

From Lab Tech to Chief PA: Lessons in Leadership

Leah Hampson Yoke, PA-C, MCHS

Chief Physician Assistant, UW Medicine

Infectious Disease Consult Service, Vaccine and Infectious Disease Division
Fred Hutch Cancer Research Center

Teaching Associate, Division of Allergy and Infectious Disease
University of Washington School of Medicine

Clinical Faculty, MEDEX PA Training Program, Department of Family Medicine
University of Washington School of Medicine



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No disclosures

Goals and Aims

- Understand the role of Advanced Practices Providers (APPs) and leadership opportunities within the medical team.
- Understand the role of national organizations within a medical specialty and APP leadership opportunities within them.
- Describe opportunities within a hospital system for APP leadership.
- Understand leadership skills, resources available, and the value of mentorship.

The path to leadership



Back to my first microbiology class...



Working at the Fred Hutch in an HIV Research Lab



Microbiology and Medical Laboratory Science



A big move to Texas: Baylor Scott and White Hospital



From bench to bedside



Nsf.org



NBC News

PA School: MEDEX Program at UW



Imposter Syndrome



Leadership Lesson #1

Imposter syndrome can be a real and debilitating.
Find colleagues and mentors who help you see the truth.

First ID consult: Harborview Medical Center



Capstone: The Role of APPs in Infectious Disease



First job!



GroupHealth[®]

(Not infectious disease...)

Leadership Lesson #2:

Your great idea may not work out the first time. Do not give up!

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But where are all the other APPs in ID?



Alison Beieler, PA-C
Harborview Medical Center



Multidisciplinary Care

Multidisciplinary Cancer Care: Development of an Infectious Diseases Physician Assistant Workforce at a Comprehensive Cancer Center

By Candice N. White, MPAS, PA-C, Roy A. Borchardt, PhD, PA-C, Mary L. Mabry, PA-C, Kathleen M. Smith, MPAS, PA-C, Victor E. Mulanovich, MD, and Kenneth V. Rolston, MD

The University of Texas M. D. Anderson Cancer Center, Houston, TX

Introduction

The primary goal of the recently passed health care reform bill is to increase access to affordable care for Americans. One limitation to achieving this goal is the predicted shortages of health care professionals in the future.¹⁻³ The delivery of cancer care will also be affected by increasing demand caused by an aging population, expanding treatment options, and increased numbers of cancer survivors with complicated medical needs.⁴⁻⁷ The Workforce Statement by ASCO recommended the development of a workforce that includes increased utilization of midlevel providers such as physician assistants (PAs) and nurse practitioners (NPs) to help alleviate this burden and ensure delivery of quality cancer care.⁶ Two reports addressed this idea and reported on the use of PAs and NPs in the field of oncology.^{7,8}

Cancer care is delivered not only by oncologists, but by a variety of personnel in multispecialty disciplines including infectious diseases (ID). Infection is the most common complication of cancer and its treatment.⁹ The University of Texas, M. D. Anderson Cancer Center (MDACC) is one of the largest comprehensive cancer centers in the nation. Currently, 18% to 22% of all hospital admissions to this center are infection related. The Department of Infectious Diseases provides inpatient and outpatient consultations to all requesting oncology services. Although MDACC has employed PAs and NPs for over 30 years, with the numbers of providers increasing annually, until recently, all of the ID services were provided by faculty and clinical fellows. Fellows rotate at several institutions and are not always available to provide support at MDACC. Over the past several years, ID interventions at MDACC have increased substantially (Fig 1) and put a severe strain on our clinical faculty to meet this demand. The rest of this report deals with the development of the ID PA workforce at MDACC.

The MDACC ID Service

Before PAs were hired, the inpatient ID services consisted of hematology ID service, intensive care unit ID service, and solid tumor ID service. One faculty and one fellow, when available, managed each ID service, performed all new consultations, and provided follow-up care. Frequently, there were periods when fellows were not available depending on the rotation schedule.

In addition, each ID faculty performed outpatient consultations and follow-ups one morning a week. Other activities included the development of institutional guidelines for the prevention, diagnosis, and treatment of infections, and interactions with the microbiology/laboratory regarding new diagnostic methods, susceptibility testing, and the institutional antibiogram. The need for developing a multidisciplinary antimicrobial stewardship team was also recognized and initiated through a quality improvement project in 2006 but could not be sustained after completion of the project. Finally, it was recognized that education in the fellowship training program was being negatively affected by increased clinical activity, as was the time available for faculty to conduct research, which is an academic requirement. Consequently, the ID PA workforce was developed and the first PA was hired in February 2006 (Fig 2).

