The Future of Service Lines:
Cancer Care

Chicago, Illinois
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The Future of Service Lines: Cancer Care

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Introduction
As healthcare executives continue to plan for numerous industry pressures and changes in our care delivery models, the topic of **whether today’s service lines can and will support tomorrow’s population health management requirements**.

**Oncology** is one such Service Line that requires a broader and strategic view to support your community over time.
Introduction

The Future of Service Lines: Cancer Care

Why is this a relevant topic?
The current U.S. landscape shows a significant population of Cancer survivors within our communities and with a growing number of newly diagnosed patients.

Number of Cancer Survivors in 2012: (1) 12,000,000

Number of People in US Diagnosed with Cancer in 2012: (1) 1,638,910

Number of People in US Who Will Expire from Cancer in 2012: 577,190

Number of People in US Who Will Expire Daily During 2012: > 1,500

Second Most Frequent Reason For US Deaths: 1 in 4 Second to Heart Disease
Introduction

The Future of Service Lines: Cancer Care

Estimated Number of New Cancer Cases* and Cancer Deaths** for 2012

Population Trends: Diagnosis and Mortality Rates (2)

Source: American Cancer Society
Introduction

The Future of Service Lines: Cancer Care

2013 Statistics

Other Recent Statistics:
- An estimated 12,000 children between ages 0-14 are expected to be diagnosed with cancer in 2012, and 1,340 will die from the disease. (2)
- Over the past 40 years, mortality rates for childhood cancer have been reduced significantly, dropping 66% during this time period due to early detection techniques and treatment. (3)
Introduction

The Future of Service Lines: Cancer Care

More Information

National Cancer Institute Designations (as of 2013) (4):

Comprehensive Cancer Centers
(expertise in each of three areas: laboratory, clinical, and behavioral and population-based research)

➤ 41 organizations in 24 states

Cancer Centers (conduct a combination of basic, population sciences, and clinical research)

➤ 26 organizations in 17 states
Economic Impact: Past and Future (Projection)

2008 Total Cost of Cancer in US: $201.5 B
2008 Direct Medical Costs: $77.4 B
2008 Indirect Mortality Costs: $124 B

2010 Total Cost of Cancer in US: $263.8 B

Projected Doubling of Direct Medical Costs In 12 Years

2020 Direct Medical Costs: $158 B

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The Future of Service Lines: Cancer Care

How will your healthcare organization – hospital, health system, independent Cancer Care center or Accountable Care Organization (ACO) assess the sustainability of this Service Line?

- Growing number of survivors
- Care of Survivors continues to evolve
- Rapid rate of new therapies and innovative treatment
- Aging population with growing need for specialized care
- Nature of Cancer Care and reimbursement levels remains challenging

- Continuum of Care (i.e. range of holistic care)
- ACO Delivery Model may or may not function for this particular patient population and projected outcomes / costs
- Investment in innovation – skills, experience and healthcare professionals may not be sustainable for every organization
Introduction

The Future of Service Lines: Cancer Care

Goals For This Presentation

- Review current U.S. landscape for healthcare organizations providing Cancer Care
- Pose a number of questions that health care executives may consider while evaluating their current strategic goals for the delivery of Cancer Care
- Encourage executive discussion as to the future of Cancer Care for your patient population
A number of trends in Cancer Care will directly impact the population a health systems serves, their ability to provide outcomes that are cost effective and to support the coordination of care for a growing number of survivors.

As you review these trends, compare them with your organization and pose these sample questions:

- Do we have the right services?
- Do we have the right outcomes?
- Do we have the right professionals to continue refining care delivery?
- Do we need to develop new business relationships to support our local population?
- Are we prepared for the complexity of care for Cancer Survivors?
- Will new reimbursement models support and sustain care as we currently know it?
Current Trends in Cancer Care

Rate of Diagnosis

A number of new Cancer diagnoses continues to rise steadily in the U.S. and globally.

 Estimated Number of New Cancer Cases* and Cancer Deaths** for 2012 (2)
There is a growing body of evidence regarding unexpected health issues that arise in persons who had cancer as children. How will healthcare providers treat these patients?

“Researchers found, in a large study of adult survivors of childhood cancer, that more than 95% suffered from a chronic health condition by the age of 45, including pulmonary, hearing, cardiac and other problems related either to their cancer or the cancer treatment.” (7)
Survivorship: Children

Study: More than 1,700 adults who were diagnosed and treated for cancer at St. Jude Children's Research Hospital in Memphis between 1962 & 2001. (7)

Criteria: Participants at least 10 years past diagnosis, agreed to come back to St. Jude to undergo a battery of tests and physical examinations. In addition to overall health, researchers looked at some specific risks patients faced depending on the kind of cancer they had or the types of chemotherapy and radiation used to treat them. (7)

Findings: (7)
- Survivors who had undergone treatments associated with pulmonary risks, 65% found to have pulmonary problems
- Survivors exposed to cardiotoxic therapies, 56.4% have cardiac abnormalities
- Survivors who had received radiation to the brain exhibited mild cognitive deficits typically seen in older populations
- Survivors who received radiation to the chest often led to heart-valve changes, including scarring and leaky valves.
- Participants ranged in age from 18 to 60 years old; the average age=33, the health problems were considered striking
- Survivors face greater health risks as they age
- Percentage of relatively young survivors with one or more chronic health conditions was "extraordinarily high."
- Latest estimates: number of childhood cancer survivors=395,000

“Many serious health conditions went undiagnosed until the participants joined the study, the researchers found, raising questions about whether survivors are receiving proper follow-up care given their higher risks for certain health problems later in life.” (7)
Care Delivery Models

With the advent of Accountable Care Organizations (ACOs), there has been some consideration as to whether this care delivery model could function for Cancer Care.

