



UT Southwestern
Medical Center

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

December 17th 2020

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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

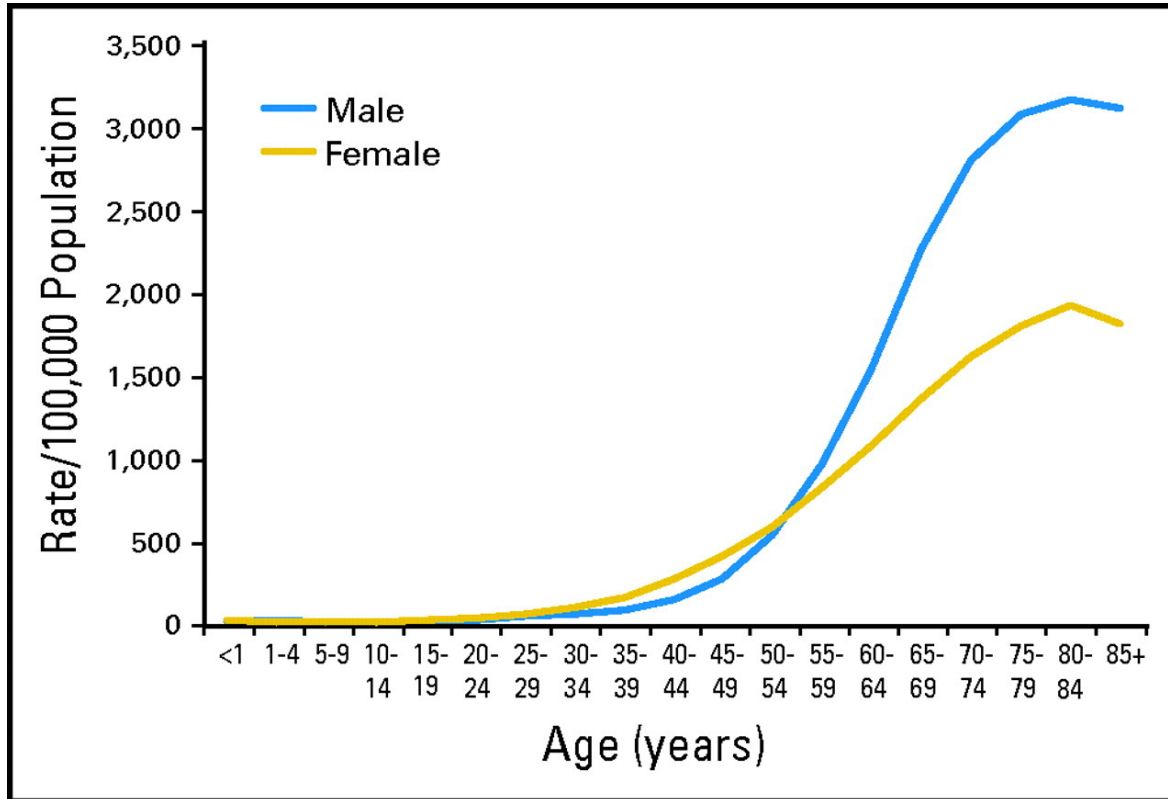
What is an advanced practice provider?

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

Age specific cancer incidence



Projected supply of oncologists

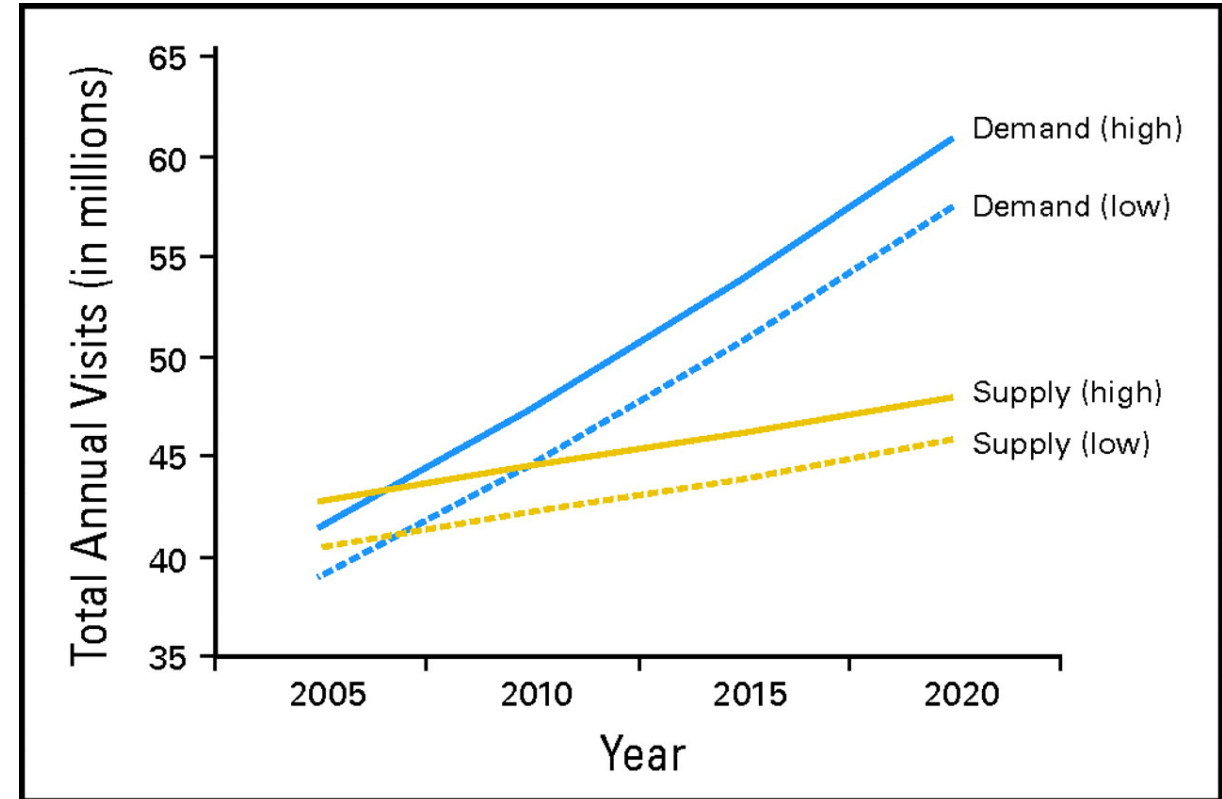


Figure 2. Baseline projected supply of and demand for oncologist visits, 2005 to 2020.

