Presentation Overview

How a Cancer Center’s program is developed, tested and refined during the design process using Griffin Hospital’s Planetree Facility as a case study.

Unique aspect of Griffin’s Cancer Center. Focus on patient centered care; establishing a partnership among practitioners, patients and their families.
The Process

**Situation Assessment**

*Does the institution have a strategic plan, master plan*

**Role of Specialty Consultants; Oncology Solutions, Inc.**

*Establish an interdisciplinary Oncology Working Group (OWG) to include medical oncologist, surgeons, primary care physicians, OB/GYN, urologists, pathologists, radiologists, nurse managers, radiation oncologists, hospital facility planning staff (in-house and architect), administrators.*

**Organizational Development**

- *Physician integration, maximizing bond with oncologists and referring physicians to ensure an integrated program.*
- *Interview sessions with cancer program key stakeholders.*
The Process

Business Model

• Service delivery and cancer-related signature services
• Coordination of cancer services
• Market analysis of service area demographic and cancer incident trends
• Cancer patient profiles
• Clinical quality and service quality surveys
• Design impact on the healing process

Surveys of Programs and Services

Inpatient related services, sub-specialty and clinically related programs, education, prevention, screening and detection, diagnosis and treatment, clinical research, supportive care, administration and operations.
Program Development

Functional Space Program

- Defines all of the services to be housed in the facility
- Organized by service and room by room
- Rooms listed with a description of function, specific design or planning requirements, adjacencies, and square footage requirements
## Functional Space Program

### 1.B Radiation Oncology Reception & Waiting

<table>
<thead>
<tr>
<th>Room Name</th>
<th>Function</th>
<th>Special Requirements</th>
<th>Space Requirements</th>
</tr>
</thead>
</table>
| Patient & Family Seating | “Presents” the cancer center to the community: the patients, family members, and visitors. The environment should be designed to create a positive impact statement and ambiance needed to assure the community that the center is a resource for them. Patients receiving chemotherapy, radiation therapy and supportive care services as well as those accompanying them will use this area. Rather than a “waiting room”, this area should be considered and designed as a “welcome” area that immediately projects an air of respect, calm and support. Functionally, the area may be designed to serve as a meeting room for support groups or other community programs. If appropriately marketed as available meeting space, community accessibility is an excellent way to become familiar with the center and increase awareness of community members and medical staff. Further, the space may be used by physicians for speaking events and educational programs. | An environment that is warm, positive, patient-sensitive and provided with comfortable, aesthetically pleasing individual chairs. Individual chairs with arms are easier for patients to use, and can be arranged to accommodate after-hours group meetings. While group seating is necessary in this area, bench, sofa or adjoining chair style seating is not recommended. Whatever the style of chair, care should be taken to ensure that the chairs are sturdy enough to provide adequate support for use by handicapped, frail, obese or elderly patients. | 288 Sq. Ft.  
12 Chairs x 20 Sq. Ft.  
240 Sq. Ft. and  
48 Sq. Ft. for a puzzle or worktable. |
## Summary Room List Requirements

<table>
<thead>
<tr>
<th>Service / Program Component</th>
<th>NSF Total</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer Center Reception</td>
<td>718</td>
<td></td>
</tr>
<tr>
<td>Business Offices</td>
<td>1,386</td>
<td></td>
</tr>
<tr>
<td>Patient Supportive Care Services</td>
<td>1,880</td>
<td></td>
</tr>
<tr>
<td>Radiation Therapy Suite</td>
<td>4,454</td>
<td></td>
</tr>
<tr>
<td>Radiation Oncology Office and Admin.</td>
<td>480</td>
<td></td>
</tr>
<tr>
<td>Building Services &amp; Physical Plant</td>
<td>510</td>
<td></td>
</tr>
<tr>
<td><strong>First Floor Total</strong></td>
<td><strong>9,428</strong></td>
<td>NSF (Net Square Feet)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Service / Program Component</th>
<th>NSF Total</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer Center Reception</td>
<td>498</td>
<td></td>
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<tr>
<td>Medical Oncology Suite</td>
<td>1,192</td>
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<tr>
<td>Medical Oncology Offices and Admin.</td>
<td>990</td>
<td></td>
</tr>
<tr>
<td>Chemotherapy Day Treatment</td>
<td>1,913</td>
<td></td>
</tr>
<tr>
<td>Clinic Lab Services</td>
<td>364</td>
<td></td>
</tr>
<tr>
<td>Data Mgmt., Tumor Registry, and Admin.</td>
<td>848</td>
<td></td>
</tr>
<tr>
<td>Building Services &amp; Physical Plant</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td><strong>Second Floor Total</strong></td>
<td><strong>6,055</strong></td>
<td>NSF (Net Square Feet)</td>
</tr>
</tbody>
</table>

