Oncology Workforce Challenges:  
The role of advanced practice providers in academic oncology  

December 17th 2020

John W Sweetenham MD, FRCP, FACP, FASCO  
Angela F Bazzell DNP, APRN, FNP-BC, AOCNP

UTSW Simmons Cancer Center
Disclosures

• John Sweetenham – none

• Angela Bazzell - none
Outline

• Oncology workforce
• Current status of oncology APP practice
• Specific challenges and opportunities for APP practice in academic oncology centers
• Training and education
• Next steps
What is an advanced practice provider?

Advanced Practice Providers

• Advanced practice nurses (APRNs)
  – RNs with advanced practice education and training
    • Didactic and clinical *general training*
  – Masters or Doctorate of Nursing Practice for entry to practice
    • Clinical Nurse Specialist (CNS)
    • Nurse Anesthetists (CRNA)
    • Nurse Midwives (CNM)
    • Nurse Practitioner (NP)

• Physician Assistants (PAs)
  – Healthcare providers trained in the medical and surgical model
    • Didactic and clinical *general training*
  – Masters degree for entry to practice
Oncologist workforce – supply and demand – perspective from ASCO in 2007

Figure 2. Baseline projected supply of and demand for oncologist visits, 2005 to 2020.

Published in: Clese Erikson; Edward Salsberg; Gaetano Forte; Suanna Bruinooge; Michael Goldstein; Journal of Oncology Practice 2007 379-86.
DOI: 10.1200/JOP.0723601
Copyright © 2007
Demand for services expected to rise 48% from 2005 to 2020
Supply of oncologists expected to grow by 14%

Potential supply solutions

- Increase fellowship slots
- Increased EHR use
- Increase NP/PA use – estimated that top of license practice could result in 11% capacity increase per oncologist, equivalent to 3.4M visit capacity increase nationally
- Delayed retirements
- Oncologist productivity
Estimated cancer prevalence by age in the U.S. population from 1975 (216 M) to 2040 (380 M)

Signifies the year at which the first baby boomers (those born 1946-1964) turned 65 years old

Oncologist workforce – supply and demand – updated projections to 2025

Supply

Total oncologists

Oncologists

Radiation oncologists

Published in: Wenya Yang; James H. Williams; Paul F. Hogan; Suanna S. Bruinooge; Gladys I. Rodriguez; Michael P. Kosty; Dean F. Bajorin; Amy Hanley; Ashley Muchow; Naya McMillan; Michael Goldstein; Journal of Oncology Practice 2014 1039-45. DOI: 10.1200/JOP.2013.001319Copyright © 2014
Oncologist workforce – supply and demand – updated projections to 2025

Figure 3. Baseline supply and demand scenarios through 2025. (A) total oncologists; (B) oncologists; (C) radiation oncologists. FTE, full-time equivalent.
• A growth strategy based on physician recruitment is probably going to fail in the long term
Factors contributing to a strained oncology careforce.

- Increasing cancer prevalence and survivorship
- Aging workforce with limited increase in trainees
- Growing workforce shortages
- New diagnostics, therapeutics and technologies
- Precision oncology
- Data overload for clinicians
- Increasing caseload and time pressure
- Increasing non-clinical responsibility
- Siloed care delivery
- Inconsistent electronic health record usability
- Documentation, regulatory and billing requirements
- Prior authorizations
Comprehensive clinical programs

- **Create regional destination programs in the high-volume cancer disease groups** (breast, lung, prostate, colorectal) that emphasize multi-disciplinary, integrated care and academic medicine

**Focused Growth on High-Volume Cancers**

Breast | Lung | Colorectal | Prostate

**Potential Opportunities for Program Growth**

1. Targeted hiring of **additional surgeons**
2. Development of “one-stop” prevention, screening, diagnosis, and treatment center(s) on campus and/or at select community sites
3. Re-orientation towards **patient-centered delivery** and improvement of patient experience, including enhanced patient access, care coordination, and supportive services
4. **Hire medical leadership and administration** to support program growth
5. **Advancement of comprehensive, team-based care among clinical team**, to allow for integrated multi-disciplinary care
6. Increased translation of research discoveries to clinical care through **expansion of clinical trials** across network and coordination of research resources with clinical needs

**Preliminary Estimates by 2025**

- **Medical Director**
  - 0.5 FTE
- **APPs**
  - 3.0 cFTE
- **Administrator**
  - 0.5 FTE
Current status of APP oncology practice in the US

Understanding the Role of Advanced Practice Providers in Oncology in the United States

Suanna S. Bruinooge, Todd A. Pickard, Wendy Vogel, Amy Hanley, Caroline Schenkel, Elizabeth Garrett-Mayer, Eric Tetzloff, Margaret Rosenzweig, Heather Hylton, Shannon N. Westin, Noël Smith, Conor Lynch, Michael P. Kosty, and Stephanie F. Williams

- Identified at least 5350 APPs in oncology (possible additional 5400 who ‘might’ practice oncology)
- More than 90% reported satisfaction in their roles
- Most spent >80% of their time in direct patient care