Examples: (8)
- May, 2012: Florida Blue (Blue Cross and Blue Shield of Florida) announced an agreement with Baptist Health South Florida and Advanced Medical Specialties, which provides oncology services in Miami, to form an oncology ACO
- December, 2012: Florida Blue announced an oncology ACO with Moffitt Cancer Center (Tampa)
- DaVita (Denver; own more than 1900 outpatient dialysis centers) Accountable Kidney Care Collaborative is an ACO model for patients with end-stage renal disease

It is unclear as to whether this delivery model can or will yield the type of savings anticipated by other ACOs nationally. Perhaps the cost savings is not the prime goal.
A Competitive View:
The landscape has been shifting for more than a decade.

In the last year alone, 2013, the expansion of Cancer Care Services continues: (sampling) (9)

NE - The University of Nebraska Medical Center and the Nebraska Medical Center announced the start of construction on a new cancer center.
GA - Emory Healthcare and the Winship Cancer Institute in Atlanta announced the start of construction on a new cancer center that will feature proton beam therapy.
TX - The Greater Houston Physicians Medical Association began renovations to a new cancer center at the Apollo Hospital in The Woodlands, Texas.
WV - The West Virginia Health Care Authority approved Morgantown-based West Virginia University Hospitals to purchase Fairmont (W. Va.) Regional Cancer Center.
SC - Gibbs Cancer Center in Spartanburg, S.C., opened a third location in Greer, S.C.
FL - West Boca Medical Center in Boca Raton, Fla., opened a Breast Center focusing on breast cancer diagnostics and imaging.
IL - Advocate Eureka (Ill.) Hospital opened a renovated oncology suite.
Avera St. Luke's Hospital in Aberdeen, S.D., plans to construct a new $11 million cancer center.
WA - Seattle Children's announced the opening of the nation's first cancer center dedicated to caring for patients aged 15 to 29.
WI - Beloit (Wis.) Health System broke ground on an $11.6 million cancer center.
NY - Great Neck, N.Y.-based North Shore-LIJ Health System announced plans to invest $175 million to open and expand cancer centers in the New York City area.
A Competitive View: What is the national or regional distribution of those Cancer Care Centers that are ranked nationally?

Top 50 Health Systems for Cancer Care

U.S. News Survey 2012-2013 (10)

Key:
Location of each top health system is identified by a blue star. For cities with more than Hospital, the total number of are shown in parentheses (x). List with names of hospitals found in Appendix B.

Note: There is geographic clustering of the highest ranked health systems in a number of states.
Current Trends in Cancer Care

Innovation: The rate of new innovation continues to expand.

The pace of innovation continues for Cancer and includes many disciplines in an effort to look at the challenge in new ways. Research is a critical component of Cancer Care so that better outcomes can be achieved. Not every Cancer Care program can invest in this type of innovation.

Example: (11)
Five innovative research efforts
- Nano-Based Drugs
- Detection and Monitoring
- Metastasis
- Personalized Medicine
- Cancer Immunology

Example: (12)
Memorial Sloan-Kettering Cancer Center, world's oldest and largest private cancer center
- Sloan-Kettering Institute (biomedical research)
- Cancer-specific, clinical research programs (lead more than 900 clinical trials for pediatric and adult cancers)
- Research laboratories
- Collaborative research center
Innovation: The rate of new innovation continues to expand.

Innovation has a global reach.

**France:** Institut Curie’s Curie-Cancer group is working on implantable ports to further lower the risk of infection. (13)

**India:** A study of 150,000 women has identified that a simple swab with sterilized vinegar can help diagnose Cervical Cancer since the infrastructure is not in place to conduct Pap smears. Cost of less than $1 per test versus $15 for the Pap smear. (14)

**Public Health England,** an executive agency of the United Kingdom’s Department of Health, announced plans to create the world’s largest cancer database,

*Goal of database:* Promote highly personalized treatment plans for individuals with cancer

*Data Set:* will include more than 11 M historical records on cancer cases dating back as far as 30 years (15)
Current Trends in Cancer Care

Innovation: The rate and breadth of new innovation continues to expand.

Integrative medicine: treating all aspects of a cancer patient

Example: MD Anderson Cancer Center (16)

- Reduce the negative consequences of cancer diagnosis and treatment, and improve treatment outcomes and quality of life
- Physician guidance to incorporate mind/body and acupuncture research, research studying dietary supplements and other regimens, biopharmacologic agents such as vitamins and herbal preparations and other biologically based products.
- Study bio-behavioral effects of mind/body-based interventions such as stress management including Indian-based yoga, Tibetan-based yoga, qigong, meditation, music therapy, expressive writing and other behavioral approaches
- Examine the anti-cancer potential of natural animal or plant compounds such as dietary supplements, vitamins and herbal remedies (e.g. green tea, turmeric, oleander, melatonin, shark cartilage, fish oil, mushrooms, etc.)
- Use of acupuncture to treat some common cancer treatment related side effects including pain, xerostomia, nausea, etc.
- Examine traditional Chinese medicine (TCM) for cancer. Research is being done in conjunction with the Fudan University Cancer Hospital

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Current Trends in Cancer Care

**Innovation:** The rate and breadth of new innovation continues to expand.

**Personalized Medicine**

**Partners Healthcare describes Personalized Medicine as follows:** (17)
- “Determine an individual's unique molecular characteristics and to use those genetic distinctions to diagnose more finely an individual's disease
- Select treatments that increase the chances of a successful outcome and reduce possible adverse reactions
- Enhance the ability to predict an individual's susceptibility to diseases
- Try to shape steps that may help avoid or reduce the extent to which an individual will experience a disease.