### Cancer Center Subtotal

- **First and Second Floor Subtotal**: 15,483
- Delete Vault From Subtotal: 1,400
- **Second Floor Total**: 14,083
- Department Grossing Factor: 1.15
- **16,195**
- Building Grossing Factor: 1.35
- **21,864**
- Add Vault @ GSF: 1,400
- **Estimated building Area**: 23,264
## Cancer Center Assumptions

**Building Assumptions:**
Assumes a 2 story facility.

**Estimated Annual Patient Capacity:**

<table>
<thead>
<tr>
<th>Encounter Type</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam Room Encounters/Year</td>
<td>3,000</td>
</tr>
<tr>
<td>Vault Encounters/Year</td>
<td>7,950</td>
</tr>
<tr>
<td>Chemotherapy Infusion Encounters/Year</td>
<td>3,000</td>
</tr>
</tbody>
</table>

**Radiation Oncology volume assume 1 radiation oncologist with a maximum of 318 Patients/Year/Vault**
Each radiation patient is typically accompanied by 1.5 visitors.
Each radiation patient and visitor will spend a total of approximately 15 hours in the center during their course of treatment.

**Medical Oncology volumes assume 2 medical oncologists with a maximum of 500 Patients/Year**
Each medical oncology patient is typically accompanied by 2 visitors.
Each medical oncology patient and visitors will spend a total of approximately 33 hours in the center during their course of treatment.
Program Development

Program Factors to Consider

- **Is a process that permits the owner to convey their expectations**
- **Program is stated in net square feet (NSF)**
- **During early design phases, rely on building multipliers to determine DGSF and BGSF.**
- **Critical to have understanding of impact as square footage sets estimate cost - easy to be off by 15% and hard to recover later in design**
- **Capital Cost – construction or space**
- **Operation Cost – staff or efficiency**
- **Program sets square footage which sets construction cost**
- **Balance facility efficiency with operational efficiency**
- **Size scale and proportion of space**
Program

Goals-Facts-Concepts-Needs

• Start with facts – fact gathering
• Project kick-off, site tours, interviews
• Departmental discussions
• Document findings

Form-Function-Economy-Time

• Interview users, test concepts
• Build consensus based on facts, needs and opportunities
• Focus on mission vision and service delivery
• Patient and family first

Issues and Opportunities

• Collaborate
• Identify conflicts, concerns
• Define action items
Griffin Hospital
Griffin Hospital
Creating a Holistic Healing Community

People
Process
Prototype
Inspiration and Experience – Collaborative Design

- Design Team
- History
- Collaboration
Holistic Design Approach The ABC’s

• Ask
  – Be a good listener
  – Not just trends
  – Understand

• Observe
  – In the field
  – Shadow

• Engage
  – Test drive/Mock-up
A- Focus Groups

Patient Satisfaction Survey Comments

Other additional programs or services?