Published in: Clese Erikson; Edward Salsberg; Gaetano Forte; Suanna Bruinooge; Michael Goldstein; *Journal of Oncology Practice* 2007 379-86.
 DOI: 10.1200/JOP.0723601
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Oncologist workforce – supply and demand – perspective from ASCO in 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

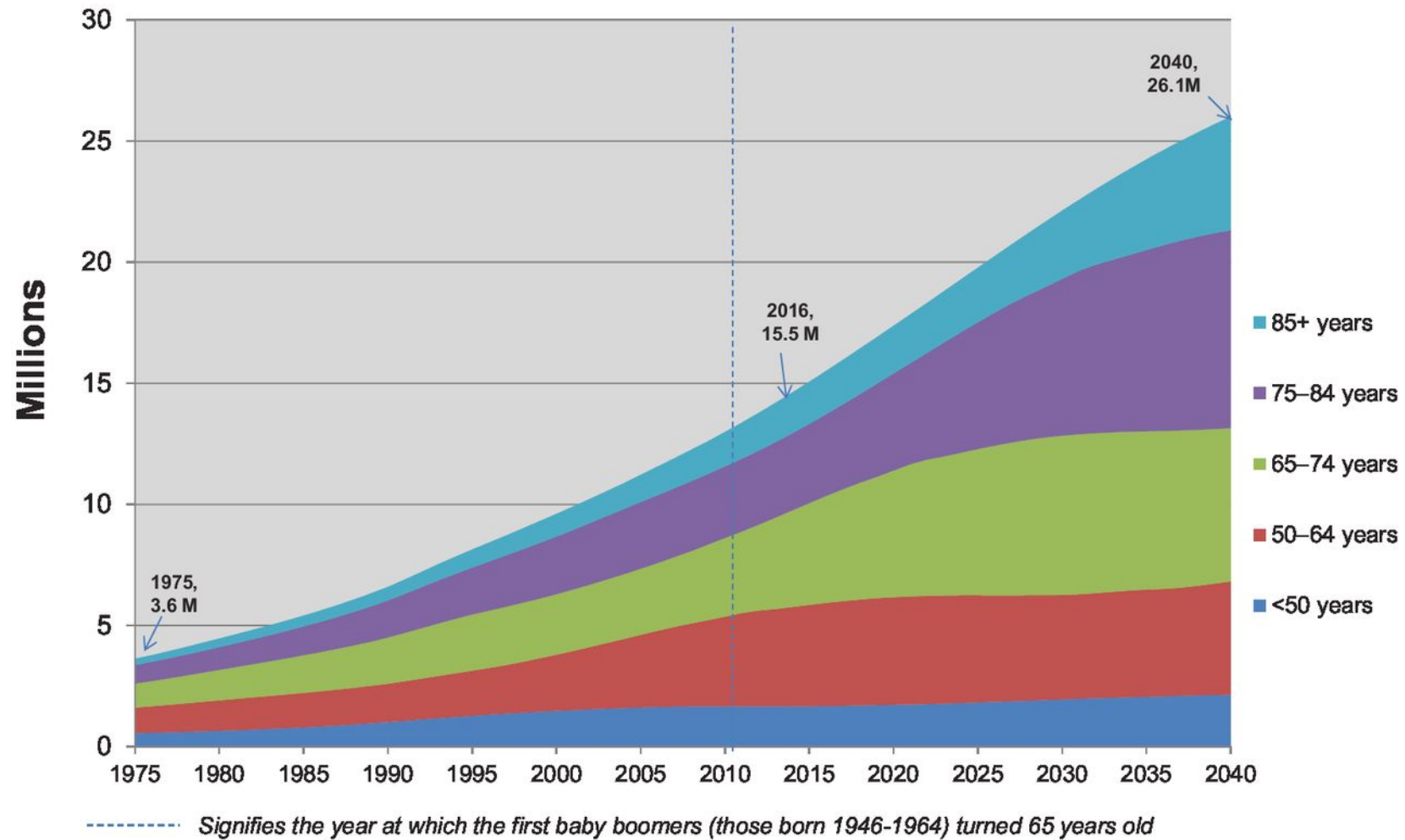
Increased EHR use

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)



Shirley M. Bluethmann et al. Cancer Epidemiol Biomarkers
Prev 2016;25:1029-1036

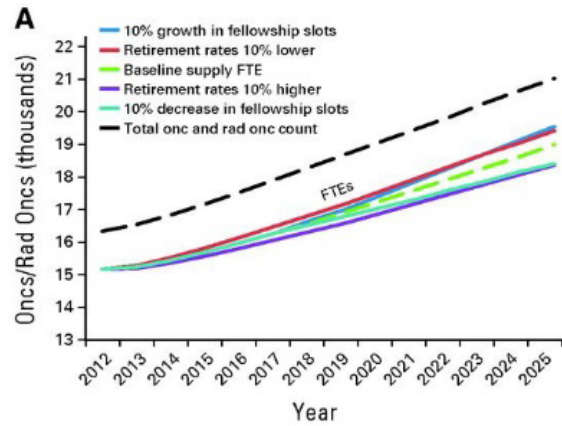
AACR American Association
for Cancer Research
**Cancer Epidemiology,
Biomarkers & Prevention**

©2016 by American Association for Cancer Research

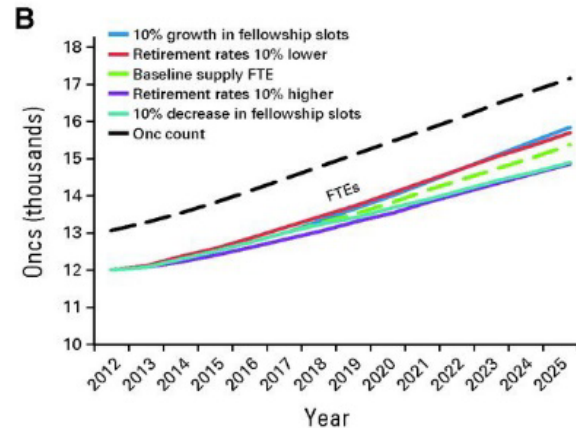
Oncologist workforce – supply and demand – updated projections to 2025

