The Long-Term Impact of Elective Rotations for Physician Assistant Students

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• Nearly all PA programs provide elective rotations for students
• Long-term impact of such rotations on PA students has not been explored
• PA students reported exposure to geriatric didactic and clinical training but with little interest in practicing geriatric medicine. (Swanchak 2012)

• A required long-term care geriatric rotation showed increase in knowledge but with no change in attitudes. (Bell-Dzide 2014)

• PA students who participated in a rural rotation were more likely to chose a rural position after graduation. (Deimer 2012)
Research Question

What long-term impact do clinical elective rotations have on PA students?

• Career choice
• Impact on future patient care
Methods

• Instrument was online and anonymous

• Question types included:
  - Likert scale and Yes/No questions
  - Open-ended responses

• Topics included:
  • satisfaction
  • career choice
  • perceived impact on patient care

• Survey completion dates:
  • March 2012 (1/2005-8/2011)
  • April 2014 (9/2011-8/2013)
Study Site

- The University of Texas MD Anderson Cancer Center - Texas Medical Center, Houston, Texas
- Clinical rotation site for > 20 years
- PA students from throughout the US
- Disciplines include med onc, surg onc, rad onc and others
- ~20% of students participating in rotations are later employed
- Rotation evaluations are conducted
Cancer Care

• Cancer in the US
  – lifetime incidence nearly 1 in 2
  – large and rising number of cancer survivors

• Most PA programs report modest clinical training with cancer patients.

• Many programs offer electives in oncology.

• <40% of PAs practicing in oncology completed elective rotations in school.

2010 PAEA curriculum study
Polansky et al. 2014
Ross et al. 2010
Subjects

- Inclusion Criteria:
  - PA students who completed an elective rotation at
    The University of Texas MD Anderson Cancer Center
    between 1/2005 - 8/2013
  - Available contact information in student file
## Participants

<table>
<thead>
<tr>
<th>Rotation cohort</th>
<th>Total students</th>
<th>Available contact info</th>
<th>Response rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2005 – 8/2011</td>
<td>182</td>
<td>74 (41%)</td>
<td>40 (54%)</td>
</tr>
<tr>
<td>9/2011 – 8/2013</td>
<td>77</td>
<td>74 (96%)</td>
<td>29 (39%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>259</strong></td>
<td><strong>148 (57%)</strong></td>
<td><strong>69 (47%)</strong></td>
</tr>
</tbody>
</table>
Rotation Disciplines

- Surg Onc: 35%
- Med Onc: 19%
- Hem Onc: 17%
- Int Med: 15%
- Other: 3%
- Ped Onc: 4%
- Rad Onc: 3%
- Gyn Onc: 1%
- Pain/Pall: 3%
“Overall, how would you rate your elective rotation for preparing you to work as a PA when caring for patients with cancer?”

<table>
<thead>
<tr>
<th></th>
<th>Responses</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excellent</td>
<td>52</td>
<td>75%</td>
</tr>
<tr>
<td>Good</td>
<td>6</td>
<td>20%</td>
</tr>
<tr>
<td>Adequate</td>
<td>1</td>
<td>4%</td>
</tr>
<tr>
<td>Poor</td>
<td>0</td>
<td>0%</td>
</tr>
</tbody>
</table>
Recommendation for Other Students

“Indicate how likely you would be to recommend the MD Anderson elective rotation to a PA student.”

<table>
<thead>
<tr>
<th>If they are interested in .....</th>
<th>Very likely</th>
<th>Somewhat likely</th>
<th>Somewhat unlikely</th>
<th>Very unlikely</th>
</tr>
</thead>
<tbody>
<tr>
<td>the field of oncology</td>
<td>97% (65)</td>
<td>3% (2)</td>
<td>0% (0)</td>
<td>0% (0)</td>
</tr>
<tr>
<td>better caring for cancer patients in primary care settings</td>
<td>81% (54)</td>
<td>15% (10)</td>
<td>4% (3)</td>
<td>0% (0)</td>
</tr>
</tbody>
</table>
Employment as a PA

- Employed as a clinical PA since graduating
  - Yes - 83% (55)
  - No - 17% (11)
- Employed at MDACC - 15% (8)
Clinical Positions Caring for Cancer Patients

<table>
<thead>
<tr>
<th>Clinical Position</th>
<th>Responses (n=55)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hem/oncology including BMT</td>
<td>18% (10)</td>
</tr>
<tr>
<td>Surgical oncology</td>
<td>7% (4)</td>
</tr>
<tr>
<td>Medical oncology</td>
<td>4% (2)</td>
</tr>
<tr>
<td>Gynecologic oncology</td>
<td>4% (2)</td>
</tr>
<tr>
<td>Radiation oncology</td>
<td>0% (0)</td>
</tr>
<tr>
<td>Total</td>
<td>33% (18)</td>
</tr>
</tbody>
</table>

