Strategies for Growth in Cancer Care Delivery

ACCC Annual National Meeting

Trever Burgon, PhD
Vice President, Sg2
Disclosures

- I do not intend to discuss an off-label use of a product during this activity.
- I currently have or have had the following relevant financial relations to disclose:
  - Employee of Sg2

What Cancer Questions Have Sg2 Members Been Asking This Year?
DISCUSSION TOPICS

Cancer Landscape: Setting the Stage

Sg2 Cancer Forecast
Growth Across the System of CARE
Emerging Cancer Payment Models

Growing Aging Population Will Drive Continued Demand for Cancer Services

By 2020, 18% of the US population will be Medicare eligible.

Age-Specific Cancer Incidence Rates
SEER Database, 2000–2008

Rate per 100,000

Mortality Rates Are Dropping as Cancer Survivorship Booms

Cancer Mortality Rates per 100,000 Persons

US Market, 2000–2010

Number of Cancer Survivors

US Market, 1971–2022

Advances Have Not Come Cheaply as Cancer Costs Continue to Rise

Per person, cancer is now the most expensive disease to treat.

- Cancer patients/survivors account for ~0.5% of US population and ~6% of health care expenditures.
- 46% of uninsured and 22% of insured patients report spending all or most of their savings during treatment.

Estimated Cost of Cancer Care

US Market, 2010–2020

Washington Has Grabbed the Reform Headlines…but Real Change Is Happening Across the Country

**Affordable Care Act**
Washington, DC
- Insurance expansion
  - Public Exchanges
  - Medicaid Expansion
- **New insurance rules**
  - No copay preventive care
  - Removal lifetime caps
  - Family coverage
- **CMS payment pilots**
  - Accountable Care Organizations
  - Bundled Payments for Care Improvement

**Commercial Payer Strategies**
Nationwide
- **Benefits management**
  - Prior authorization
  - Steerage to low cost providers
- **Cost shift to patients**
  - Defined contributions
  - High deductibles
- **Commercial payer models**
  - Accountable Care Organizations
  - Bundled Payment
  - Narrow Networks
  - Tiered Networks

Source: Sg2 Analysis, 2014

Insurance Expansion Predominantly Impacts Patients Under the Age of 65

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Cervical</th>
<th>HL</th>
<th>Thyroid</th>
<th>Testicular</th>
<th>Brain/CNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>100%</td>
<td>92%</td>
<td>79%</td>
<td>71%</td>
<td>68%</td>
<td>62%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Millions</th>
<th>Breast</th>
<th>Cervical</th>
<th>Prostate</th>
<th>Colorectal</th>
<th>Lung</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

HL = Hodgkin’s Lymphoma. Sources: Impact of Change® v13.0; PharMetrics; CMS; Sg2 Analysis, 2013.
Future Payment Models Seek to Reward Coordinated, Quality Care

Emerging Payment and Care Delivery Models

- Pay for Performance
- Bundled Payment
- Medical Home Model
- ACOs
- Out-of-Pocket

Objectives
- Decrease premiums and slow spending growth
- Reduce spending variation
- Improve quality
- Find efficiency
- Improve care coordination

ACO = accountable care organization.

DISCUSSION TOPICS

Cancer Landscape: Setting the Stage

Sg2 Cancer Forecast

Growth Across the System of CARE

Emerging Cancer Payment Models
Sg2’s Impact of Change: A Look to Future Demand

Screening Mammography Growth by Impact Factor
2013–2023

- Population growth
- Economic recovery
- Cost-sharing elimination
- Coverage expansion

- New screening guidelines (e.g., biennial screening age 50–74)
- Risk-based screening algorithms

Opposing Forces Influence Demand for Mammography Services

Sources: Impact of Change® v12.0; NIS; PharMetrics; CMS; Sg2 Analysis, 2012.

Sources: Impact of Change® v13.0; PharMetrics; CMS; Sg2 Analysis, 2013.

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Demand for Cancer Services Is Strong, Concentrated in Outpatient Setting

Inpatient Cancer Discharges
US Market, 2013–2023

Outpatient Cancer Volumes
US Market, 2013–2023

Inpatient Growth Varies Dramatically by Tumor Type

IP Cancer Discharges
US Market, 2013
Total Volume: 1.68 Million

IP Cancer Growth by Tumor Type
US Market, 2013–2023

Note: Forecast excludes patients aged 0-17. Tumors grouped by Sg2 CARE Families: Heme/Onc: leukemia, non-Hodgkin lymphoma, multiple myeloma and Hodgkin lymphoma; Gyn/Onc: cervical and other female genital cancer including precancer, uterine and ovarian cancer. CNS = central nervous system; CARE = Clinical Alignment and Resource Effectiveness.