“For personalized medicine to be a fully functioning reality at the clinical level, certain features are essential:
- an electronic medical record,
- personalized genomic data available for clinical use,
- physician access to electronic decision support tools,
- a personalized health plan,
- personalized treatments, and
- personal clinical information available for research use.”
Future Possibilities
Each hospital and health system executive must assess whether they can maintain and sustain a comprehensive Cancer Care Program.

**Why now?**

- Competitive realignment / consolidation
- Scrutiny of outcomes by not only employers and payors, but also by consumers
- Changes in reimbursement structures
- Capital and operating costs to underwrite and continue investing in this specialty (e.g. physicians, clinicians, diagnostic equipment, therapists, navigators, other services in support of patients such as rehabilitation, complementary care, palliative care, etc.)
The Continuing Evolution of Cancer Care

Previous trends included a wide range of Services Lines to support a population in a specific geographic area for convenience and in support of “local healthcare”.

Shifts began with employers that select specific healthcare providers who have documented outcomes and cost efficient care.
Future Possibilities

The Continuing Evolution of Cancer Care

1. Quality of Care / Outcomes
2. Patient Demographics and Trends
3. Continuum of Care for Cancer Care
4. Reconfiguration of Business Model / Relationships
5. Investment and Sustainability
6. When Economics Intersects the Delivery of Patient Care…
1. Quality of Care / Outcomes

The surge in both the expansion of existing Cancer Care programs and new programs continues. However, there is a clear relationship between volume and quality outcomes.

“…. the single American report showed an association between hospital volume of initial surgery and better 5-year survival. Studies of nonsurgical cancers, principally lymphomas and testicular cancer, were few but consistently showed better long-term outcomes associated with larger hospital volume or specialty focus. Studies in recurrent or metastatic cancer were absent. Across studies, the absolute benefit from care at high-volume centers exceeds the benefit from break-through treatments.” (18)
The question must now be posed:

**Do we have the clinical expertise and volume to consistently generate quality outcomes?**

**Next Steps:**
- Executive Team including Physician and Nursing leadership assessment of current metrics for Cancer Care
- Assessment of local market to understand competitive position
- Assessment of population in service area and trends for types of cancer / frequency
- Evaluate Strategic business goals with data from these assessments
- Determine whether a Cancer Care program can be sustained over time
1. Quality of Care / Outcomes

Advancing Quality Measures for Cancer Care

“The measures include those that have been endorsed for at least three years and are now undergoing NQF endorsement maintenance. The ongoing evaluation and updating of endorsed measures ensures they are current and relevant to NQF’s cancer portfolio. In all, 26 measures were evaluated against NQF’s endorsement criteria, with 22 receiving endorsement status.”

Laura J. Miller, FACHE
Interim CEO (2012)
National Quality Forum (19)

“The National Cancer Institute estimates that half of men and one third of women in the United States will develop cancer in their lifetime. Given this widespread impact, NQF is pleased to endorse a set of measures that will help cancer patients across the country receive safe, high-quality care.”

Laura J. Miller, FACHE
Interim CEO (2012)
National Quality Forum (19)
1. Quality of Care / Outcomes

Other sources for comparative metrics during your analysis:

Specific information on hospitals and health systems is readily available to review benchmark data for various health conditions including Cancer Care.
1. Quality of Care / Outcomes

Other sources for comparative metrics during your analysis:

The information at the right provides the various indicators regarding Cancer Care that are collected and available for each hospital and health system.
It is important to know the data, both national and your local population. This will inform business strategies to support Cancer Care for a service area. All medical specialties will be focused on population management. Do you have sufficient data to understand patterns and trends?

Danish Study on Aging  
(Published in The Lancet)  
- The number of people reaching very old age is on the rise globally.  
- In the U.S., for example, the amount of people aged 90 or above has more than doubled in 30 years.  
- "This finding suggests that more people are living to older ages with better overall functioning."

Per Cent of Medicare Beneficiaries Diagnosed with Cancer  
- 2013: 54%  
- 2030: 72%
In addition to the per cent incidence of Cancer identified over time, we also know that the number of survivors is 12 M (2012). In 2013, it is expected that 1,600 new Cancer cases will be diagnosed. (24)

Life Expectancy: (24)

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Birth</td>
<td>76.8 yrs.</td>
<td>78.7 yrs.</td>
</tr>
<tr>
<td>At 65 yrs.</td>
<td>17.6 yrs.</td>
<td>19.1 yrs.</td>
</tr>
</tbody>
</table>
2. Patient Demographics and Trends

U.S. Demographic Changes Based on Geography

*Changes in Metropolitan Cities*
(Data from 2000 to 2012) (25)