“An oncology dept at Griffin would be wonderful”

“Cancer facility”

“Cancer, radiation therapy”
A – Comments from Our Focus Groups

- Separate entrance to the Cancer Center
- Comfortable, inviting spaces for family and friends
- Easy “way finding”
- Spacious infusion spaces
- Lots of glass for outside viewing
- No hassle parking
- Incorporation of the “patient’s choice” where ever possible
- Improved communication and coordination among caregivers
Cancer Patient Profiles

MEETING PATIENT EXPECTATIONS

- Quick turnaround on “front end”--diagnostics and consults
- Access to advanced technologies/ research
- Highly coordinated care; a “partner” through episodes of care/Cancer Concierge
- Easy access (parking, combination of services, close to hospital, etc.)
- Comprehensive array of supportive care services
- Access to information and to be active participants in their treatment/care decisions
- Multi-disciplinary approach to treatment/care
- Access to specialized care through “virtual” centers/organ site clinics

Prepared by:
Service Delivery

- A more sophisticated cancer consumer
- Cancer patients seeking second opinions and by-passing primary physicians
- How patients rate the importance of service quality versus clinical quality
- Focus on latest technologies and research
- Importance of cancer care facilities
Signature Services and Service Area

- Inpatient related services
- Sub-specialty and clinically related programs
- Education, prevention, screening and detection
- Diagnosis and treatment
- Clinical research
- Supportive care
- Administration and operations
B – Community: Project War Room

- **Communication**
  - Meeting room
  - Discovery Room
  - Share Progress
  - Share information
  - Feedback
  - Life of project
C - Research

- Pre-Design Survey
- Tour Evaluations
- Post Occupancy Evaluations

The larger, private exam rooms have improved the overall patient experience.
“Documented” Healthcare Outcomes using Design Strategies or Environmental Interventions

R. Ulrich, Zimring, et al

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Description</th>
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<tbody>
<tr>
<td>Reduced hospital – acquired infections</td>
<td></td>
</tr>
<tr>
<td>Reduced medical errors</td>
<td></td>
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<tr>
<td>Reduced patient falls</td>
<td></td>
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<tr>
<td>Reduced pain</td>
<td></td>
</tr>
<tr>
<td>Improved patient sleep</td>
<td></td>
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<tr>
<td>Reduced patient stress</td>
<td></td>
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<tr>
<td>Reduced depression</td>
<td></td>
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<tr>
<td>Reduced length of stay</td>
<td></td>
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<tr>
<td>Improved patient privacy and confidentiality</td>
<td></td>
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<tr>
<td>Improved communication with patients/family</td>
<td></td>
</tr>
<tr>
<td>Improved social support</td>
<td></td>
</tr>
<tr>
<td>Increased patient satisfaction</td>
<td></td>
</tr>
<tr>
<td>Decreased staff injuries</td>
<td></td>
</tr>
<tr>
<td>Decreased staff stress</td>
<td></td>
</tr>
<tr>
<td>Increased staff effectiveness</td>
<td></td>
</tr>
<tr>
<td>Increased staff satisfaction</td>
<td></td>
</tr>
</tbody>
</table>

Research shows direct link between patient health and quality of care and the way the hospital is designed.

Source: Advisory Board 2006
D – Benchmarking – Data and Tours

- Yakima Valley Memorial Hospital North Star Lodge
- Swedish Cancer Institute
- Sloan-Kettering
- Massachusetts General
- Evergreen Healthcare Cancer Center
- Mid-Columbia Celilo Cancer Center
- Assarian Cancer Center
- Yale-New Haven Shoreline Medical Center
- Highline Medical Center Cancer Center
- Hansen Center
- D’Amour Cancer Center
- Praxair Cancer Center
- Harold Leever Cancer Center
Evergreen Healthcare Cancer Center

**Pros:**
- Compact, comfortable layout
- Casually defined space
- Light filled and uplifting
- Control central to treatment areas
- Garden at waiting is nice
- Best Linac we saw
- Linac storage best we saw
- Pleasant changing rooms
- Good support space (computer room, etc)
- Nice location for conference room
- Simple finish palette
- Fountain is great
- Subtle theme
- Intimate feel