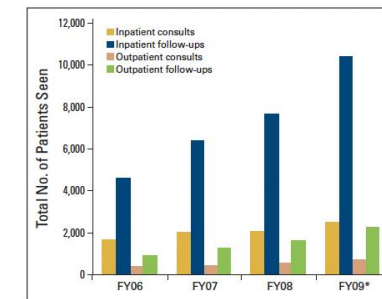
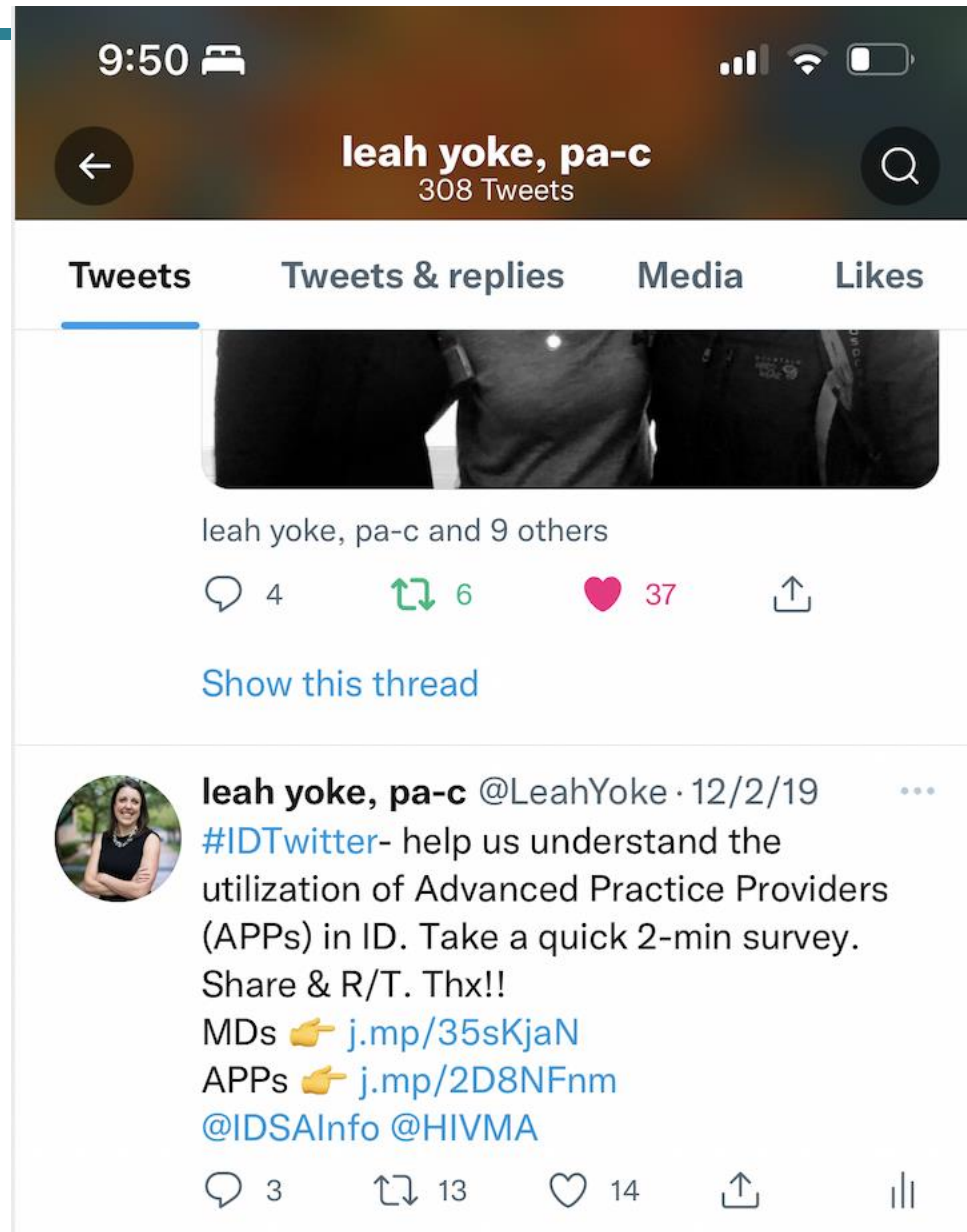


Figure 1. Increases in clinical infectious diseases (ID) activity with the initiation of the ID physician assistant program. Hospital admissions increased by 9.8% for fiscal year (FY) 06 to 08. In the ID service, a 48% increase was noted for inpatient consultations, a 125% increase for inpatient follow-ups, a 74% increase for outpatient consultations, and a 145% increase for outpatient follow-ups.

