The Impact of Palliative Care and Hospice Services in the Care of Patients with Advanced Stage Non-Small Cell Lung Cancer

Richard C. Stephenson, MD
Hospice & Palliative Care Center

Amy H. Hughes
Forsyth Regional Cancer Center

Kristy Tayapongsak, MSII
Wake Forest School of Medicine
Overview

• Background & Literature Review
• Study Sample & Methods
• Our Findings: How do we measure up?
• Conclusions: Maximizing Strengths, Minimizing Weaknesses
• Next Steps – Research & Clinic
Introduction

- **Lung Cancer**
  - 2\textsuperscript{nd} most common cancer diagnosis
  - Leading cause of cancer-related deaths

- **Non-Small Cell Lung Cancer (NSCLC)**
  - Most common type
  - Often initially presents with distant metastases → Stage IV
  - “Incurable” - opens the door for palliative care soon after diagnosis
Literature Review

Palliative Care Consult:
1. Patient education
2. Symptom management
3. Coping with terminal illness
4. Treatment decision-making
5. Future appointments and referrals

The Palliative Care Tree

- Affirms life
- Promotes quality of life
- Treats the person
- Supports the family
Effects of Early Palliative Care


• 151 metastatic NSCLC patients
• 1/3 of patients reported that their cancer was curable
• Majority of patients endorsed “getting rid of all the cancer” as a goal of therapy

Realistic understanding of prognosis is crucial to medical decision making!
Early Palliative Care Intervention

More Accurate Perception of Prognosis (“Incurable”)

Less Likely to Receive Intravenous Chemotherapy Near the End of Life
The value of chemo in this diagnosis?


- 273 patients
- No chemo vs. chemo
- Chemo only gave modest gains in survival
- Chemo did NOT negatively impact global quality of life, physical/emotional functioning, fatigue, dypsnea, or pain in cancer patients
- Chemo CAN play a palliative role, but not a curative one

“There is no longer a basis for failure to offer chemotherapy to patients in the supportive care setting.”
Effects of Early Palliative Care


- 151 metastatic NSCLC patients
- Early palliative care intervention vs. standard care alone
- Both groups received similar numbers of chemotherapy regimens BUT...
  - Optimized timing of final chemotherapy administration
    - Longer treatment-free interval between last infusion dose and death
  - Earlier transition to hospice services
Effects of Early Palliative Care


- 107 patients diagnosed with metastatic NSCLC between 2006-2009
- Palliative care + standard care vs. standard care alone
- “survival prolonged by 2 months”
- “clinically meaningful improvements in quality of life and mood”
An economic benefit, too!

“Given the trends toward aggressive and costly care near the end of life among patients with cancer, timely introduction of palliative care may serve to mitigate unnecessary and burdensome personal and societal costs.”

- Temel et al., 2010
Literature Review: Early Palliative Care

• Incorporation of palliative care **ALONGSIDE** standard oncological care for NSCLC patients
  – ↑ median survival
  – ↑ quality of life
  – ↑ accuracy of illness perception
  – ↓ aggressive treatment at end of life
  – ↓ depressive symptoms
Literature Review: Hospice services


- Retrospective study of 7879 advanced NSCLC lung cancer patients
- Hospice patients had a longer survival than non-hospice patients!
  - Statistically significant for long-term hospice patients

“Concern about hastening death should not be a barrier to hospice care.”
And yet...


Study provides baseline data describing care for advanced stage NSCLC patients:

- increasingly aggressive treatment towards the end of life
  - high rates of chemotherapy usage near EOL
  - high rates hospital admissions near EOL
- ↑ percentage of patients referred to hospice before death, but ↓ length of stay in hospice

“... the current climate of oncology care for patients with late-stage lung cancer is arguably an aggressive one.”
Where the “hospice” stigma is coming from...


This pattern of **increased overall use of hospice**, but **decreased length of stay**.

“... patients are simply being admitted to hospice to manage death, rather than obtaining the benefits of symptom management and palliative support that hospice can provide.”
More to this life...

- Emerging key measure of excellence in cancer care: quality of end of life
- Surveys of patients, families, and clinicians → “affirming the value of *not* simply prolonging life but also *enhancing* the dying process”

Temel et al., 2008
So how do we measure up?