**Top 10 Fastest Growing Cities**
- No. 1: Raleigh, NC
- No. 2: Austin, TX
- No. 3: Las Vegas, NV
- No. 4: Orlando, FL
- No. 5: Charlotte, NC
- No. 6: Riverside-San Bernardino, CA
- No. 7: Phoenix, AZ
- No. 8: Houston, TX
- No. 9: San Antonio, TX
- No. 10: Dallas-Fort Worth, TX

**Top 10 Slowest Growing Cities**
- Cleveland, OH
- Detroit-Warren-Livonia, MI
- Buffalo, NY
- Pittsburgh, PA
- Providence, RI
- Rochester, NY
- Milwaukee, WI
- St. Louis, MO
- Chicago, IL
- New York, NY
2. Patient Demographics and Trends

Access to Trending Information: Public Posting of Hospital / Health System Information

A growing amount of data is being posted publically. The access to this data may potentially influence consumers and patients. The impact may be direct or indirect to your service line.

Patients who gave their Hospital a rating of 9 or 10 on a sale from 0 (lowest) to 10 (highest).

[Note: This is an actual sort from the HospitalCompare web site.] (26)
3. Continuum of Care for Cancer Care

How will you configure your Cancer Care services?

- Pharmacist
- Nutrition
- Palliative Care
- Social Worker
- Rehabilitation
- Genetic Counseling
- Clinical Trials
- Spiritual Care
- Mental Health
- Personalized Medicine
- Specialized Clinic / Urgent Care
- Navigator
- Cancer Survivors
- Massage Therapy
- Homeopathy
- Acupuncture
- Ayurveda
- Yoga/Meditation
- Traditional Chinese Medicine
3. Continuum of Care for Cancer Care

Example: Expanding Care for Patients

An Acute Care Clinic (ACC) offers same-day services for current patients experiencing these health effects:

- Infections
- Nausea or vomiting
- Dizziness
- Side-effects from cancer treatment such as chemotherapy
- Uncontrolled chronic issues such as blood pressure or blood sugar

Note: This is not an emergency room or a walk-in clinic.

Services provided include:

- Urgent care for medical, surgical, radiation oncology, and clinical trial patients
- Acute care for infusion suite patients
- Care for poorly controlled chronic internal medicine issues
- Pre-operative consultations
- Timely hospital follow-up evaluations
- Evaluation of as-yet undiagnosed new patients
- Evaluation of complex patients with uncertain diagnosis
Example: Patient Navigators and Cancer Patients (28)

- ARRA funding has been applied to a NCI Community Cancer Centers Program pilot (NCCCP).
- The Cancer Institute is one of these pilot sites.
- There is significant impact in patient satisfaction when a navigator is available to guide them through the care process.
- This program also includes multidisciplinary team of cancer specialists.

Note: See Appendix C for list of current, participating NCCCPs.
Future Possibilities

4. Reconfiguration of Business Model / Relationships

“What do you think the healthcare delivery in the U.S. will look like in 10 years?

I think we'll see more narrow networks, but not in the way people typically define them as providing a broad range of care. Instead, we'll see networks that focus on specific diseases/disabilities. What people really want is what I call focused factories. You select a network based on your specific needs. So, if you have congestive heart failure, you select coverage that provides access to a network that focuses just on being great at treating CHF and all its many comorbidities — more than 30 common ones. The network would include cardiologists, but also nephrologists and specialists for adrenal diseases as well as social workers and psychologists. If I have breast cancer, I select a breast cancer network that offers medical oncology, radiology and surgery. That ensures that if I get a mastectomy, it is because the specialists jointly decided that that was the best treatment, and not because the surgeon was incentivized to do surgery.”

Regina Herzlinger, PhD
Nancy McPherson Professor of Business Administration
Harvard Business School and
Faculty Co-Chair of HBS' Business Innovations in Global Health Care executive education program (29)
Example:

"We're not creating a referral base. We are sharing our knowledge and treatment guidelines. We actually discourage travel for cancer patients, because that can be a huge burden and slow recovery."

Melanie Wong
Vice President, Business Development
MD Anderson Cancer Center (31)
Example: (33)

"Instead of competing, Renton, Wash.-based Providence Health Care has partnered with two other cancer treatment providers in the Northwest to form an alliance to reduce costs and coordinate care in the region… Providence Health Care, Spokane, Wash.-based Cancer Care Northwest and Kootenai Health in Coeur d’Alene, Idaho, have signed a memorandum of understanding as the first step in forming the alliance. The three providers would collaborate on patient care, clinical trials and physician recruitment while reducing costs and retaining local patients….. Providence Health Care has now stopped plans to construct a new cancer clinic that would have incurred high initial costs and heavy Competition from nearby Cancer Care Northwest.'

New cancer alliance to serve patients across the region

Spokane, WA—Cancer Care Northwest, Kootenai Health and Providence Health Care – the region’s premier health care leaders in cancer services – have signed a Memorandum of Understanding to form a new regional cancer alliance aimed at elevating the quality, coordination and care experience for patients and their families throughout the Inland northwest. This is not a merger or acquisition. It is an innovative model of clinical collaboration between three committed cancer care providers.

"Our goal is to build regional centers of excellence in oncology that will continually provide our patients with the latest advances in cancer therapies, cutting-edge research and the most sophisticated technology," says Warren Beninosa, chief executive officer of Cancer Care Northwest (CCNW). "By combining the expertise of each organization, our aim is to further expand the coordinated treatment of cancer patients, allowing them to remain close to home for their care".
Future Possibilities

5. Investment and Sustainability

Significant levels of investment are required to support Cancer Care to ensure technology and infrastructure can appropriately support the complexity of care necessary to treat different levels of care for such patients.