Supply

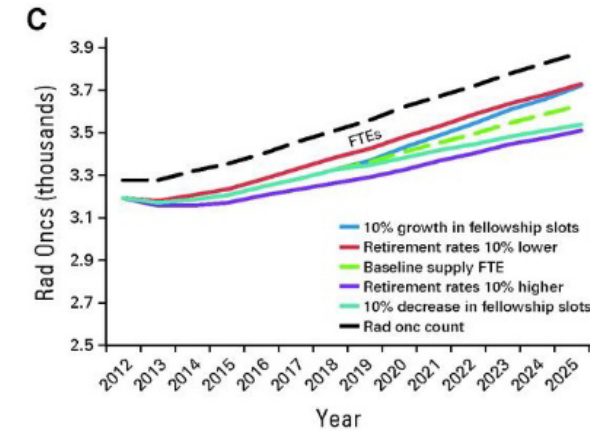
Total oncologists



Oncologists



Radiation oncologists



Oncologist workforce – supply and demand – updated projections to 2025

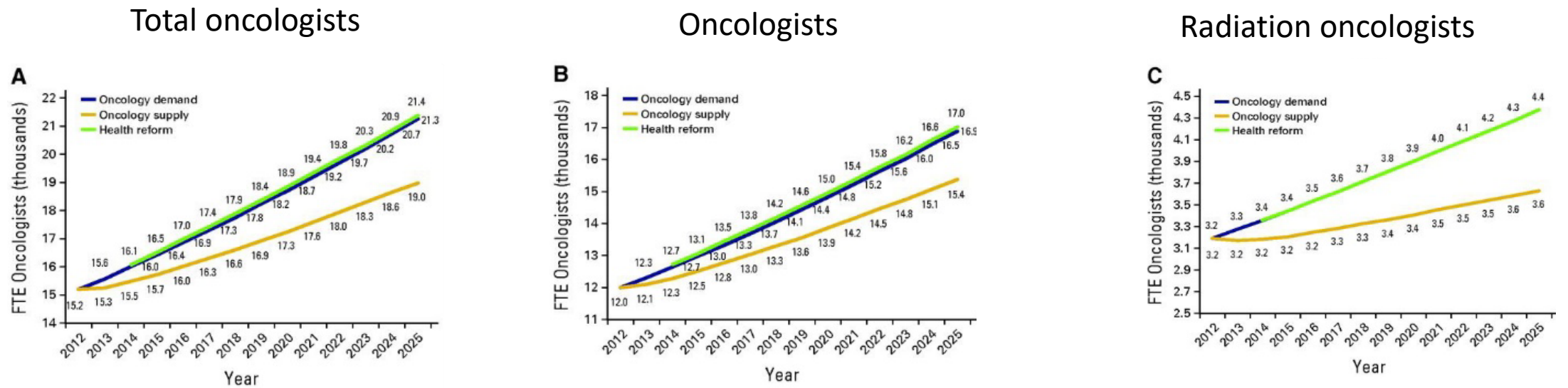
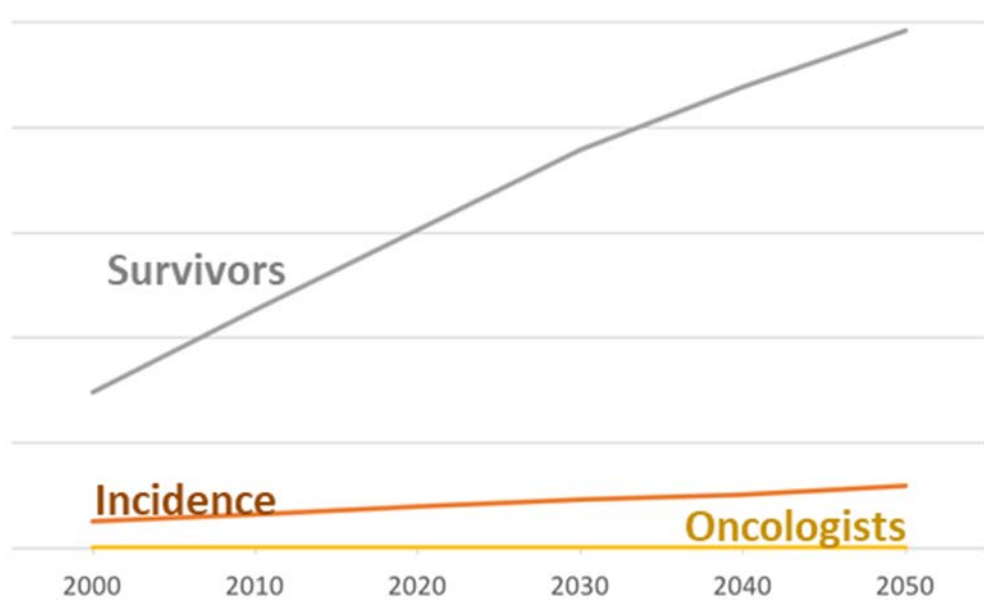


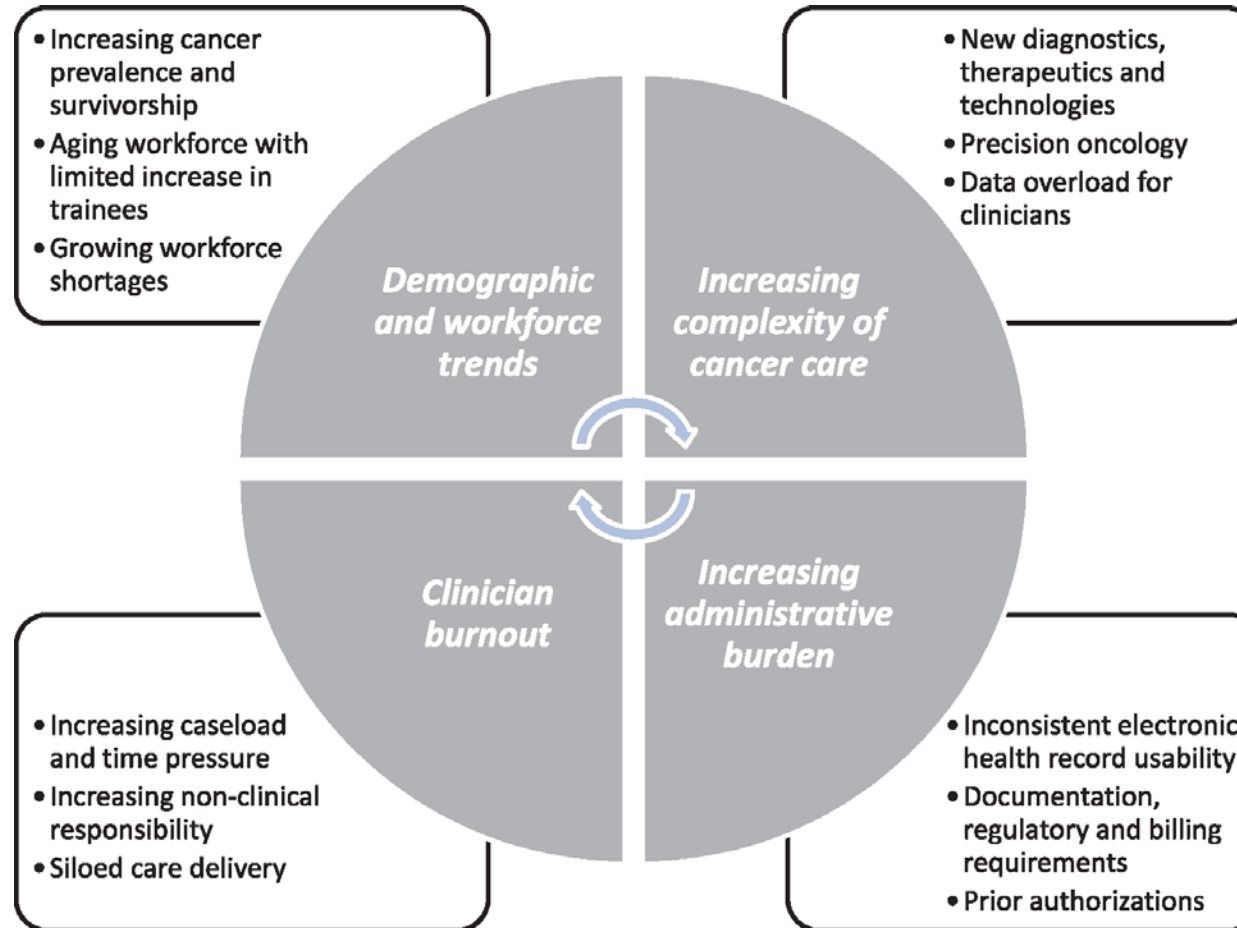
Figure 3. Baseline supply and demand scenarios through 2025. (A) total oncologists; (B) oncologists; (C) radiation oncologists. FTE, full-time equivalent.