Research Aims:

1. **Profile** the continuum of care for advanced stage NSCLC patients.
2. **Compare** our findings to national benchmarks.
Study Sample

- 119 deceased stage IV NSCLC patients
- Diagnosed at Forsyth Regional Cancer Center (FRCC)
- 2008, 2009, 2010
- Reside in Forsyth Co.
Methods

• Retrospective Chart Review
  ✓ antitumor treatment services
  ✓ post-diagnosis hospital, ED, ICU admissions
  ✓ palliative care consultations
  ✓ hospice referrals & enrollments
  ✓ circumstances surrounding death

• Electronic Medical Records
  – Forsyth Medical Center (FMC)
    • Rad Onc
    • Med Onc
    • Acute Palliative Care Unit
  – HPCC
## Methods

- **National Benchmarks** – from QOPI and published studies

<table>
<thead>
<tr>
<th>Event</th>
<th>Natl Benchmarks (&lt;%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1 emergency room visit in the last month of life</td>
<td>4.00%</td>
</tr>
<tr>
<td>&gt;1 hospitalization in the last month of life</td>
<td>4.00%</td>
</tr>
<tr>
<td>Admission to ICU in last month of life</td>
<td>4.00%</td>
</tr>
<tr>
<td>Proportion starting a new chemotherapy regimen in the last 30 days</td>
<td>2.00%</td>
</tr>
<tr>
<td>of life</td>
<td></td>
</tr>
<tr>
<td>Proportion receiving chemotherapy in the last 14 days of life</td>
<td>11.63%</td>
</tr>
<tr>
<td>Lack of hospice enrollment</td>
<td>43.00%</td>
</tr>
<tr>
<td>Admission to hospice &lt;3 days before death</td>
<td>15.00%</td>
</tr>
<tr>
<td>Admission to hospice &lt;7 days before death</td>
<td>29.00%</td>
</tr>
<tr>
<td>Death in an acute care hospital</td>
<td>25.80%</td>
</tr>
</tbody>
</table>

1 – Quality Oncology Practice Initiative Aggregate Data from Spring 2012  
2 – Greer et al., 2011  
3 – Earle et al., 2005
Results

• Median survival: 125 days (4.1 months)
  – Range: 3 days – 3.2 years

• 81.5% received antitumor treatment – RT, Chemo, or Both
  – 14 out of 119 patients (11.76%) received extensive chemotherapy (3, 4, or 5 lines of chemo)
0/1/2 Lines of Chemo

- Median Age: 71 y/o

- Race
  - Black: 16.35%
  - White: 83.65%

Younger patients received more extensive chemo treatment.

3/4/5 Lines of Chemo

- Median Age: 62 y/o

- Race
  - Black: 28.57%
  - White: 71.43%

Twice as many black patients received extensive chemo treatment.

Lines of Chemo: By Age

Lines of Chemo: By Race
On track with the literature...


• Utilized similar benchmarks to define “aggressive management”
  – less chemotherapy use at EOL
  – less late-life acute care
  – greater use of hospice services

• Less likely to receive aggressive management if:
  – Older (≥ 75 y/o)
  – Female
  – Nonblack
EOL Cancer Care Measures: National Benchmarks vs. Forsyth Co.

Proportion of Patients (%)

- >1 ED visit w/in last month: 4% Natl, 3% Forsyth
- >1 hospitalization w/in last month: 9% Natl, 8% Forsyth
- ICU w/in last month: 4% Natl, 5% Forsyth
- Chemo - 14 days of death: 12% Natl, 15% Forsyth
- No hospice enrollment: 43% Natl, 27% Forsyth
- ≤3 days in hospice: 29% Natl, 21% Forsyth
- ≤7 days in hospice: 26% Natl, 27% Forsyth
- Death in hospita: 27% Natl, 27% Forsyth
EOL Cancer Care Measures: National Benchmarks vs. Forsyth Co.

<table>
<thead>
<tr>
<th>Measure</th>
<th>National Benchmarks</th>
<th>Forsyth County</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1 ED visit w/in last month</td>
<td>3%</td>
<td>9%</td>
</tr>
<tr>
<td>&gt;1 hospitalization w/in last month</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>ICU w/in last month</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>New Chemo w/in last month</td>
<td>4%</td>
<td>12%</td>
</tr>
<tr>
<td>Chemo - 14 days of death</td>
<td>19%</td>
<td>27%</td>
</tr>
<tr>
<td>No hospice enrollment</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>≤3 days in hospice</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td>≤7 days in hospice</td>
<td>15%</td>
<td>29%</td>
</tr>
<tr>
<td>Death in hospital</td>
<td>21%</td>
<td>26%</td>
</tr>
</tbody>
</table>
EOL Cancer Care Measures: National Benchmarks vs. Forsyth Co.