Sustainability essentially depends on reimbursement levels. The impending transition from ICD-9 to ICD-10 may also create an impact on sustainability of this service line.

(requires careful and detailed scrutiny of contracts with payers and employers to determine whether unexpected losses will be realized)
5. Investment and Sustainability

To ensure a path to sustainability for a Cancer Care service line:

- Prepare a 3 to 5 year capital and operating budget to support it
- Secure Executive and Board approval with scheduled, annual reviews
- Identify metrics by which “health” of service line can be benchmarked
- Determine access to various funding requirements: Philanthropic, Board designated funds, grants, etc.

Then ask these proposed questions during each annual review:
Does the local / regional population continue to support this Cancer Care service line?
Are there shifts in the demographics that negatively impact the service line?
“Cancer care is among the top 3 highest medical cost categories in the United States. Oncology also is an area of clinical care that is characterized by high variability in costs and treatment choices across the country. Given this large medical cost footprint and significant potential for clinical improvement, we believed and showed that applying evidence-based guidelines-pathways to cancer care can help address the variability and get to equal or better health outcomes and lower costs… Supporting oncologists through these changes is critical and new contractual relationships must drive positive change for their practices and their patients.”

Ira Klein, M.D.
Chief of Staff to Chief Medical Officer and Head of Oncology Strategy
Aetna
March, 2013: Study published in the *Journal of the National Cancer Institute* (35)

- No clear association between the **survival rate of patients** with advanced cancer and the **amount Medicare spent** on their care
- Significant variation in Medicare **spending** on cancer care — a **difference ranging from 32 to 41 %**, depending on the region

“…care plans will never be altered in Moffitt's ACO for cost purposes; rather, the model is encouraging physicians to keep a closer eye on the prices of certain care processes.”

Janene Culumber  
**Senior Vice President of Finance and CFO**  
*Moffitt Cancer Center (Tampa, FL)* (35)
"Oncology has had a problem because there have not been formally adopted quality metrics. I think we'll see a very rapid expansion of public reporting to quality measures, including patient satisfaction. It's something we're experiencing now in the Medicare world, but I think it will go far beyond that. It will be one of the metrics that determines appropriate reimbursement for practices, and patients will look it up."

Michael Kolodziej, M.D.
National Medical Director for Oncology Strategies
Aetna (36)

Pilot: Payor and Cancer Care Provider (36)
- Aetna/US Oncology and Texas Oncology (June, 2010 – April, 2012)
- providers used guidelines for evidence-based medicine
- Nurse navigators also involved
- 12 % reduction in costs for lung, breast and colorectal cancers
- 40 % decrease in ER
- 16.5 % decrease in hospital admissions among 184 enrolled members

Future plans based on pilot results:
Aetna may begin offering bundled payments for subsets of oncology services within the next 3 years
Future Possibilities

In Summary….

With over 200 types of cancer, it is important to assess the viability, appropriateness and sustainability of your Cancer Care services. The future will be determined by whether:

- organic growth can occur based on patient demographics and competitive landscape
- initial and on-going investments are sustained to support the needed level of clinical expertise, medical technology and innovations in care
- quality outcomes can be documented repeatedly and consistently
- care can be rendered in a cost efficient manner for the patient population that is served
“Modern cancer care is characterized by three important facets: state-of-the-art clinical medicine, which may include evidence-based and sophisticated therapies targeted to patients’ tumor and biological characteristics. Second, an approach to care that is attentive to the spectrum of patients’ needs (i.e., physical, psychosocial, functional, spiritual). Third, the use of systems solutions, both human and machine, that support organizations in achieving their clinical medicine and patient-centered care delivery goals. Optimizing these delivery features for a disease as complicated and heterogeneous as cancer often entails complex decision making, multiple handoffs between primary and specialty care providers, and coordination among cancer care team members.” (37)
“Sittig envisioned a cancer care environment in 2015 where technologic innovations from web-enabled mobile devices, integrated patient phenotype and genotype databases for individualized treatment, and real-time decision support, could potentially enhance the clinical, organizational and relational aspects of care. Because many individuals are already within a care delivery practice or system at the time of cancer diagnosis, these tools can be useful across the continuum of cancer care to address prevention, diagnosis, treatment and survivorship.” (37)

What is the future that your healthcare organization will strive for in support of a Cancer Care Program?
Questions / Comments

We welcome your comments or questions.

Thank you for your attention today.
Contact Information

Joseph J. DeSilva, FACHE
Partner
Cell Phone: 480.560.0463

Lucy Mancini Newell, MBA, FHIMSS
Managing Partner
Cell Phone: 224.388.6376

Corporate Phone No: 1.800.678.8524
Web Site: www.Kiran-Consortium.com
Other Thought Leadership Materials Are Found On Our Web Site.

