NCCN Guidelines
Quality of Care and Value Initiatives

November 20, 2010
US Health Care Reform

• Broader access to health insurance; no adverse selection
• Payers (insurers and employers) are increasingly focused on cost.
• Academic centers are more expensive than community hospitals in the US
• Higher cost hospitals expected to prove they provide greater benefits that offset the higher costs.
• *Prove the value.*
The NCCN Value Equation

Right Diagnosis, Right Treatment, Right Setting = Better Outcomes, Enhanced Efficiency

Accurate diagnosis and staging: Pathology expertise
- Brain/CNS tumors - 25% important diagnostic errors (Cancer)
  - An NCCN neuropathologist may review 50-fold the number of brain/CNS tumor cases seen in a typical community center
- Bladder cancer - 18% dx error; avoidance of unnecessary surgery (Cancer)

Work up and treatment planning: Multidisciplinary team
- Extensive experience
- Subspecialty (medical, surgical, radiation, pathology) expertise
- MD tumor conferences for treatment planning
- Patient-centric care

Volume and outcomes: Surgery, radiation therapy
- NEJM, JAMA, MEDTAP studies: NCCN volumes and experience = lower mortality and less complications

Surveillance and follow-up
- Coordinated surveillance and follow-up
- Personalized plan with appropriate use of imaging, biomarkers, monitoring, and evaluation

Palliative care, hospice, end of life care
- From NCCN Outcomes Database: Only 115 patients who died with metastatic NSCLC received RT at EOL (10%). In addition, only 120 patients received chemotherapy at EOL (11%) (ASTRO oral presentation)
- Palliative care programs at all NCCN centers

NCCN Guideline concordance and quality measures

Patient experience and satisfaction
Pathology Expertise

• Many publications describe frequency of change in diagnosis with second read by subspecialist pathologists.
• Change of diagnosis affecting treatment choice can be up to 20% depending on type of cancer.
• Errors are most common in CNS, hematologic malignancies, sarcoma, and skin, prostate and breast cancers.
• Changes from benign to malignant or vice versa or from one histology to another or one biologic group to another are significant for patient management.
Multidisciplinary Care Team in Breast Cancer

Multidisciplinary tumor board for treatment planning at NCCN centers

NCCN Multidisciplinary patient care team

- Pathologist
- Oncologist
- Radiation oncologist
- Surgeon
- Plastic surgeon
- Social worker
- PT/OT
- Nutrition
- Other

The patient is at the center of the team’s work at all times.
Expert Multidisciplinary Teams and Treatment Planning

- Multidisciplinary tumor board to review cases
  - *Ensures that all options are considered*
  - *Accurate and precise pathology – including biomarkers* – guides oncologist in choosing most appropriate and cost-effective treatment option

- Multidisciplinary patient care team
  - Ability to confer with subspecialists in real time
  - Facilitates coordinated, *patient-centric* care
  - MD team of experts identify and address problems before they become more costly and difficult to treat
Surgical Outcomes at Comprehensive Cancer Centers

A recent study commissioned by the National Comprehensive Cancer Network determined that patients who have cancer surgery at Comprehensive Cancer Centers have lower mortality and complication rates compared to those who had surgery at other institutions:

<table>
<thead>
<tr>
<th>Type of Cancer</th>
<th>Mortality*</th>
<th>Complications*</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Cancers</td>
<td>52.7% lower</td>
<td>19.4% lower</td>
</tr>
<tr>
<td>Colon</td>
<td>51.8% lower</td>
<td>15.9% lower</td>
</tr>
<tr>
<td>Lung</td>
<td>50.2% lower</td>
<td>27.1% lower</td>
</tr>
<tr>
<td>Ovarian</td>
<td>57.0% lower</td>
<td>6.6% lower**</td>
</tr>
<tr>
<td>Pancreatic</td>
<td>85.5% lower</td>
<td>48.6% lower</td>
</tr>
<tr>
<td>Rectal</td>
<td>58.1% lower</td>
<td>10.8% lower**</td>
</tr>
</tbody>
</table>