Other- 16% (9)
   – derm, general surgery, primary care, hospitalist, EC, physical rehab, etc.
Non-Oncology Specialties

<table>
<thead>
<tr>
<th>All non-oncology specialties in PA Practice</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary care</td>
<td>35% (18)</td>
</tr>
<tr>
<td>Surgery/subspecialty</td>
<td>33% (17)</td>
</tr>
<tr>
<td>Internal medicine subspecialty</td>
<td>13% (7)</td>
</tr>
<tr>
<td>Emergency medicine</td>
<td>10% (5)</td>
</tr>
<tr>
<td>Other</td>
<td>8% (4)</td>
</tr>
<tr>
<td>OB/Gyn</td>
<td>2% (1)</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>2% (1)</td>
</tr>
<tr>
<td>None</td>
<td>19% (10)</td>
</tr>
</tbody>
</table>
"Did your rotation at MD Anderson influence your specialty choice for employment following PA graduation?"

Yes - 58% (39)
No - 42% (28)
Impact on Career Choice
Reinforced Clinical Interests

• “I went to work in hematologic malignancies at a Cancer Institute after graduating. MD Anderson allowed me to really make sure that was the work I wanted to do.”

• “The rotation confirmed that I was definitely interested in caring for cancer patients and encouraged me to pursue a position in that field.”
Reinforced Clinical Interests

• “Although I did not go into oncology I did go into a surgical field. The surgical portion of this rotation enhanced my interest in going into surgery.”

• “It affirmed me in my decision to hopefully one day work with oncology patients.”

• “I would love to eventually work in surgical restoration for cancer patients. I want to get a few years of general IM first to solidify my general medicine knowledge.”
Introduced to New Disciplines

• “While this is not the specialty that I have gone into, ID was my second choice and something I may not even considered before the rotation.”

• “I was always interested in liquid malignancy, but MD Anderson helped me see just how important and rewarding surgical management of solid tumors may be.”

• “It showed me that there is more to plastic surgery than healthy individuals who wish to alter their appearance to resemble more closely to what they find attractive.”
Introduction to Practice Site

• “Influenced me to apply for surgical positions and positions at MDACC.”

• “I would love to work at MDACC!”

• “I knew I wanted to work at MD Anderson!”
Impact on Patient Care
Impact on Patient Care in Primary Care Practice: Managing Patients

• “I always wanted to do primary care, and after I completed this rotation I felt so much equipped to manage medical issues of patients with a diagnosis of cancer in this setting.”

• “I am better able to discuss the cancer treatment process with my pts. Additionally, I am proactive about cancer screenings.”

• “It really assisted me with the position I accepted in primary care because I was able to understand cancer treatment and the disease process. It helped me holistically treat my patients.”

• “I incorporate many clinical pearls in my daily interactions with patients so that I don’t miss a possible cancer diagnosis.”
Impact on Patient Care in Non-oncology Practices: Patient Communication

• “The main thing my time at MD Anderson taught me was communication with patients through complex procedures and difficult situations.”

• “I feel that I was able to have an enhanced understanding of the patient experience and how it can be made most optimal for the patient through communication and compassion.”

• “I feel more comfortable discussing terminal illness and treatments such as radiation that I was previously unfamiliar with.”
Impact on Patient Care in Oncology Practice: The Role of the PA

• “My rotation at MDACC also helped me define my role as a PA in the field of oncology. The PA has the opportunity to focus more on patient care and patient education, as well as work closely along side the physicians to provide better quality health care to our patients.”

• “I also began to learn the lingo, began to understand the role of a midlevel at a major cancer center, and learned a lot about various leukemias.”

• “It exposed me to the role of a PA in caring for cancer patients...”
Impact on Patient Care: The Team Approach at MDACC

• “It was my first exposure to working on a team in which team members included pharmacists. Working on such a team helped teach me how to coordinate care later on for my own patients.”

• “It introduced the concept of a team approach towards establishing a treatment plan for patients that I did not really experience during any of my other rotations.

• “MD Anderson employs a team approach and encompasses the patients overall being; this is essential for proper treatment.”
Conclusions

• Clinical elective rotations provide PA students opportunities to:
  – explore career options and the role of PAs in specialty practices,
  – improve clinical competencies related to unique populations, and
  – experience different practice models.
Study Strengths

- Response rate high
- Large number of former PA students surveyed
- Students at this site come from various PA programs across the US
Study Limitations

- Only one site used
- All rotations focused on cancer patients
- Contact information for earlier students was limited
Future Directions

- Additional studies may explore:
  - changes in attitudes and competencies before and after specialty rotations
  - student motivations for elective rotation selections
  - options for specialty rotations for those going into primary care
Thank You