**Cons:**
- Tough to get to
- No clear identity from exterior
- No dedicated entrance
- Difficult to access main courtyard
- Traffic patterns through exam area
- Infusion is remote
- Need the 2\textsuperscript{nd} phase of renovation
- Security?
Swedish Cancer Institute

**Pros:**
- Strong identity from exterior
- Garden buffers
- Nice public spaces
- Nice resource center
- Nice lower level lighting
- Nice conference areas
- Good combination of services
- Comprehensive program

**Cons:**
- Poor clinical organization
- Treatment areas poorly designed
- No design clarity in clinical areas
- Claustrophobic in exam and infusion
- Design quality drops in clinical areas
- Design impairs staffing
- Congested
North Star Lodge, Yakima Valley, Washington
North Star Lodge, Yakima Valley, Washington

**Pros:**
Strong identity
Relevant theme
Consistent design
Strong organization
Best infusion area we saw
Good patient privacy
Nice exam cluster
Strong landscape elements
Water was great
Materials support theme
Exercise room
Good community room
Intimate feel
A lot of people around

**Cons:**
Concern of splitting treatment/exam
No sub waiting on treatment side
**Celilo Cancer Center**

**Pros:**
- Site location and orientation
- Labyrinth
- Great view
- Spa theme
- Strong complimentary medicine
- A lot of light in central area
- Water elements
- Symbolism
- Great meditation room
- Healing environment dedication
- Infusion cluster was nice
- Exam rooms were private

**Cons:**
- Architectural execution is weak
- Bland color scheme and materials
- Non descript lobby
- Public areas not intimate
- Bad sound control
- Seemed stripped down
- Concern of splitting treatment/exam
Assarian Cancer Center

**Pros:**
- Concept of emphasis on the arts
- Comprehensive program

**Cons:**
- Execution of the concept
- Question cancer cell theme
- Acoustics on the meditation room
- Program space is cramped
- Clinical space was harsh
- Poor organization
- Concern of splitting treatment/exam
- Systems nurse stations
- Exterior was non-descript
D – Benchmarking – Outside the Silo

- Boston, Massachusetts
- New York, New York
- Seattle, Washington
- Portland, Oregon
- Riverside, California
- Las Vegas, Nevada

- Hospitality Industry
- Entertainment Industry
- Courtyards
- Texture
Themes
Literal Themes
Subtle Themes
Power of Nature
Griffin Cancer Center
Griffin Cancer Center
E – Outcomes Driven Planning: Program Evaluation

Space Program

Stacking Diagram
F - Value Stream Mapping Example

Current Patient Flow

Patient Arrives → Greeted by Registrar → Registrar notifies Triage → Triage → Waiting → Patient Registers → Patient to Exam Room

Proposed Flow

Patient Arrives → Greeted, Name and D.O.B. → Direct to Triage or Exam → Bedside Registration
G - Patient Path: Designing the Experience

SEQUENCE OF EXPERIENCE - MEDICAL ONCOLOGY

LEGEND
- Gateway
- Project Site
- Parking
- Exam Room
- Lab
- Exam Dress
- Patient Waiting
- Chemo Prep
- Infusion

SEQUENCE OF EXPERIENCE - BUILDING SCHEME A
Patient Experience Path
H – Evaluation

- Interactive & collaborative process
- Different Tools for Different Investigations
H – Evaluation: Role Play

- User input
- Interactive Process
- Mock-Up
- User’s kick the tires – simulation
- Listen & Critique
- Understand
- Design development
I – Organizing & Community Connectivity

• Deliberate (Themes)
• Opportunistic (Outreach)
I – Organizing & Proportional Harmonies in Nature
Griffin Cancer Center - Linear Accelerator
Griffin Cancer Center – Resource Library

[Images of the Griffin Cancer Center's Resource Library]

Association of Cancer Executives

The S/L/A/M Collaborative
Griffin Cancer Center – Medical Oncology
Griffin Cancer Center