E-Mail Address:
Joseph.DeSilva@Kiran-Consortium.com
Lucy.Mancini-Newell@Kiran-Consortium.com
Please contact us if you would like to have us work with your healthcare organization or speak to your professional society.

www.Kiran-Consortium.com
Appendixes

Appendix A: National Cancer Institute Designations (as of 2013)


Appendix C: 2012 NCCCP Community Hospitals and Health Systems
Appendix A

National Cancer Institute Designations (as of 2013): (38)
  o Comprehensive Cancer Centers, and
  o Cancer Centers

Comprehensive Cancer Centers (Quantity = 41)

Alabama: University of Alabama at Birmingham Comprehensive Cancer Center
Arizona: Arizona Cancer Center at the University of Arizona (Tucson)
         Mayo Clinic Cancer Center—Scottsdale
California: Chao Family Comprehensive Cancer Center at the UC Irvine Medical Center (Orange)
          City of Hope National Medical Center (Duarte)
          Jonsson Comprehensive Cancer Center at the University of California, Los Angeles
          Rebecca and John Moores UCSD Cancer Center at the University of California, San Diego
          UCSF Helen Diller Family Comprehensive Cancer Center at the University of California, San Francisco
          UC Davis Comprehensive Cancer Center of the UC Davis Health System (Davis)
          USC/Norris Comprehensive Cancer Center and Hospital of the University of Southern California (Los Angeles)
Colorado: University of Colorado Cancer Center (Aurora)
Connecticut: Yale Cancer Center (New Haven)
District of Columbia: Lombardi Comprehensive Cancer Center at Georgetown University Medical Center (Washington)
Florida: H. Lee Moffitt Cancer Center & Research Institute at the University of South Florida (Tampa, FL)
        Mayo Clinic Cancer Center—Jacksonville
Illinois: The Robert H. Lurie Comprehensive Cancer Center at Northwestern University (Chicago, IL)
         University of Chicago Comprehensive Cancer Center (Chicago, IL)
Iowa: The Holden Comprehensive Cancer Center at the University of Iowa (Iowa City, IA)
Maryland: Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins (Baltimore, MD)
Appendix A

National Cancer Institute Designations (as of 2013) (38): Comprehensive Cancer Centers

Comprehensive Cancer Centers (Quantity = 41)

**Massachusetts:** Dana-Farber/Harvard Cancer Center (Boston, MA)
**Michigan:** Barbara Ann Karmanos Cancer Institute (Detroit, MI)
University of Michigan Comprehensive Cancer Center (Ann Arbor, MI)
**Minnesota:** Mayo Clinic Cancer Center (Rochester, MN)
The Cancer Center at the University of Minnesota (Minneapolis, MN)
**Missouri:** Alvin J. Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine (St. Louis, MO)
**New Hampshire:** Norris Cotton Cancer Center of Dartmouth-Hitchcock Medical Center (Lebanon, NH)
**New Jersey:** The Cancer Institute of New Jersey (New Brunswick, New Jersey)
**New York:** Herbert Irving Comprehensive Cancer Center of New York-Presbyterian Hospital, Columbia University Medical Center (New York, NY)
Memorial Sloan-Kettering Cancer Center (New York, NY)
Roswell Park Cancer Institute (Buffalo, NY)
**North Carolina:** Comprehensive Cancer Center of Wake Forest University (Winston-Salem, NC)
Duke Cancer Institute (Durham, NC)
UNC Lineberger Comprehensive Cancer Center (Chapel Hill, NC)
**Ohio:** Case Comprehensive Cancer Center (Case Western Reserve University; Seidman Cancer Center, University Hospitals, Case Medical Center; Taussig Cancer Institute, Cleveland Clinic) (Cleveland, OH)
The Ohio State University Comprehensive Cancer Center (The Arthur G. James Cancer Hospital & Richard J. Solove Research Institute) (Columbus, OH)
**Pennsylvania:** Abramson Cancer Center of the University of Pennsylvania (Philadelphia)
Fox Chase Cancer Center (Philadelphia)
University of Pittsburgh Cancer Institute/UPMC Cancer Centers (Pittsburgh)
Appendix A

National Cancer Institute Designations (as of 2013) (38)
Comprehensive Cancer Centers (41) and Cancer Centers(26)

Comprehensive Cancer Centers (Quantity = 41)

Tennessee:  Vanderbilt-Ingram Cancer Center of Vanderbilt University (Nashville, TN)
             St. Jude Children's Research Hospital (Memphis, TN)
Texas:     University of Texas M. D. Anderson Cancer Center (Houston)
Washington: Fred Hutchinson Cancer Research Center (Seattle)
Wisconsin:  UW Carbone Cancer Center of the University of Wisconsin Hospital and Clinics (Madison)

Cancer Centers
California: The Sanford-Burnham Medical Research Institute (La Jolla, CA) - laboratory only
            UC Davis Cancer Center (Sacramento, CA)
            Salk Institute for Biological Studies (La Jolla, CA) - laboratory only
            The Stanford Cancer Center (Stanford, CA)
Georgia:  Winship Cancer Institute at Emory University (Atlanta, GA)
Hawaii:   University of Hawaii Cancer Center (Honolulu, HI)
Indiana:  Indiana University Cancer Center (Indianapolis, IN)
          Purdue Cancer Center (West Lafayette, IN) - laboratory only
Kansas:   The University of Kansas Cancer Center (Kansas City, KS)
Maine:    Jackson Laboratory (Bar Harbor, ME) - laboratory only
Appendix A

National Cancer Institute Designations (as of 2013) \(^{(38)}\): Cancer Centers – Quantity 26

