Application of Lean Methodology to Surgical Oncology Clinics improves resident cancer education experience

Collaborators

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Disclosures: None
What is “Lean” methodology?

Background: Lean methodology

- Developed by the Japanese automobile industry (esp Toyota) to improve efficiency by eliminating waste
- More recently applied to health care settings.
Is US health care like Japanense car making?

Post War Toyota
- Little Cash
- Little Space
- Low Morale
- Reputation for poor quality
- CHALLENGES: Focus on customer satisfaction by building a high quality car at a reasonable price

US Healthcare
- Little Cash
- Little Space
- Low Morale
- Reputation for Errors
- CHALLENGES: Focus on the patient by providing high quality, accessible, safe care that is affordable.

Kaizen
- A QI event
- Continuous improvements that are small, low cost, low-risk, and easily implemented.
- Everyday workers: Kaizen
  - goal: improve the workplace
- Managers: Innovation
  - Kaizen and Innovation can occur simultaneously
    - Jacobson GH. Acad Emerg Med 2009;16: 1341
Description:

- We applied Lean methods to our surgical oncology clinics to reduce patient wait and total visit times in order to improve clinic productivity and patient experiences.
- After a single *Kaizen* event patient wait and total clinic times were significantly reduced.

Surgical Oncology Project Charter

*Problem Statement:* Dr.’s patients and families experience longer than expected waits as reflected in patient satisfaction scores and patient flow assessments.

*Goal/Target:* Reduce patient wait time from an average of 38 minutes to 20 minutes & improve the Press Ganey mean score related to wait time (from 78.8 to 83) while maintaining the current Press Ganey means scores for Time CP spent with patient (93.5) and Standard Overall Assessment Mean Score (95.1).

*Objectives:*
1. Reduce non value added waste from front desk check-in through patient departure.
2. Meet scheduled appointment times

<table>
<thead>
<tr>
<th>In Scope</th>
<th>Out of Scope</th>
<th>Improvement Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr.’s clinic</td>
<td>Adding FTE</td>
<td>RN, PAS, CMA, Resident, Fellow, Surgeon, Manager, Supervisor</td>
</tr>
<tr>
<td>All visit types</td>
<td>Dr. Lift clinics</td>
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</tbody>
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*Project Sponsor:* Claire Lawrence, Dr. Kevin Billingsley
*Process Owner(s):* Claire Lawrence
*Facilitators:* Claire Lawrence, Jonna Frater

*Start Date:* May 2012  *Anticipated Completion Date:* continuous improvement
Challenge to Cancer Education:

- Opponents of this approach hypothesized a negative impact on resident educational experience.
  - Focus on time and patient flow
  - ? Fewer teachable moments
Evaluation:

- We observed a paradoxical improvement in resident-reported satisfaction with overall and educational experiences in clinics at all learner levels.

Resident Education Experience Feedback

- How satisfied are you with the educational experience in Dr. –’s clinic?

- At what point do you prefer to see a New Patient in Dr. –’s clinic?

- At what point do you prefer to see a follow up (pre-op/post op) patient in Dr. –’s clinic?

- How would you describe your documentation requirements in Dr. –’s clinic vs. other surgical clinics?
Explanation?

- In part attributed to:
  - overlapping the resident and attending contact times with the patient
  - production of the clinic visit EMR in real time
  - Gave attending more time to teach
  - Structure, clarification of resident duties

Resident Guidelines for Dr.-'s Clinic

**DR.-’S CLINIC STANDARDS**

- **New Visits**
  - Fellows/Residents review new visit medical records as far in advance of appointment time as possible (Nicole, MA has
  - Production of all records should be scanned in EPIC before day of appointment)
  - Begin documentation
  - Discuss findings with Dr. before entering patient room
  - Enter patient room with Dr.
  - Document during visit at computer in exam room.
  - Improved Smartphrase templates are being developed and
    will be added to this sheet soon.

- **Follow Up and Pre-Op Patients**
  - Review Medical Records in Epic and request any outstanding
    reports from MA when necessary as far in advance of
    appointment time as possible.
  - Enter patient room with Dr.
  - Document during visit at computer in exam room.
  - Improved Smartphrase templates are being developed and
    will be added to this sheet soon.

- **Open and close the flags on the outside of rooms when entering and leaving room**
  - SR – black flag
  - 1st and 3rd year Residents – white flag
  - Medical Assistant – red flag
  - Fellow/Chief Resident – blue flag
  - Medical Student – grey flag
  - Nurse – teal flag

- **RN/MA to knock on door**
  - At 15 minutes for office visit/post op
  - At 30 minutes for a pre-op visit
  - At 45 minutes for a new patient consult

- **Wash Hands! Know the 5 hand hygiene moments**
  - Before touching patient
  - Before clean/sterile procedure
  - After body fluid exposure risk
  - After touching a patient
  - After touching patient surroundings
Explanation:

- Result: more exposure and involvement of the residents with:
  - patient-attending interactions (modeling)
  - attending’s thinking process
  - development of the cancer care plan

Resident Education Experience Feedback

What's the best way for you to learn while in Dr. –'s clinic?
(Select all that apply)
Lessons Learned

• Residents were neutral regarding the best time to interact with the patient
• Residents scored interacting with the attending present over independent interaction.
• ?Downside: Less autonomy

Lean Methodology and Surgical Resident Education

• General surgery (5 different QI projects)
• Vascular surgery
  – Lean methods improved resident efficiency and lessened resident work
• Operating rooms
  – Lean methods did not lessen teaching
Discussion:

• Efforts to improve the efficiency of cancer care delivery, such as Lean methodology, should not be viewed as detrimental to resident cancer education experiences.

• Future plans:
  – Develop formalized teaching moments within the Lean clinic structure.
  – Apply Lean methodology to other cancer patient-resident interactions (e.g. hospital wards rounds and surgical operations).

Thank You!