Oncologist workforce – supply and demand

- A growth strategy based on physician recruitment is probably going to fail in the long term



Factors contributing to a strained oncology careforce.



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

Potential Additions for Each Disease Program

PRELIMINARY ESTIMATES
BY 2025



Medical Director

0.5 FTE



APPs
3.0 cFTE



Administrator
0.5 FTE

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 Tetzlaff, 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.

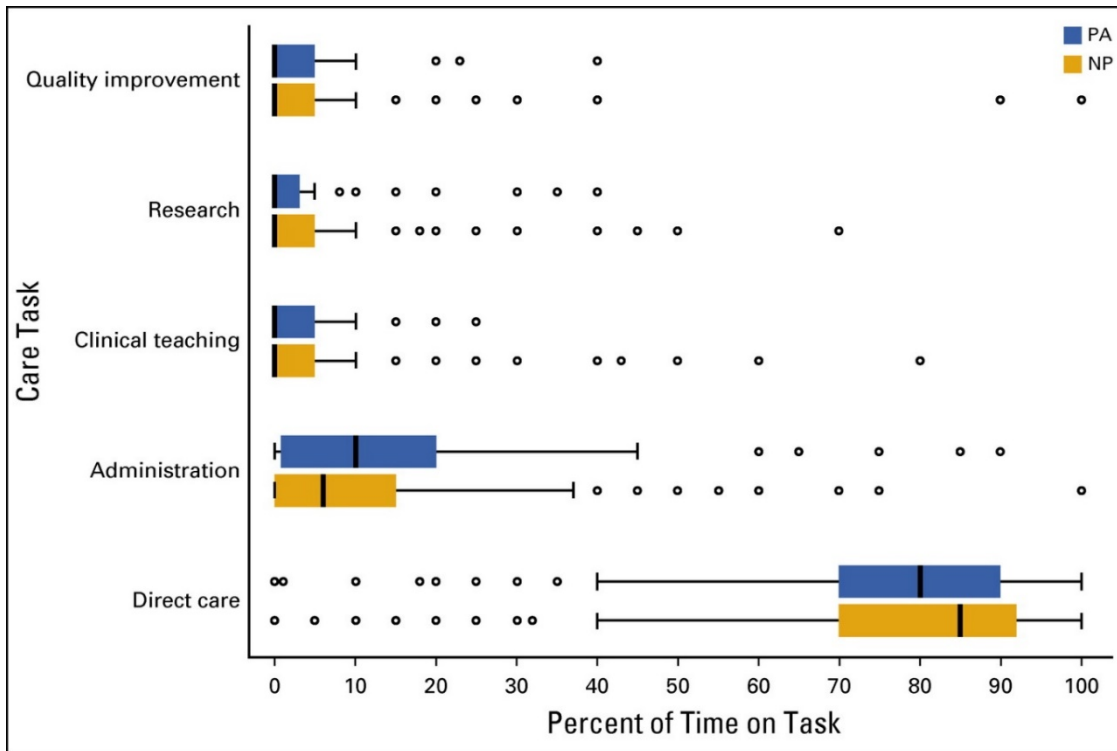
Current status of APP oncology practice in the US

	%
Practice setting:	
Academic	52
Physician owned or group	20
Hospital/health system owned	18
Private community practice	6.7
other	3.2
Clinical focus	
Hem Onc	72
Gyn Onc	7.4
Surg Onc	9.2
Rad Onc	6.5
Survivorship	13
Prevention	4
other (inc ped onc)	9.6

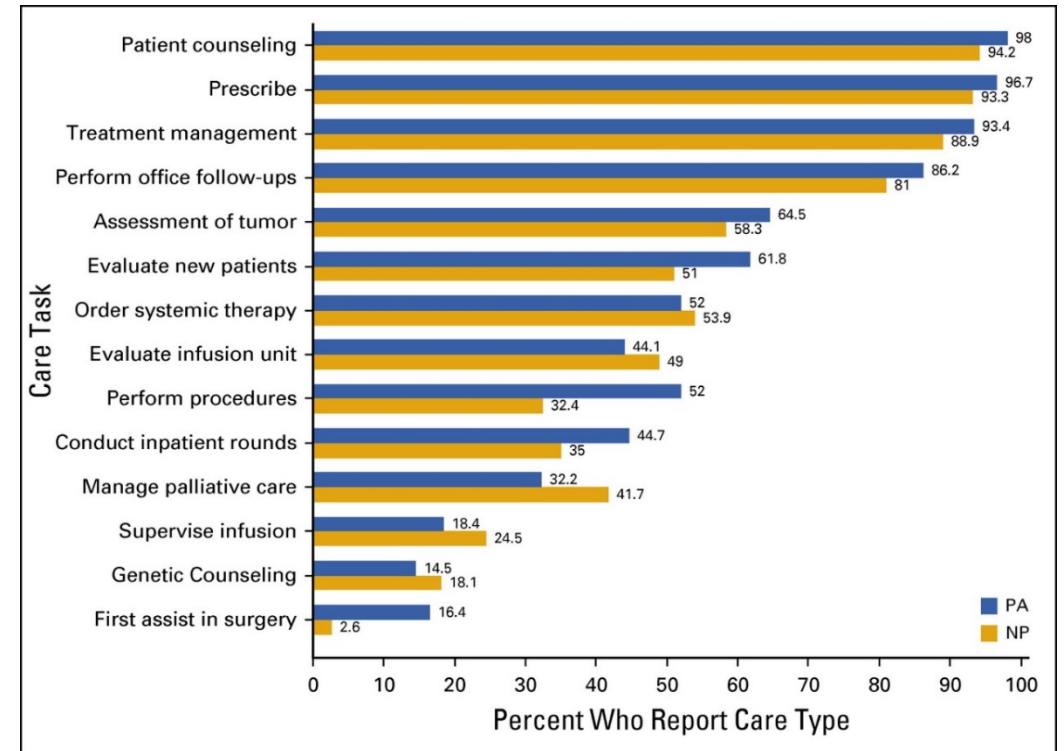
Published in: Suanna S. Bruinooge; Todd A. Pickard; Wendy Vogel; Amy Hanley; Caroline Schenkel; Elizabeth Garrett-Mayer; Eric Tetzlaff; Margaret Rosenzweig; Heather Hylton; Shannon N. Westin; Noël Smith; Conor Lynch; Michael P. Kosty; Stephanie F. Williams; *Journal of Oncology Practice* 2018 14e518-e532. DOI: 10.1200/JOP.18.00181 Copyright © 2018 American Society of Clinical Oncology