Sources: Impact of Change® v13.0; NIS; PharMetrics; CMS; Sg2 Analysis, 2013.
Expect Strong Growth in Outpatient Cancer Services to Continue

**Outpatient Cancer Volumes**
US Market, 2013
Total Volume: 177 Million

- 15% Breast
- 24% Benign Neo-plasm
- 16% Other Tumor Types
- 15% Other Skin
- 8% Prostate
- 5% Lung
- 4% Colorectal
- 2% Head and Neck
- 6% Heme/Onc
- 5% Gyn/Onc

**Outpatient Cancer Growth by Procedure**
US Market, 2013−2023

- **Visits**
  - Growth Rate: 45%
- **Radiation Therapy**
  - Growth Rate: 22%
- **Chemotherapy**
  - Growth Rate: 20%
- **Major Procedures**
  - Growth Rate: 32%
- **Advanced Imaging**
  - Growth Rate: 32%

Note: Forecast excludes ages 0−17. Tumors grouped by Sg2 CARE Families: Heme/Onc: leukemia, non-Hodgkin lymphoma, multiple myeloma and Hodgkin lymphoma; Gyn/Onc: cervical and other female genital cancer, including precancer, uterine and ovarian cancer; Other skin: nonmelanoma. Advanced Imaging includes CT, MRI and PET. CT = computed tomography; MRI = magnetic resonance imaging; PET = positron emission tomography.

Sources: Impact of Change® v13.0; PharMetrics; CMS; Sg2 Analysis, 2013.

**DISCUSSION TOPICS**

Cancer Landscape: Setting the Stage
Sg2 Cancer Forecast
Growth Across the System of CARE
Emerging Cancer Payment Models
Build a Differentiated Program That Is Indispensable to Patients and Payers

<table>
<thead>
<tr>
<th>Differentiator</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality</td>
<td>• Documented adherence to evidence-based pathways</td>
</tr>
<tr>
<td></td>
<td>• Certification and/or accreditation</td>
</tr>
<tr>
<td>Cost</td>
<td>• Reductions in unnecessary utilization</td>
</tr>
<tr>
<td></td>
<td>• Alignment of treatment course with end-of-life goals</td>
</tr>
<tr>
<td>Technology</td>
<td>• Imaging and pathology that gets the right diagnosis</td>
</tr>
<tr>
<td></td>
<td>• Access to full ranges of treatment options</td>
</tr>
<tr>
<td>Coordination/Navigation</td>
<td>• Multidisciplinary collaboration in treatment plan development</td>
</tr>
<tr>
<td></td>
<td>• Seamless connections between specialists</td>
</tr>
<tr>
<td></td>
<td>• Integration with primary care</td>
</tr>
<tr>
<td>Access</td>
<td>• Robust access to screening services</td>
</tr>
<tr>
<td></td>
<td>• Convenient access points across service area</td>
</tr>
<tr>
<td>Service</td>
<td>• Culture dedicated to patient satisfaction</td>
</tr>
<tr>
<td></td>
<td>• Strong patient and family education</td>
</tr>
</tbody>
</table>

IT = information technology; EHR = electronic health record. Source: Sg2 Analysis, 2013.

An Integrated System of CARE Is Key to Driving Volume and Value

CARE = Clinical Alignment and Resource Effectiveness.
Cancer Screening Services Are Extremely Sensitive to Insurance Status

**Cancer Screening Rates by Insurance Status**
National Health Interview Survey, United States, 2010

<table>
<thead>
<tr>
<th></th>
<th>Private Insurance</th>
<th>Public Insurance</th>
<th>No Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>80%</td>
<td>63%</td>
<td>38%</td>
</tr>
<tr>
<td>Colorectal</td>
<td>65%</td>
<td>55%</td>
<td>21%</td>
</tr>
<tr>
<td>Cervical</td>
<td>89%</td>
<td>82%</td>
<td>64%</td>
</tr>
</tbody>
</table>


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**CASE STUDY**

Lung Screening Programs Are Gaining Steam, Expect Reimbursement to Follow

**Low-Dose CT Lung Screening for High-Risk Patients**
- National Lung Screening Trial showing 20% mortality reduction
- Recommendations from USPSTF, NCCN, American Cancer Society and others
- USPSTF Grade B recommendation expected to drive expanded coverage

**Lung Screening Program**
Lahey Medical Center, MA
- Requires primary care referral
- No direct marketing; targeted referring physicians
- Dedicated referral line for patients and physicians
- Built standardized reporting format (LungRADS)
- Offered at two sites—Peabody and Burlington

**RESULTS**
- 850 patients screened in the first year
- ~30% of patients required follow-up test
- ~1 cancer diagnosis per 100 screened
- Self-sustaining ROI

NCCN = National Comprehensive Cancer Network; RADS = Reporting and Data System; ROI = return on investment.
Source: Sg2 Interview With Dr. Andrea McKee, 2013.
Patient-Centered Multidisciplinary Care: Easy to Say but Hard to Implement