* Univariate analysis comparing all patients who had surgery at Comprehensive Cancer Centers to those treated at other institutions, regardless of age, gender, race, admission source, and the number of co-morbidities

** Not statistically significant
Comparative Effectiveness Research

- NCCN developing comparative therapeutic index: Risk vs benefit
- Published preliminary concept
- Beginning to test reliability and validate scales
- Highest efficacy, lowest toxicity for least cost equals value
Expert Surveillance = Better Efficiency

NCCN recommends against use of PET/CT, imaging except mammography, and markers in routine follow-up
Palliative Care, Hospice, and End of Life Care

- All NCCN Centers have ongoing palliative care programs
- Focus of care shifts gradually from cure to symptom control and quality of life
NCCN Opportunities for Improvement

- Institutions to review patients concordance to category 1 treatment recommendations
- 85% concordance level
- Institutions convene group of BCA physicians to review data
- Baseline report and Follow-up Report

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NCCN Improvement Action Plans

• Continued discussion with the NCCN BCA Guidelines Panel
• Review and present concordance analyses internally at the member institutions
  – Present data to the clinicians at their respective institutions to support efforts for quality improvement
  – Review charts of the patients given non-concordant care on the guidelines that were identified as “opportunities for improvement (OFI)” to understand the reasons for non-concordance.
• Generate reports describing various process measures such as time to definitive surgery, chemo, and other endpoints
• Formalize the process of reviewing unblinded data with all disease-specific databases and auditing non-concordance at institutions
Institutional Expectations

• Oversight by Institutional PI
• Appoint a QI contact for this project
• Convene a group of institutional breast cancer providers to review OFI data
• QA and QI Review of OFI data for baseline and second reports
  – QA review “non-concordant” patients for data quality issues
  – QI review of patients where institutional concordance rate is less than 85% and document reasons for non-concordance
• Maintain up-to-date accrual and follow-up on cohort
<table>
<thead>
<tr>
<th>Cohort</th>
<th>Recommended Treatment</th>
<th>Institution Requiring Review</th>
<th>NCCN Aggregate Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage I/II node negative, HR positive, tumor size 0.6-1.0 cm, moderately and poorly differentiated or unfavorable features</td>
<td>Adjuvant endocrine therapy +/- adjuvant chemotherapy</td>
<td>~2 Institutions</td>
<td>90.0%</td>
</tr>
<tr>
<td>Among &lt; 70 yrs, Stage I/II node negative, HR negative, HER-2 neu not overexpressed, tumor size &gt; 1 cm</td>
<td>Adjuvant chemotherapy</td>
<td>~3 Institutions</td>
<td>87.6%</td>
</tr>
<tr>
<td>Stage I/II node negative, HR positive, HER2-neu not overexpressed, tumor size &gt; 1 cm</td>
<td>Adjuvant endocrine therapy +/- chemotherapy</td>
<td>~2 Institutions</td>
<td>90.9%</td>
</tr>
<tr>
<td>Among &lt;70 yrs, Stage II, node positive, HR positive, HER2-neu not overexpressed</td>
<td>Adjuvant chemotherapy + endocrine therapy</td>
<td>~8 Institutions</td>
<td>75.0%</td>
</tr>
<tr>
<td>Stage I and II with BCS</td>
<td>ALNS + RT or no RT for age&gt;70, HR positive, clinical node negative, T1 tumor who receive adj ET</td>
<td>~2 Institutions</td>
<td>92.0%</td>
</tr>
<tr>
<td>Cohort: All Stage 0-II with metastatic recurrence with bone disease present</td>
<td>Tx: Bisphosphonate</td>
<td>~5 Institutions</td>
<td>79.3%</td>
</tr>
</tbody>
</table>

*Patient presenting between July 2007 and March 2009 with complete follow-up*
International Outcomes Database

• Nonsmall cell lung cancer first disease site
  – Number 1 cancer mortality worldwide
  – Relatively short time horizons
  – Active evolution of standard of care

• Will identify practice patterns and measure concordance with NCCN Guidelines

• NCCN is Seeking collaborating hospitals