DOI: https://doi.org/10.1200/JOP.18.00181; published online ahead of print at jop.ascopubs.org on August 22, 2018.
<table>
<thead>
<tr>
<th>Practice setting</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>52</td>
</tr>
<tr>
<td>Physician owned or group</td>
<td>20</td>
</tr>
<tr>
<td>Hospital/health system owned</td>
<td>18</td>
</tr>
<tr>
<td>Private community practice</td>
<td>6.7</td>
</tr>
<tr>
<td>other</td>
<td>3.2</td>
</tr>
<tr>
<td>Clinical focus</td>
<td></td>
</tr>
<tr>
<td>Hem Onc</td>
<td>72</td>
</tr>
<tr>
<td>Gyn Onc</td>
<td>7.4</td>
</tr>
<tr>
<td>Surg Onc</td>
<td>9.2</td>
</tr>
<tr>
<td>Rad Onc</td>
<td>6.5</td>
</tr>
<tr>
<td>Survivorship</td>
<td>13</td>
</tr>
<tr>
<td>Prevention</td>
<td>4</td>
</tr>
<tr>
<td>other (inc ped onc)</td>
<td>9.6</td>
</tr>
</tbody>
</table>
Current status of APP oncology practice in the US

Distribution of time on tasks

Nature of care
Current status of APP oncology practice in the US

Hematology oncology APPs only

<table>
<thead>
<tr>
<th>Practice model</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent only</td>
<td>28</td>
</tr>
<tr>
<td>Shared only</td>
<td>7.5</td>
</tr>
<tr>
<td>Both</td>
<td>65</td>
</tr>
</tbody>
</table>

Stated reasons for current practice pattern

- Physician preference – 73%
- Employer policy – 52%
- State law – 39%
### Current status of APP oncology practice in the US

#### APP satisfaction with practice model

<table>
<thead>
<tr>
<th>Satisfaction Level</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very satisfied</td>
<td>56</td>
</tr>
<tr>
<td>Satisfied</td>
<td>36</td>
</tr>
<tr>
<td>Neutral</td>
<td>4.6</td>
</tr>
<tr>
<td>Unsatisfied</td>
<td>2.1</td>
</tr>
<tr>
<td>Very unsatisfied</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Trend for higher level of satisfaction for those in independent models (85%) vs shared plus independent models (77%) vs shared only (65%)  

\[ p = 0.07 \]
Current status of APP oncology practice in the US

- Number of APPs in Oncology
  - 8573 based on SEER-linked Medicare claims (2013)
  - 56.2% of the cancer-specific workforce in this analysis
  - Not specific to academic cancer centers

Hiring of APPs is often driven by physician need/preference – role of APP is regarded as a support to physician practice

- Shared visits, of various models predominate and are embedded in the oncology practice ‘culture’
- Current reimbursement models lead to ‘competition’ between providers
- Patient satisfaction and expectation
- Training, experience and competencies
Outpatient practice models

- Independent Visit Model: Providers see more than 2/3 of patients independently
- Shared Visit Model: Providers see more than 2/3 of patients together
- Mixed Visit Model: Combination of both models

Simmons Comprehensive Cancer Center APPs

- 50 APPs providing oncology care, inpatient & outpatient
  - Includes 3 sites and supportive services
  - Outpatient APP visit models
    - Include all three types: IVM, SVM, MVM
    - Physician dependent
    - Space and support barriers
  - Target Goal FY2021: 1500 independent visits
    - 6.1 follow-up visits per session/clinic (Hinkel, et al.)
    - Median weekly independent visits: NPs=50, PAs=78 (Bruinooge, et al.)
  - Direct patient care- 80%
  - Implementing APP-led clinics/templates
Outpatient visit volumes

SCCC Independent APP Visits

Independent APP Visits Rolling 12 Months

Outpatient APP Volumes

0 200 400 600 800 1000 1200 1400 1600

1546 1411 1314 1145 1140 1099 1014 930 916 885 860 857 683 669 645 636 600 494 482 466 402 147 69 62 51 38 21
New patient visits

- Survivorship
- High-risk genetics
- MGUS
- Cancer of unknown primary
- Integrative medicine
- Palliative care
- Psychiatric oncology
- Cardio oncology

Established patient visits

- On-treatment visits
- Management of hormone therapy
- Symptom management
- Wound care
- Sick visits
- Procedures
- Long-term follow-up
- Procedures
- Patient education
Outpatient practice models

• Examples of when shared visits may enhance patient care
  – Treatment plan changes
  – Tumor progression
  – Alteration in performance status/quality of life
  – End-of-life decisions

• Expensive work by APPs, not functioning at the top of their scope
  – Prepping charts, “collating records”
  – Writing/scribing notes
  – Updating oncology histories in the EMR
  – Completing forms (FMLA, return to work)
  – Scheduling appointments, surgeries
Outpatient practice models

- **Workflow barriers**
  - Patient records → Intake specialist
  - Patient care coordination → Medical assistant, RN
  - Scheduling appts, surgical cases → Scheduler
  - Charting → Scribe (virtual, in-person)
  - Patient access to medical care → APP

Source: Kirk, L. (2020). An Orientation to Team-Based Care for Physicians, UT Southwestern Medical Center.
What determines outpatient practice models?