Current status of APP oncology practice in the US

Distribution of time on tasks



Nature of care



Published in: Suanna S. Bruinooge; Todd A. Pickard; Wendy Vogel; Amy Hanley; Caroline Schenkel; Elizabeth Garrett-Mayer; Eric Tetzlaff; Margaret Rosenzweig; Heather Hylton; Shannon N. Westin; Noël Smith; Conor Lynch; Michael P. Kosty; Stephanie F. Williams; *Journal of Oncology Practice* 2018 14e518-e532. DOI: 10.1200/JOP.18.00181 Copyright © 2018 American Society of Clinical Oncology

Current status of APP oncology practice in the US

Hematology oncology APPs only

Practice model	%
Independent only	28
Shared only	7.5
Both	65

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

	%
Very satisfied	56
Satisfied	36
Neutral	4.6
Unsatisfied	2.1
Very unsatisfied	1.0

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

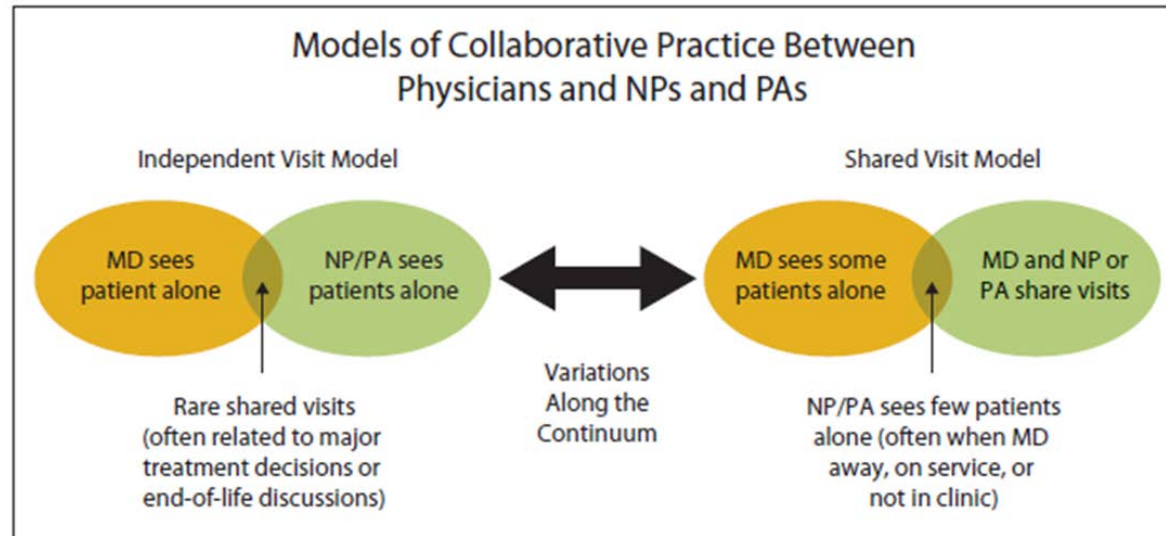
*Coombs et al. J Am Geriatr Soc. 2019 July ; 67(7): 1489–1494.
doi:10.1111/jgs.15931*

Barriers (perceived and real) to 'top of license' APP practice in academic oncology

- 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

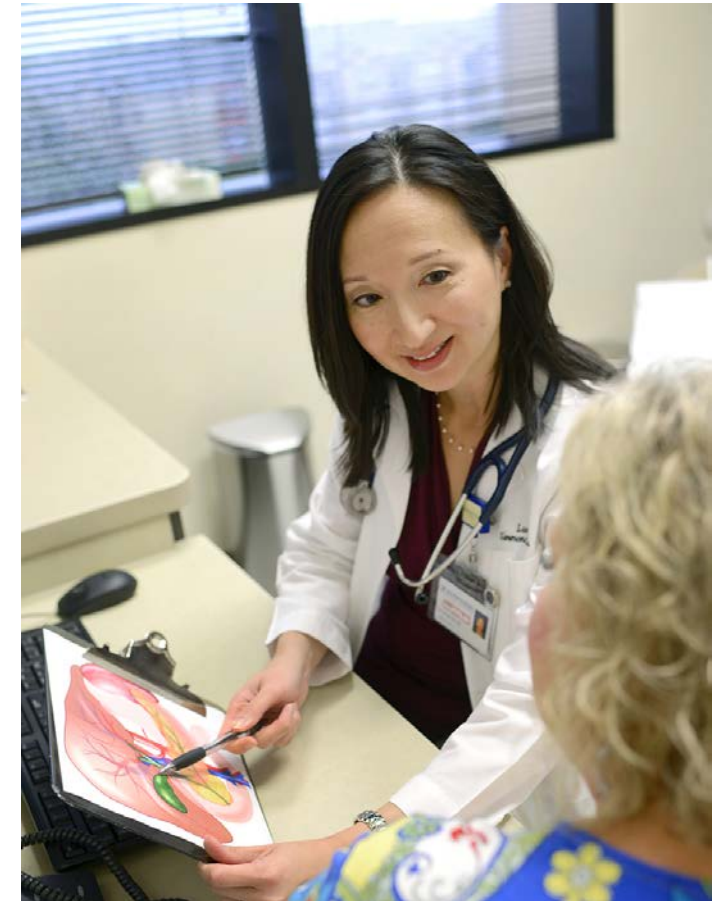
- Independent Visit Model: Providers see more than 2/3 of patients independently
- Shared Visit Model: Providers see more than 2/3 of patients together
- Mixed Visit Model: Combination of both models



