or a community setting.
- AIDS patients and children facing a terminal illness have access to palliative care beds designated to them.

- **Majority of deaths occurred at home or in the community**
  - 60% of the patients who received home care support services died at home.
  - Home care support teams treat 50% of the population estimated to be in need for palliative care each year.

- **Significant reduction in severity of symptoms**
  - On a visual analogue scale, the level of pain reported by 396 patients who received palliative care was very low (the mean basal pain mean was 2.9 and the median was 2.0). \(^{118}\)
  - More than 90% of another group of patients reported improved level of pain after receiving palliative care and 83.2% of the patients in the same group said that their dyspnea was managed effectively.
  - The effective control of pain has been attributed to the increase in opioid prescription to patients with late stage cancer.

- **Patients highly satisfied with the care they received**
  When asked, patients were highly satisfied with the care they received (the mean satisfaction score for 100 patients was 8.5/10 exceeding the mean satisfaction score of 7.2/10 for other health care services in Catalonia.). Emotional support, providers’ communication, and perception of safety were the aspects that received the highest scores.

- **Remarkable reduction in use of acute resources leading to huge savings**
  - During the 20 years that followed the project initiation (1990 - 2010) a radical yet sustained reduction in the utilization pattern of acute services resources was observed. \(^{119} 120\) (See Table 4)

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This resulted in substantial cost savings for the health system: a net saving of 8 million Euros/year in 2005 (at 15 years) and 16.7 million Euros/year in 2010 (at 20 years).

### Table 4 Catalonia WHO Project- Achieved outcomes 2001-2010

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<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Patients needed palliative care (n)</td>
<td>(~ 20,000 – 31,000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patients received care (n)</td>
<td>9,000</td>
<td>21,400</td>
<td>23,100</td>
<td></td>
</tr>
<tr>
<td>Service Coverage - Geographic area cover (%)</td>
<td>95%</td>
<td>&gt;95%</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Service Coverage – Cancer (%)</td>
<td>67%</td>
<td>79%</td>
<td>73%</td>
<td></td>
</tr>
<tr>
<td>Service Coverage – Non-cancer (%)</td>
<td>NA</td>
<td>25–57%</td>
<td>31-58%</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Resource Utilization</th>
<th>121</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital admissions</td>
<td>63%</td>
</tr>
<tr>
<td>Emergency department use</td>
<td>52%</td>
</tr>
<tr>
<td>Mean length of stay in hospital (days)</td>
<td>12.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Costs and Savings</th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>Total cost of palliative services (millions)</td>
<td>€40.3</td>
<td>€52.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total savings (millions)</td>
<td>€48.0</td>
<td>€69.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net savings (millions)</td>
<td>€3.0</td>
<td>€8.0</td>
<td>€16.7</td>
<td></td>
</tr>
<tr>
<td>Net savings per patient received palliative care</td>
<td></td>
<td></td>
<td></td>
<td>€690.0</td>
</tr>
</tbody>
</table>

### Conclusion

The Catalonia WHO Public Health Palliative Care Project demonstrated a systematic and comprehensive approach to establishing/integrating palliative care services into a health system. More importantly, the Project provided clear evidence for the effectiveness and efficiency of a whole system model of the public health approach to high quality seamless palliative care that is readily available at all care settings and provided by competent multi-professional teams. Catalonia’s experience indicated that shifting the use of acute resources to palliative care beds for treating advanced disease inpatients in a publicly funded and freely accessible health system improves the quality of care at end-of-life, lessens patients’ suffering, and generates substantial cost savings for the health system.

**Figure 10 Catalonia WHO Public Health Palliative Care Project: Results at 10, 15, and 20 Years**

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The Catalonia WHO Demonstration Project for Public Health Palliative Care Implementation: Results at 10, 15 and 20 Years.

**Strategic Plan**
- Assessment of population needs
- Define criteria of access to specialist PC
- Develop a model of care that uses a systematic approach to assess and address the multidimensional needs of patients and their families
- Change legislations/policies governing provision of services to ensure: high quality, culturally sensitive, consistent and equitable services to all those in need
- Revise legislations/policies governing delivery of opioid analgesics
- Develop a palliative care funding model
- Train all health care professionals in basic PC competencies
- Integration of basic PC into conventional health care services
- Make specialist PC services available throughout the health care system
- Develop professional standards
- Develop monitoring & evaluation strategy.
- Promote and support research

**Results**
- **Geographic Coverage**: 95%
- PC services are completely free of charge at the point of care
- PC services extended to advanced geriatric and chronically ill patients.
- Increase in number of Home care support teams in all settings*
- Improvement in pain management (On a visual analogue Scale: Mean basal pain: 2.9 Median: 2.0 for 396 patients)
- Health care professionals highly satisfied with training they received (Mean score is 8.4/10)
- A Palliative Research Group was set up
- Fewer hospital admissions, ER visits and shorter length of stay

**Services - Accessibility, Uptake, Quality**
- **Geographic Coverage**: > 95%
- 79% of cancer patients received PC.
- 25–57% of people dying from non-cancer conditions received PC.
- % of deaths at home increased
- 25% increase in opioid consumption for management of pain in cancer patients

**Patients**
- Highly satisfied with received care (Mean score is 8.5/10) – Satisfaction is higher with emotional support and communication with providers
- Significant reduction in severity of symptoms: pain, weakness, insomnia, and anxiety

**Resource Utilization**
- Fewer hospital admissions and ER visits
- Shorter length of stay

**Results**
- **Geographic Coverage**: 100%
- 73.3% of cancer patients received PC.
- 31%-58% of people dying from non-cancer conditions received PC.
- All effective drugs needed for PC are made available and accessible and are funded, for the most part, by the NHS.

**Patients**
- 91% had a multidimensional assessment
- 91.8% reported improved level of pain
- 83.2% their dyspnea was managed effectively.

**Primary Care Professionals**
- 70.5% of primary care professionals received training in PC

**Research and Training Unit** established
**Surveillance Unit** established to monitor needs and demands

**Resource Utilization**
- Fewer hospital admissions and ER visits
- Shorter length of stay

*Palliative Care (PC) Support Team includes: Physicians, nurses and allied health professionals in all settings: hospitals, long-term care centres and the community.*