Nurse practitioners

- Physician preference (73%)
- Employer policy (52%)
- State scope of practice laws (39%)

Physician assistants

- Physician preference (82%)
- Employer policy (52%)
- Patient complexity (33%)

Examples of how policies and practice laws impact practice

- Physicians must cosign notes and review charts
- Prohibited to write prescriptions
- Unable to prescribe or manage chemotherapy

Scope of practice and licensing

Legend

Full Practice
Reduced Practice
Restricted Practice

Case study: Simmons Acute Care (SAC)

- APP-led acute care clinic for established SCCC patients with acute health issues
- Developed standardized clinical guidelines for patient management
- Collaboration with primary teams, pharmacy, imaging and lab is key
- SAC outcomes
  - 142 patient visits since opening August 4, 2020
  - 12 patients directly admitted to Clements University Hospital
  - 6 patients transferred to ED
  - 124 ED visits avoided
- COVID has impacted patient management
Telehealth initiatives

- Oncology APPs spend more than 10% of their time on telephone triage
- Opportunities for mid-cycle checks for at-risk patients
- Telephone triage after hours

Inpatient APP innovations

- Procedure team
- Unit-based admission APP
- Discharge team
- Nocturnal oncology APP teams
- Observation units
  - Acute illnesses
  - Cellular therapy
Post-graduate oncology fellowships for NPs and PAs
- 12-month structured programs
- Accreditation through ANCC or ARC-PA

Multidisciplinary education and training opportunities
- Participation in Hematology Oncology fellows’ lectures
- Communication workshops with medical students, residents and fellows
- Involvement in pharmacy education with Palliative Care and other specialty pharmacists

ANCC designated as an Industry-Recognized Apprenticeship Program through the Department of Labor
- Organizational benefits for accredited fellowship programs
- Potential to access tools to help businesses develop and launch programs
# APP onboarding - progressive responsibility and productivity

## Task

<table>
<thead>
<tr>
<th>Task</th>
<th>Date Complete</th>
<th>APP Initials</th>
<th>Preceptor Initials</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MONTHS 0–3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common tasks for all roles 0-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete state &amp; department specific written agreements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Department orientation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attain hospital privileges</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain EMR access &amp; training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Create EMR smart phrases &amp; templates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe in all areas of gyn onc - inpatient, outpatient, OR</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe in palliative care</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe in radiation oncology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe in radiology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>INPATIENT 0–3</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe chemotherapy administration</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Observe daily rounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>OUTPATIENT 6–9</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be able to discuss side effect profiles/complications of common treatment (both oral and intravenous)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be able to discuss chronic radiation related issues with patient independently</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Be able to verbalize the various operations/procedures for GYN malignancies</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand pelvic exenteration indications</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Describe how basic gyn conditions (pelvic pain, vaginal bleeding, vaginitis, fibroids, oligomenorrhea, PMB) can relate to gyn onc disorders</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manage independent clinic left progressively decreased visit length and increased acuity? Another provider should be available in clinic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manage post-operative wounds/problem-focused visits independently</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Measuring APP productivity

• Challenges
  – Team-based models of care
  – More non-revenue generating work than physicians
  – Shared visits, incident-to visits make it difficult to capture data
  – No standard model of APP practice in academic cancer centers
  – Lack of incentive plans
  – Current physician incentive plans
  – Education and messaging with patients and scheduling staff
Oncology APP dashboard

Professional Billing Cycle Period: 2019-11 thru 2020-10

PERCENT OF TOTAL SCHEDULED APPOINTMENT STATUS BY MONTH

TOTAL SCHEDULED APPOINTMENT STATUS BY MONTH

12 MONTH COMPARISON

PERCENT OF SCHEDULED APPOINTMENTS

SCHEDULED APPOINTMENTS

PERCENT OF TOTAL TELEHEALTH VISITS BY MONTH

TOTAL TELEHEALTH VISITS BY MONTH

PROVIDER SCORE: PRESS GANEY - PATIENT SATISFACTION MEDICAL PRACTICE BY FY-QTR

PROVIDER SURVEY QUANTITY: PRESS GANEY - PATIENT SATISFACTION MEDICAL PRACTICE BY FY-QTR

DOT SCORE: PRESS GANEY - PATIENT SATISFACTION MEDICAL PRACTICE BY FY-QTR

DOT SURVEY QUANTITY: PRESS GANEY - PATIENT SATISFACTION MEDICAL PRACTICE BY FY-QTR

UT Southwestern Medical Center
Future APP oncology practice

- Data is needed on the APP oncology workforce in academic cancer centers to prepare for the future
- Consideration of what components of oncology care are best led by APPs
  - Increase access
  - Expand service lines
- Messaging to patients
  - Thoughtful integration of new APPs into clinics/units
  - Transparency of patient experience data
- APP dashboard/progress reports
- APP participation in team-based care to improve quality, respect patients’ preferences and achieve a patient-centered health delivery system