Published in: Buswell, L. A., Ponte, P. R. and Shulman, L.N. (2009). *Journal of Oncology Practice*, 188-192. DOI: 10.1200/JOP.0942006

Outpatient practice models

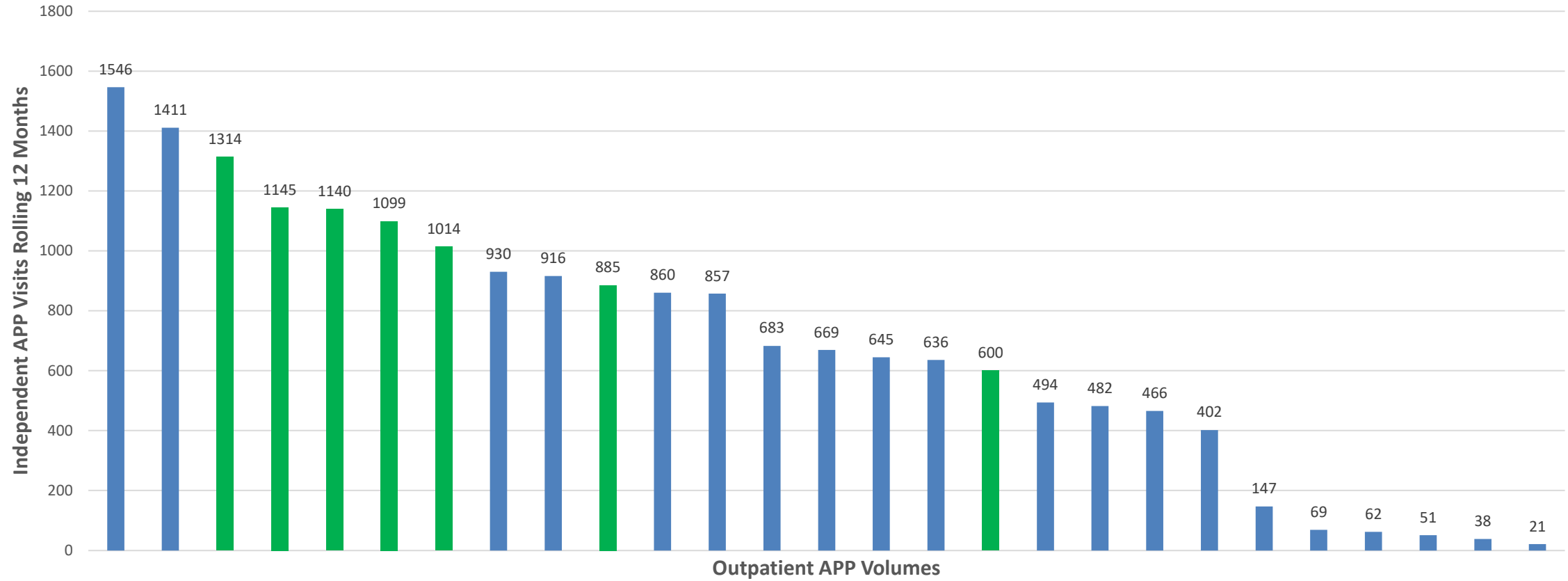
- Simmons Comprehensive Cancer Center APPs
- 50 APPs providing oncology care, inpatient & outpatient
 - Includes 3 sites and supportive services
 - Outpatient APP visit models
 - Include all three types: IVM, SVM, MVM
 - Physician dependent
 - Space and support barriers
 - Target Goal FY2021: 1500 independent 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



Published: Hinkel, J. M., Vandergrift, J. I., Perkel, S. J., Waldinger, M. B, Levy, W. and Stewart, F. M. (2010). *Journal of Oncology Practice*. 182-187, 10.1200/JOP.777001; Bruinooge, S. S. , Pickard, T. A., Vogel, W., Hanley, A., Schenkel, C., Garrett-Mayer, E. Tetzlaff, E., Rosenzweig, M., Hylton, H., Westin, S. N., Smith, N., Lynch, C., Kosty, M. P. and Williams, S. F. (2018). *Journal of Oncology Practice*. E518-e532. 10.1200/JOP.18.00181.

Outpatient visit volumes

SCCC Independent APP Visits



Outpatient practice models

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%)

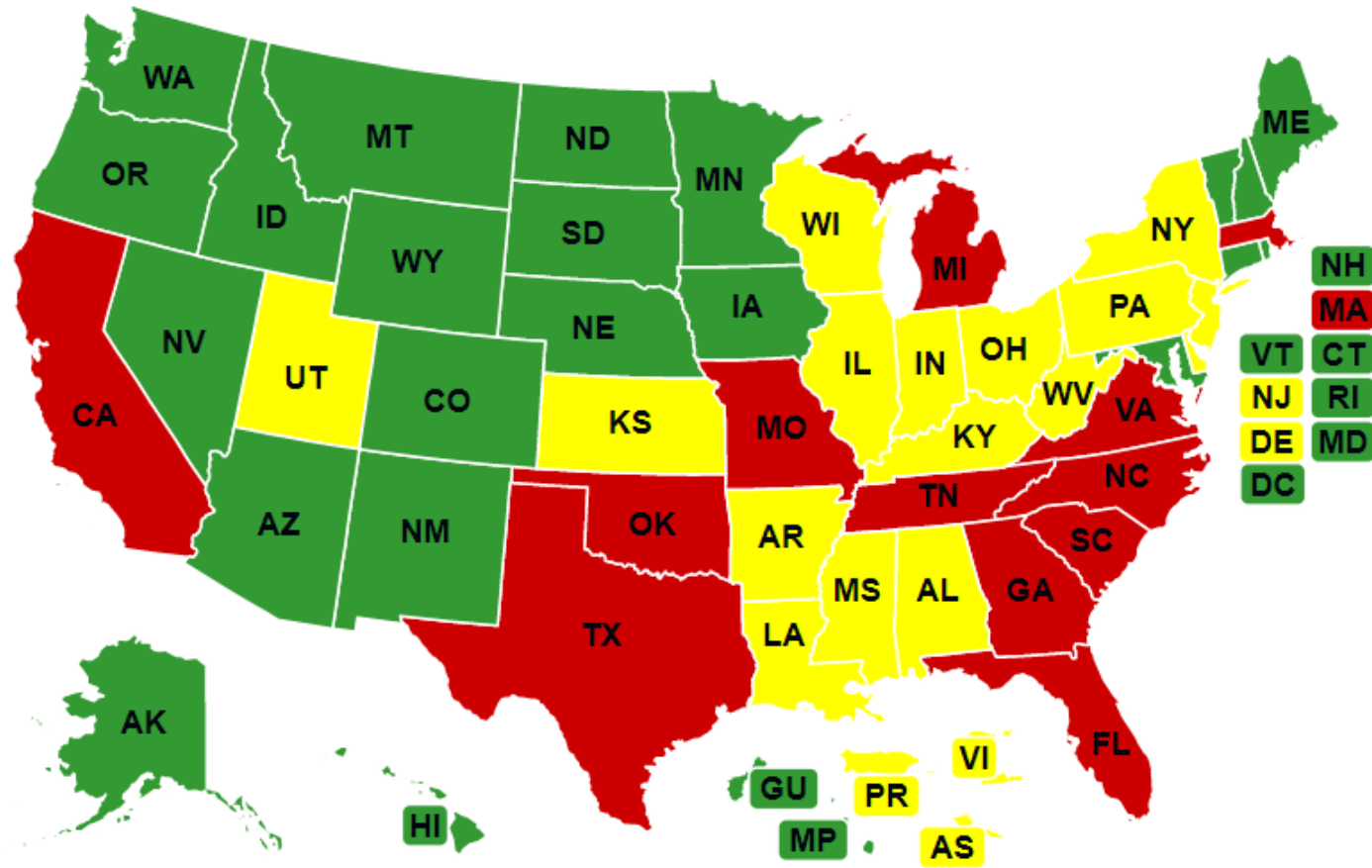
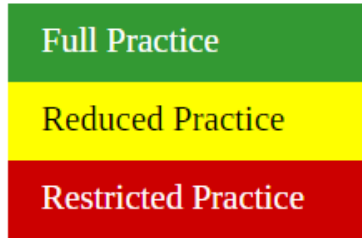
Examples of how policies and practice laws impact practice