- Proportion of Patients (%)

<table>
<thead>
<tr>
<th>Measure</th>
<th>Natl Benchmarks</th>
<th>Forsyth County</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;1 ED visit w/in last month</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>&gt;1 hospitalization w/in last month</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>ICU w/in last month</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>New Chemo w/in last month</td>
<td>5%</td>
<td>5%</td>
</tr>
<tr>
<td>Chemo - 14 days of death</td>
<td>12%</td>
<td>4%</td>
</tr>
<tr>
<td>No hospice enrollment</td>
<td>29%</td>
<td>29%</td>
</tr>
<tr>
<td>≤3 days in hospice</td>
<td>27%</td>
<td>27%</td>
</tr>
<tr>
<td>≤7 days in hospice</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Death in hospital</td>
<td>21%</td>
<td>21%</td>
</tr>
</tbody>
</table>

*p=0.02
Results

• 28% received palliative care consult
  – Early palliative care consultation – 1 patient

• 79% received hospice referral
  – 73% enrolled into hospice services
  – Median length of stay: 23 days
    (compared to 9.3 days)
Patient Variables: Non-Hospice vs. Hospice Patients

Non-Hospice Patients (n=32)
- Mean Age: 68 y/o
- Race
  - Black: 15.63%
  - White: 84.38%

Hospice Patients (n=87)
- Mean Age: 69 y/o
- Race
  - Black: 18.60%
  - White: 81.40%
EOL Cancer Care Measures: Non-Hospice vs. Hospice Patients

Proportion of Patients (%)

- >1 ED visit w/in last month
- >1 hospitalization w/in last month
- ICU w/in last month
- New Chemo w/in last month
- Chemo - 14 days of death
- Death in hospital

Benchmark (<%)
Forsyth Co. - Non-Hospice
Forsyth Co. - Hospice
EOL Cancer Care Measures: Non-Hospice vs. Hospice Patients

Hospice patients did better than non-hospice patients across all measures!
Location of Death: Non-Hospice vs. Hospice Patients

**Non-Hospice Patients**
- Acute care hospital: 78.13%

**Hospice Patients**
- Acute care hospital: 8.05%

\[ p = 0.001 \]
Median Survival

Non-Hospice Patients (n=32)
• Median survival: 103 days

Hospice Patients (n=87)
• Median survival: 134 days

p = 0.06 (ALMOST!)
What about trends over time?
Moving Towards Palliative Care?

Proportion of Patients (%)

- **Received PC Consult**
- **Received Hospice Referral**

<table>
<thead>
<tr>
<th>Year</th>
<th>Received PC Consult</th>
<th>Received Hospice Referral</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>20.00%</td>
<td>80.00%</td>
</tr>
<tr>
<td>2009</td>
<td>27.91%</td>
<td>69.77%</td>
</tr>
<tr>
<td>2010</td>
<td>36.59%</td>
<td>87.80%</td>
</tr>
</tbody>
</table>
Median Number of Days from Diagnosis to Death and Days in Hospice: Forsyth Co. By Year

Number of Days

Days between Dx → Death

LOS in Hospice

- 2008
- 2009
- 2010

- Days between Dx → Death:
  - 2008: 219
  - 2009: 143
  - 2010: 86

- LOS in Hospice:
  - 2008: 41
  - 2009: 21
  - 2010: 10
Conclusions

We’re doing well! But there’s always room for improvement!

- **Oncological Treatment at End of Life**
- **Early Use of Palliative Care Consultation**
  - Failed
  - **Hospice Services**
    - Failed
    - **Referrals & Enrollment**
      - Passed
    - **Length of Stay**
      - Failed
Next Steps

• Research
  – Repeat study at the Comprehensive Cancer Center at Wake Forest Baptist Health
    • Academic hospital vs. community hospital?

“Patients who seek care in an academic medical setting with active research programs may be more likely to receive aggressive care...”
  - Temel et al., 2008
Next Steps

- Clinic

"Patients may have received late referrals to hospice because they were already receiving sufficient EOL support through palliative care intervention. **Perhaps outpatient palliative services** may be a solution to bridge critical gaps in care..."  
-Temel et al., 2008

And that’s exactly what we’re doing!

- Outpatient Palliative Care Consultation Program currently in the works at FRCC
- Earlier referrals to HPCC
  - Not just a “last resort”


7. Quality Oncology Practice Initiative Aggregate Data from Spring 2012.


