Telehealth Cancer Genetics: Providing Patient Access to Oncology Genetic Services Closer to Home

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National Standards

Commission on Cancer Standard 2.16
- Cancer patients are referred to a cancer genetics professional based on national guidelines.

NCCN Genetic/Familial High-Risk Assessment: Breast & Ovarian Guidelines
- Cancer genetics referrals to be offered to specific patients:
  - All women with ovarian cancer
  - Women with breast cancer at age $\leq 45$ years of age
  - Women with triple negative breast cancer $\leq 60$ years of age
  - Other recommendations added over time
Local Concerns

• **Obstacles:**
  - Financial and time constraints of travel
  - Lack of regional access
  - Timely access to care
  - Fear of Genetics

• **Opportunities:**
  - LCI Genetics Department organized in 2012
  - CHS Virtual Services developing at the same time
Project Goals

1. Standardization of patient care:
   • Increase referrals of women meeting NCCN Guidelines
     • Baseline: 35% referral rate
     • Goal: 75% referral rate by 2015

2. Utilization of program:
   • Increase availability of genetic counseling service at regional LCI clinics
     • Baseline: 0% seen closer to home
     • Goal: 60% seen closer by 2017
Improvement Process

• Annual Program Review
  • Multiple PDSA cycles with regional clinics & LCI Genetics
  • Annual Provider and Staff Education

• Annual Evaluation Process
  • Review of cancer registry to evaluate appropriate referrals of patients meeting NCCN guidelines
  • Annual Referrals Review looked at location of service by patient’s county

• Annual Presentation of data at Tumor Section meetings and Network Cancer Committee
Results: Standardization of Patient Care

% of patients with breast or ovarian cancer, meeting NCCN guidelines for genetics referral, who were referred to LCI Genetics or other genetics

- LCI opens Sept 2012
- Nov 2012 start virtual genetics
- Increase in tumor bd attendance
- 2014 visits to Cleveland Tumor Bd and Lincoln office

- 2011: % ovarian referred
- 2012: % breast dx < 45 or TNBC < 60 referred
- 2013: % breast dx < 45 or TNBC < 60 referred
Results: Utilization Review

% of LCI Genetics new patients seen in home county LCI Clinic vs LCI Morehead

- Blue line: % Lincoln in LCI Lincoln
- Green line: % Cleveland seen at LCI Cleveland

Years: 2011 to 2017
Outcomes

Patient Satisfaction 2012-2014

97.4% (38/39) reported a very good (highest rating) experience and they would participate in another virtual visit.

- “Thank you for providing this service. It was very informative and saved me a trip to Charlotte. You provided excellent service today.”
- “Very convenient. Everything went very smoothly and everyone was excellent.”
- “I was given ample opportunity to ask questions. [Genetic counselor] was extremely thorough and professional. Learned many new aspects of cancer genetics.”

Sustainability & Program growth:

- 2012: 2 clinics, 16 visits
- 2017: 10 clinics, 354 visits
## Financial Impact

<table>
<thead>
<tr>
<th>LCI Site</th>
<th># of virtual visits in 2017</th>
<th>Round Trip Mileage</th>
<th>Gas Expense (2017 rate $0.535/mile)</th>
<th>TOTAL Patient $ Gas Savings</th>
<th>Travel time savings (hrs)</th>
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</thead>
<tbody>
<tr>
<td>LCI Albemarle</td>
<td>11</td>
<td>86</td>
<td>$46.01</td>
<td>$506.11</td>
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<td>AnMed Health Cancer Center</td>
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<td>LCI Blue Ridge</td>
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<td>LCI Cleveland</td>
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<td>LCI Lincoln</td>
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<tr>
<td><strong>Total</strong></td>
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<td><strong>$30,492.86</strong></td>
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