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

Published: Bruinooge, S. S. , Pickard, T. A., Vogel, W., Hanley, A., Schenkel, C., Garrett-Mayer, E. Tetzlaff, E., Rosenzweig, M., Hylton, H., Westin, S. N., Smith, N., Lynch, C., Kosty, M. P. and Williams, S. F. (2018). *Journal of Oncology Practice*. E518-e532. 10.1200/JOP.18.00181.

Scope of practice and licensing

Legend



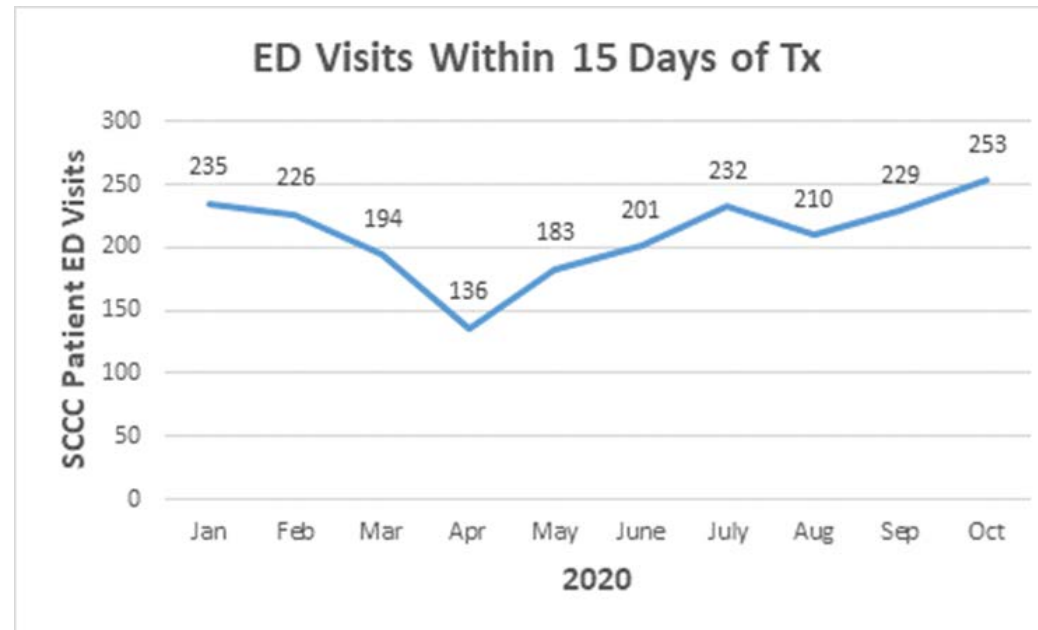
Source: American Association of Nurse Practitioners, 2020, <https://www.aanp.org/advocacy/state/state-practice-environment>

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



Published: Hinkel, J. M., Vandergrift, J. I., Perkel, S. J., Waldinger, M. B, Levy, W. and Stewart, F. M. (2010). *Journal of Oncology Practice*. 182-187, 10.1200/JOP.777001

Inpatient APP innovations

- Procedure team
- Unit-based admission APP
- Discharge team
- Nocturnal oncology APP teams
- Observation units
 - Acute illnesses
 - Cellular therapy



APP fellowships

- 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	Date Complete	APP Initials	Preceptor Initials	Notes
MONTHS 0-3				
COMMON TASKS FOR ALL ROLES 0-3				
Complete state & department specific written agreements				
Department orientation				
Attain hospital privileges				
Obtain EMR access & training				
Create EMR smart phrases & templates				
Observe in all areas of gyn onc- inpatient, outpatient, OR				
Observe in palliative care				
Observe in radiation oncology				
Observe in radiology				
INPATIENT 0-3				
Observe chemotherapy administration				
Observe daily rounds				

MONTHS 6-9				
INPATIENT 6-9				
Daily rounds. Should know when to ask for assistance.				
Be able to develop plan of action for patient & communicate to team/physician				
Be able to anticipate patient needs on discharge at time of admission to facilitate smoother discharge (i.e., home health, PT, f/u visits)				
Effectively utilize consultants and collaborate with them				
Respond to service admissions, consults, transfers with assistance				
Assist with service sign in/out				
OUTPATIENT 6-9				
Be able to discuss side effect profiles/ complications of types of common treatment (both oral and intravenous)				
Be able to discuss chronic radiation related issues with patient independently				
Be able to verbalize the various operations/ procedures for GYN malignancies				
Understand pelvic exenteration indications				
Describe how basic gyn conditions (pelvic pain, vaginal bleeding, vaginitis, fibroids, oligomenorrhea, PMB) can relate to gyn onc disorders				
Manage independent clinic (with progressively decreased visit length and increased acuity) *another provider should be available in clinic				
Manage post-operative wounds/problem-focused visits independently				

Source: Society of Gynecologic Oncology, 2020, <https://www.sgo.org/news/new-app-onboarding-tool-available-on-sgo-connected/>