The role of APPs in ID and the need for data



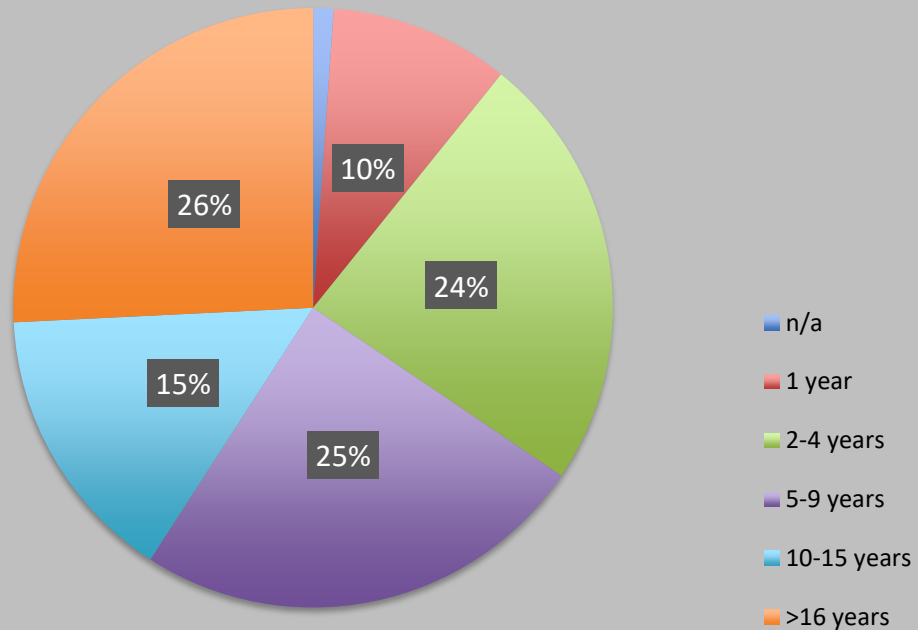
Survey

- Two surveys created in RedCap
 - ID Physician survey
 - ID APPs survey
- Distributed between 12/1/2019-1/31/2020
- Advertised by emails to key stakeholders, social media posts, and online community forums within IDSA
- 93 respondents nationwide for the APP survey; 218 respondents nationwide for the physician survey.