Cancer Centers

Maryland: University of Maryland Greenebaum Cancer Center (Baltimore, MD)
Massachusetts: MIT Center for Cancer Research (Cambridge, MA) - laboratory only
Nebraska: University of Nebraska Medical Center Eppley Cancer Center (Omaha, NE)
New Mexico: University of New Mexico Cancer Treatment Center (Albuquerque, NM)
New York: Albert Einstein Cancer Center (Bronx, NY)
            Cold Spring Harbor Laboratory (Cold Spring Harbor, NY) - laboratory only
            New York University (NYU) Cancer Institute (New York, NY)
Oregon: The Knight Cancer Institute (Portland, OR)
Pennsylvania: Kimmel Cancer Center of Thomas Jefferson University Hospital (Philadelphia, PA)
              Wistar Institute (Philadelphia, PA) - laboratory only
South Carolina: Medical University of South Carolina Hollings Cancer Center
Texas: San Antonio Cancer Institute of Cancer Therapy & Research Center and the University of Texas Health Science Center at San Antonio
       Howard C. Simmons Cancer Center of University of Texas Southwestern Medical Center
Utah: Huntsman Cancer Institute of the University of Utah (Salt Lake City, UT)
Virginia: Massey Cancer Center of Virginia Commonwealth University (Richmond, VA)
          The Cancer Center at the University of Virginia (Charlottesville, VA)
Appendix B

U.S. News & World Report Survey: Best Health Systems for Cancer Care

2012-2013 List By Ranking (Adults Only) (39)

1. University of Texas M.D. Anderson Cancer Center (Houston, TX)
2. Memorial Sloan-Kettering Cancer Center (New York, NY)
3. Johns Hopkins Hospital (Baltimore, MD)
4. Mayo Clinic (Rochester, MN)
5. Dana-Farber / Brigham and Women’s Cancer Center (Boston, MA)
6. Cleveland Clinic (Cleveland, OH)
7. Massachusetts General Hospital (Boston, MA)
8. University of Washington Medical Center (Seattle, WA)
9. Ronald Reagan UCLA Medical Center (Los Angeles, CA)
10. Barnes-Jewish Hospital / Washington University (St. Louis, MO)
11. University of Maryland Medical Center (Baltimore, MD)
12. UCSF Medical Center (San Francisco, CA)
13. Duke University Medical Center (Durham, NC)
14. University of Michigan Hospital and Health Centers (Ann Arbor, MI)
15. Stanford Hospital and Clinics (Palo Alto, CA)
16. University of Chicago Medical Center (Chicago, IL)
17. New York-Presbyterian University Hospital of Columbia and Cornell (New York, NY)
18. Seidman Cancer Center at UH Case Medical (Cleveland, OH)
19. Hospital of the University of Pennsylvania (Philadelphia, PA)
20. Thomas Jefferson University Hospital (Philadelphia, PA)
21. University of Minnesota Medical Center (Minneapolis, MN)
22. Moffitt Cancer Center (Tampa, FL)
23. City of Hope (Duarte, CA)
24. University of Iowa Hospitals and Clinics (Iowa City, IA)
25. Ohio State University James Cancer Hospital (Columbus, OH)

Note:
Survey information - More than 900 hospitals are listed in Cancer. All are experienced in treating difficult cases—a hospital is listed only if at least 254 inpatients in need of high level of expertise in this specialty were treated there in 2008, 2009, and 2010. The top 50 hospitals are ranked, based on score. The rest are listed alphabetically.

Note:
2013-2013 Ranking for Best Hospitals is now available: http://health.usnews.com/best-hospitals (Adults Only) and http://health.usnews.com/best-hospitals/pediatric-rankings (Pediatric Only)
## Appendix B

### U.S. News & World Report Survey: Best Health Systems for Cancer Care

#### 2012-2013 List By Ranking (Adults Only) (39)

26. Wake Forest Baptist Medical Center (Winston-Salem, NC)
27. Northwestern Memorial Hospital (Chicago, IL)
28. UPMC-University of Pittsburgh Medical Center (Pittsburgh, PA)
29. Vanderbilt University Medical Center (Nashville, TN)
30. NYU Langone Medical Center (New York, NY)
31. Hackensack University Medical Center (Hackensack, NJ)
32. Indiana University Health (Indianapolis, IN)
33. Cedars-Sinai Medical Center (Los Angeles, CA)
34. University of Colorado Hospital (Denver, CO)
35. Yale-New Haven Hospital (New Haven, CT)
36. Shands at the University of Florida (Gainesville, FL)
37. University of Kansas Hospital (Kansas City, KS)
38. Methodist Hospital (Houston, TX)
39. Emory University Hospital (Atlanta, GA)
40. Nebraska Medical Center (Omaha, NE)
41. University of Wisconsin Hospital and Clinics (Madison, WI)
42. Mount Sinai Medical Center (New York, NY)
43. University of North Carolina Hospitals (Chapel Hill, NC)
44. USC Norris Cancer Hospital (Los Angeles, CA)
45. Magee-Women’s Hospital of UPMC (Pittsburgh, PA)
46. University of California Davis Medical Center (Sacramento, CA)
47. Roswell Park Cancer Institute (Buffalo, NY)
48. Beth Israel Deaconess Medical Center (Boston, MA)
49. Robert Wood Johnson University Hospital (New Brunswick, NJ)
50. Fox Chase Cancer Center (Philadelphia, PA)

**Note:**
Survey information - More than 900 hospitals are listed in Cancer. All are experienced in treating difficult cases—a hospital is listed only if at least 254 inpatients in need of high level of expertise in this specialty were treated there in 2008, 2009, and 2010. The top 50 hospitals are ranked, based on score. The rest are listed alphabetically.