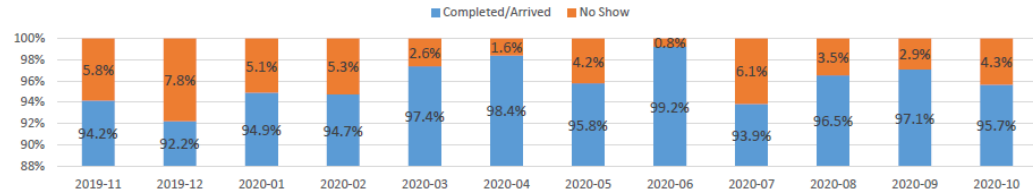
Measuring APP productivity

- 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

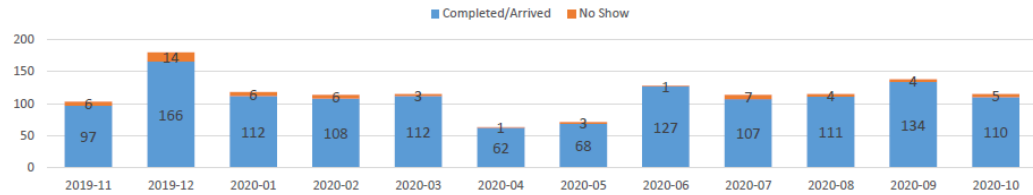


Oncology APP dashboard

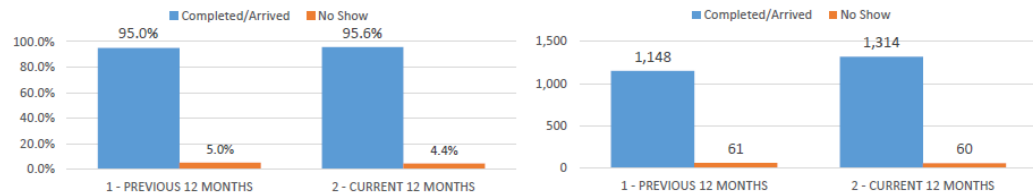
Professional Billing Cycle Period: |2019-11 thru 2020-10
PERCENT OF TOTAL SCHEDULED APPOINTMENT STATUS BY MONTH



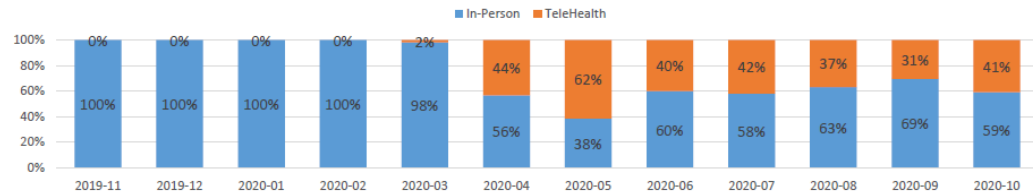
TOTAL SCHEDULED APPOINTMENT STATUS BY MONTH



PERCENT SCHEDULED APPOINTMENTS | **12 MONTH COMPARISON**
SCHEDULED APPOINTMENTS

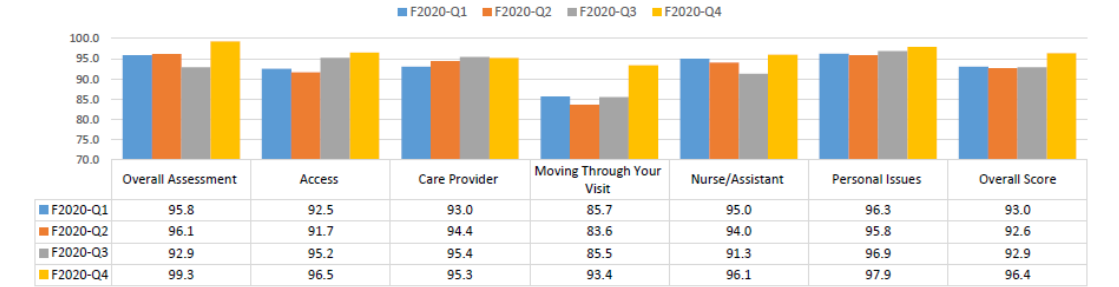


PERCENT OF TOTAL TELEHEALTH VISITS BY MONTH

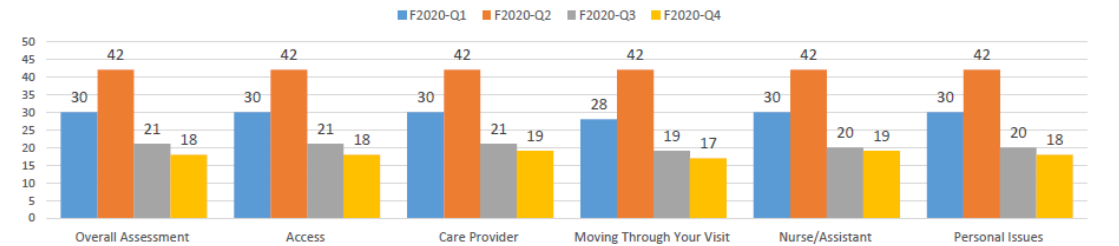


TOTAL TELEHEALTH VISITS BY MONTH

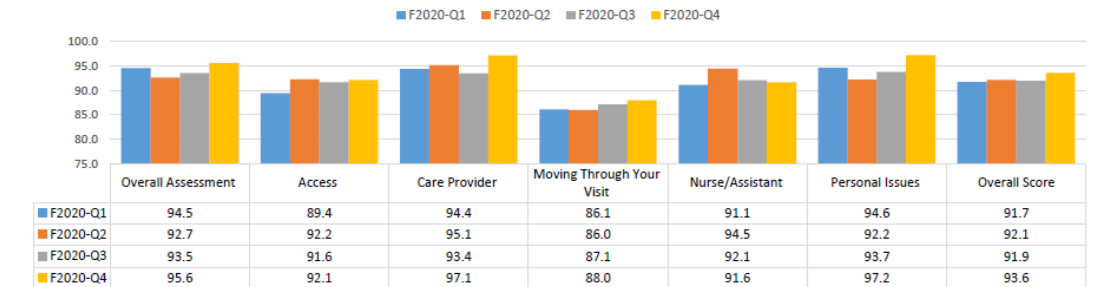
PROVIDER SCORE: PRESS GANEY - PATIENT SATISFACTION MEDICAL PRACTICE BY FY-QTR



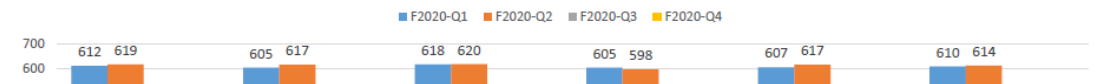
PROVIDER SURVEY QUANTITY: PRESS GANEY - PATIENT SATISFACTION MEDICAL PRACTICE BY FY-QTR



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



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



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