One-Day Multidisciplinary Clinic

- Referral through coordinator
- One-day consultation with treatment team
- Team reviews case and delivers treatment plan.
- Seamless transition into care path

Unique Aspects
- Single access point
- Coordinator supported
- One-day consults
- Comprehensive treatment plan

Documented Benefits
- Quality: Improved adherence to guidelines
- Service: Increased patient satisfaction
- Research: Increased clinical trial enrollment
- Growth: Increased volumes

CASE STUDY

True Multidisciplinary Care Becomes Highly Marketable

Aurora Sheboygan Memorial Medical Center, Wisconsin

SITUATION
- 33% drop in lung cancer patients
- Patients leaving county for care

SOLUTION
- Lung Cancer MDC
  - Physician participation: Local medical oncologists and radiation oncologists; thoracic surgeon from Milwaukee
  - Lung cancer coordinator access point
  - Marketed MDC to referring physicians and patients

FIRST YEAR RESULTS
- Lung cancer volume: +28%
- Gross revenue: +9%
- Biopsy to treatment time: –6 days
- “Very satisfied” patients: 98%
Opportunities to Capture Growth, Improve Value Span the System of CARE

Sg2 ANALYTICS

Surgical Procedures Drive Attractive, Sustainable Inpatient Growth

Inpatient Cancer Discharges
US Market, 2013–2023

<table>
<thead>
<tr>
<th>Year</th>
<th>5-Year</th>
<th>10-Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>+4%</td>
<td>+8%</td>
</tr>
<tr>
<td>2018</td>
<td>+4%</td>
<td>+8%</td>
</tr>
<tr>
<td>2023</td>
<td>+16%</td>
<td>+16%</td>
</tr>
</tbody>
</table>

Therapeutic Surgical
- Avg CM: $12,430
- Avg LOS: 6.3 days
- 30-Day Readmits: 9.8%

Other IP
- Avg CM: $8,182
- Avg LOS: 6.3 days
- 30-Day Readmits: 19.7%

Note: Forecasts exclude patients aged 0–17. CM = contribution margin; LOS = length of stay. Sources: Impact of Change® v13.0, NIS, Sg2 Comparative Database, 2013; Sg2 Analytics, 2013.
CASE STUDY

Enhanced Patient Experience Sets a Program Apart

Johns Hopkins Breast Center, Baltimore, MD

ACCESS
• Same-day appointments
• Robust online patient portal (used by 71% of breast cancer patients)

SERVICE
• 100% same-day mammography reads
• Biopsy results in <24 hours
• Surgical oncology appointment within 3 days of diagnosis

COORDINATION AND NAVIGATION
• Nurse navigators are present for all surgical consults.
  – Refer to rehab, genetics, fertility services.
• Breast cancer survivor volunteers (38 available) are matched with new patients.

New Radiation Treatments Favor Fewer Treatments per Patient

Hypofractionation
Fewer, higher-dose radiation therapy treatments per patient

<table>
<thead>
<tr>
<th>Treatment Sessions per Patient</th>
<th>Dose per Treatment Session</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional Therapy</td>
<td>Hypofractionated Therapy</td>
</tr>
<tr>
<td>25 to 40 fractions</td>
<td>10 to 16 fractions</td>
</tr>
<tr>
<td>6 weeks</td>
<td>3 weeks</td>
</tr>
<tr>
<td></td>
<td>1 to 5 fractions</td>
</tr>
<tr>
<td></td>
<td>1 week</td>
</tr>
</tbody>
</table>

SRS/SBRT = stereotactic radiosurgery/stereotactic body radiation therapy. Source: Sg2 Analysis, 2012.
Demand for Radiation Oncology Varies Dramatically by Modality, Tumor Type

Growth in External Beam Radiation Therapy Treatment Fractions by Tumor Type*
Sg2 Forecast, US Market, 2013–2023

<table>
<thead>
<tr>
<th>Radiation Therapy Modality</th>
<th>Prostate</th>
<th>Breast</th>
<th>Lung</th>
<th>Colorectal</th>
<th>Head and Neck</th>
<th>Brain and CNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D Conformal</td>
<td>120%</td>
<td>80%</td>
<td>40%</td>
<td>80%</td>
<td>40%</td>
<td>80%</td>
</tr>
<tr>
<td>IMRT</td>
<td>200%</td>
<td>160%</td>
<td>120%</td>
<td>120%</td>
<td>120%</td>
<td>120%</td>
</tr>
<tr>
<td>SRS/SBRT</td>
<td>240%</td>
<td>200%</td>
<td>160%</td>
<td>200%</td>
<td>160%</td>
<td>200%</td>
</tr>
</tbody>
</table>

Tumor Type Key
- Prostate
- Breast
- Lung
- Colorectal
- Head and Neck
- Brain and CNS

*Analysis excludes ages 0–17. Note: Bubble size is proportional to 2013 volumes (by fraction) for each tumor type. Growth rate on y-axis corresponds to center of bubble.
IMRT = intensity-modulated radiation therapy.
Sources: Impact of Change® v13.0; PharMetrics; CMS; Sg2 Analysis, 2013.