**Note:**
2013-2013 Ranking for Best Hospitals is now available: [http://health.usnews.com/best-hospitals (Adults Only)] and [http://health.usnews.com/best-hospitals/pediatric-rankings (Pediatric Only)]
The 2012 NCCCP network consists of 21 community hospitals in 16 states and sees approximately 40,000 cancer patients per year. With an emphasis on ensuring that patients from medically underserved populations have the same access to research studies and quality cancer care as other patients, the hospitals are serving patients in rural, suburban, and urban locations. Participants listed: (40)

CA: St. Joseph Health, The Center for Cancer Prevention and Treatment (Orange)
CO: Penrose St. Francis Health Services (Member of Catholic Health initiatives) Penrose Cancer Center (Colorado Springs)
CT: Hartford Hospital, Helen and Harry Gray Cancer Center (Hartford)
DE: Helen F. Graham Cancer Center at Christiana Care (Newark)
GA: Northside Hospital, Northside Cancer Institute (Atlanta)
GA: St. Joseph’s/Candler, Nancy N. and J.C. Lewis Cancer & Research Pavilion (Savannah)
HI: The Queen’s Medical Center, The Queen’s Cancer Center (Honolulu)
IA: Mercy Medical Center, Mercy Cancer Center (Des Moines)
KY: Norton Suburban Hospital, Norton Cancer Institute (Louisville)
LA: Our Lady of the Lake Regional Medical Center, Mary Bird Perkins-Our Lady of the Lake Cancer Center (Baton Rouge)
MI: Saint Mary’s Health Care, The Lacks Cancer Center (Grand Rapids)
MT: Billings Clinic, Billings Clinic Cancer Center (Billings)
NE: St. Francis Medical Center (Member of Catholic Health initiatives), St. Francis Cancer Treatment Center (Grand Island)
NE: Good Samaritan Hospital (Member of Catholic Health Initiatives) Good Samaritan Cancer Center (Kearney)
NE: St. Elizabeth Regional Medical Center (Member of Catholic Health initiatives), St. Elizabeth Cancer Center (Lincoln)
PA: Lehigh Valley Health Network, John and Dorothy Morgan Cancer Center (Allentown)
PA: Geisinger Medical Center, Geisinger Medical Center Cancer Institute (Danville)
PA: Einstein Healthcare Network, Einstein Cancer Center (Philadelphia)
SC: Spartanburg Regional, Gibbs Cancer Center (Spartanburg)
SD: Sanford USD Medical Center, Sanford Cancer Center (Sioux Falls)
WI: Gundersen Health System, Gundersen Lutheran Center for Cancer and Blood Disorders (La Crosse)

Former NCCCP-selected Community Hospitals
- St. Luke's Regional Medical Center (Boise, ID) 2010-2012
- Providence Portland Medical Center (Portland, OR) 2010-2012
- Waukesha Memorial Hospital (Waukesha, WI) 2010-2012
- St. Vincent Hospital (Indianapolis, IN) 2007-2012
- Columbia St. Mary's (Milwaukee, WI) 2007-2012
- Seton Family of Hospitals (Austin, TX) 2007-2012
- St. Joseph Medical Center (Towson, MD) 2007-2012
- Maine Medical Center (Portland, ME) 2010-2012
- St. Joseph Mercy (Ypsilanti, MI) 2010-2012
Bibliography
Bibliography

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Bibliography

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http://online.wsj.com/article/SB10001424052970204900904574308241898002848.html

http://online.wsj.com/article/SB10001424127887324904004578539611296432752.html#printMode

Page 17: (8) Mehr , Stanton R. “Applying Accountable Care to Oncology: Developing an Oncology ACO”, The American Journal of Managed Care (Published Online), May 07, 2013.

http://www.beckershospitalreview.com/hospital-key-specialties/11-cancer-center-expansions-may-8-2013.html

http://health.usnews.com/best-hospitals/rankings
See Appendix B for the specific names of top 50 Cancer Care hospitals/health systems. 2013-2014 list is available as of July 17, 2013.

Page 20: (11) The David. H. Koch Institutive for Integrative Cancer Research at MIT, Boston, MA.
http://ki.mit.edu/research
(12) Memorial Sloan-Kettering Cancer Center, New York, NY. http://www.mskcc.org

## Bibliography

### Current Trends in Cancer Care

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### Future Possibilities

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Bibliography

Future Possibilities

Page 38: (27) Information specifically quoted from Web Site for Huntsman Cancer Institute:

http://www.cancer.gov/aboutnci/recovery/communityimpact/patientnavigators


Page 41: (30) M.D. Anderson Cancer Center Web Site for Locations of Services.
http://www.mdanderson.org/locations/index.html
http://www.ama-assn.org/amednews/2013/02/25/bisa0225.htm

(33) Gregg, Helen. “Providence Health to Avoid Costly Cancer Competition Through Alliance “, May 08, 2013.
http://www.beckershospitalreview.com/hospital-key-specialties/providence-health-to-avoid-costly-cancer-competition-through-alliance.html

Page 45: (34) Mehr, Stanton R. “Applying Accountable Care to Oncology: Developing an Oncology ACO”, The American Journal of Managed Care (Published Online), May 07, 2013.


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Bibliography

Future Possibilities


Appendix A

Appendix B

Appendix C

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