Opportunities to Capture Growth, Improve Value Span the System of CARE

Acute Treatment
- Radiation Oncology
  - External beam radiation therapy
  - Brachytherapy
- Inpatient Services
  - Surgical
    - Surgery
    - BMT
  - Medical
    - Complication management
    - Chemotherapy
  - Imaging
  - Palliative care
- Infusion Suite
  - Neoadjuvant chemotherapy
  - Adjuvant chemotherapy

Community-Based Diagnosis and Early Care
- PCP or Specialist Offices
  - Education/referrals
  - Initial evaluation
  - Coordination
- Self
  - Information gathering
  - Web
- Screening Centers
  - Mamography
  - Colonoscopy

MDC Conference
- Consult
- Treatment plan

Imaging and Diagnostic Center
- Diagnostic imaging
- Biopsy/pathology
- Surveillance imaging
- Genetic testing

Med Onc and PCP Offices
- Infusion Suite
  - Neoadjuvant chemotherapy
  - Adjuvant chemotherapy
- Medical management
- Surveillance
- Medical home
- OP palliative care
- Hospice Center
- Cancer Rehab
- Survivorship
  - Care plan
  - Support services (e.g., sexual health, nutrition)
- Ongoing Treatment, Recovery and Rehab
- Hospice
- Pain management
- Hospice

BMT = bone marrow transplant; CARE = Clinical Alignment and Resource Effectiveness; MDC = multidisciplinary care; Med Onc = medical oncology; mgmt = management; PCP = primary care physician.
Early Palliative Care Improves Survival While Decreasing Aggressive Utilization

**PALLIATIVE CARE**

*New England Journal of Medicine*

- Newly diagnosed metastatic lung cancer patients randomized to receive standard care or standard plus palliative care
- Study arm received monthly outpatient palliative care consultations (eg, education, coping guidance, additional referrals and prescriptions as needed).

**RESULTS**

<table>
<thead>
<tr>
<th></th>
<th>Standard Care</th>
<th>Standard + Palliative Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality of Life (FACT-L)</td>
<td>91.5</td>
<td>98.0</td>
</tr>
<tr>
<td>Aggressive EOL Care</td>
<td>54%</td>
<td>33%</td>
</tr>
<tr>
<td>Median Survival</td>
<td>8.9 months</td>
<td>11.6 months</td>
</tr>
</tbody>
</table>

*All differences are P ≤0.05.
FACT-L = functional assessment of cancer therapy-lung; EOL = end of life.

- Early palliative interventions have the most potential to impact care.
- Business case for OP palliative care is difficult under fee-for-service payment.
- Strong palliative care services will be key in risk-based payment models.

**DISCUSSION TOPICS**

- Cancer Landscape: Setting the Stage
- Sg2 Cancer Forecast
- Growth Across the System of CARE
- Emerging Cancer Payment Models
Changing the Reimbursement Game: Bundled Payment for Radiation Oncology

21st Century Oncology and Humana, National Program
Radiation Oncology Bundled Payment

Key Motivations
- Reduce administrative burden.
- Stabilize reimbursement.
- Expand business with payer partner.

Key Lessons Learned
- Standardize and simplify the bundle.
- Understand the data.
- Start small, think big.

Source: Sg2 Interview With 21st Century Oncology, 2013.

First Cancer “ACO” Delivers Cost Savings

Florida Blue, Baptist Health South Florida and Advanced Med Specialties

STRUCTURE
- Patients with six common cancer
- Attribution based on medical onc E&M visits
- Fee-for-service payment
- Goal: reduce the total cost of care per patient
- Payout if savings exceeded 2%
- Specific quality metrics must be met:
  - QOPI Certification, surgical measures
- Areas of focus:
  - Improve patient education
  - Follow evidence-based pathways
  - Reduce ED visits, admissions, LOS
  - Improve hospice and palliative care

YEAR ONE RESULTS:
- 237 attributed patients
- Savings exceeded 2% per patient
- Cost of injectables fell as percentage of total spend
- Next step opportunities:
  - Improve data analytic tools
  - Expand APN support to nights/weekends
  - Recruit palliative care physician
  - Focus on radiation and imaging

Compete
Differentiate your program on access, cost and quality

Collaborate
With providers across the continuum to build a robust cancer System of CARE

Change the Game
Prepare for new payment models and “retail” patients/consumers

Questions