APPs in ID

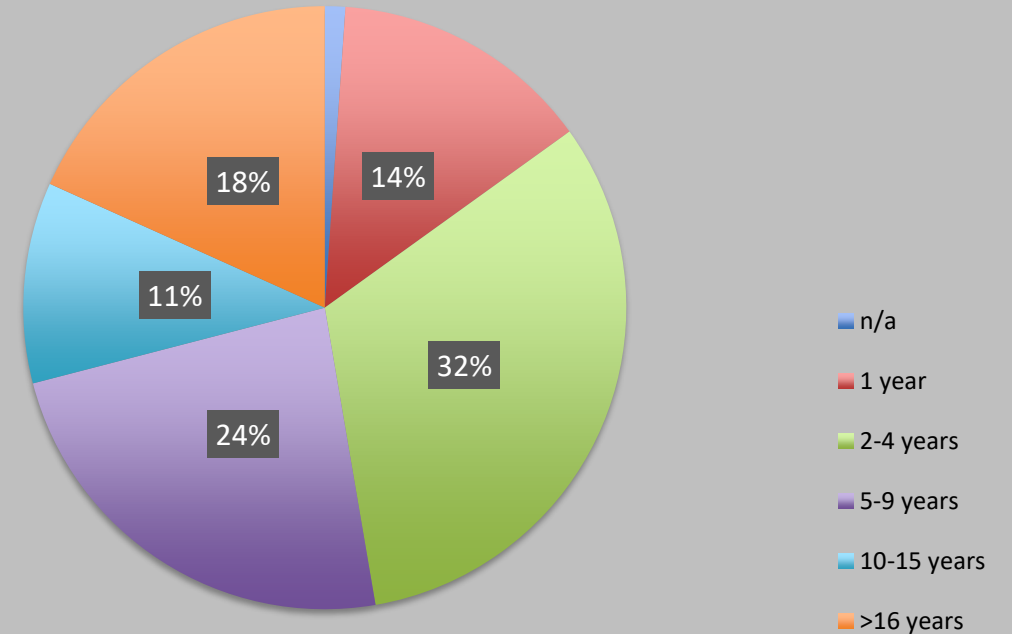
Years of experience as an APP

n=93



Years of experience as an APP in ID

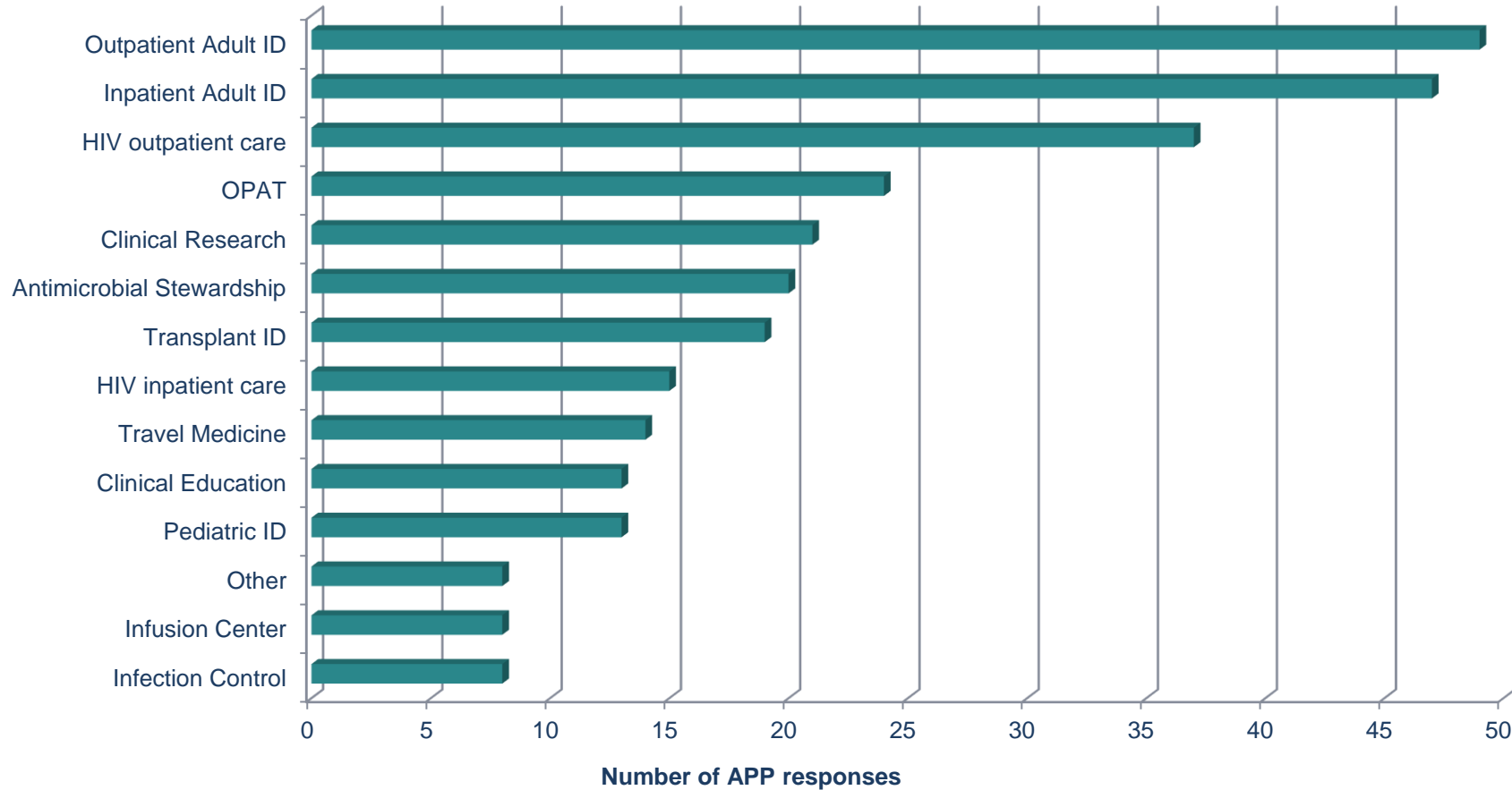
n=93



Beieler A, Yoke L, Liu C, Pergam S, Wald A, Dhanireddy S. Advanced Practice Providers in the Infectious Disease Workforce: A Nationwide Survey. *Journal of Interprofessional Education and Practice*. June, 2021. <https://doi.org/10.1016/j.xjep.2021.100448>

ID Practice Areas in ID

APP ID Practice Areas, n=93



Beieler A, Yoke L, Liu C, Pergam S, Wald A, Dhanireddy S. Advanced Practice Providers in the Infectious Disease Workforce: A Nationwide Survey. *Journal of Interprofessional Education and Practice*. June, 2021. <https://doi.org/10.1016/j.xjep.2021.100448>



The Role of the Advanced Practice Provider in Infectious Disease: Opportunities for Growth

Leah H. Yoke, PA-C, MCHS^{1,2}; Alison Beieler, PA-C³; Catherine Liu, MD^{1,2}; Steven Pergam, MD, MPH^{1,2}; Anna Wald, MD, MPH^{1,2,3}; Shireesha Dhanireddy, MD^{1,3}

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Corresponding Author:
Leah Yoke, PA-C
lyoke@fredhutch.org

¹Division of Allergy and Infectious Diseases, University of Washington, Seattle, WA; ²Fred Hutchinson Cancer Research Center, Seattle, WA; ³Harborview Medical Center, Seattle, WA.

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Background

- Advanced Practice Providers (APPs) provide high quality medical care in multiple specialties, including Infectious Diseases (ID)
- ID physician shortages have been a concern voiced by ID organizations
- APPs practicing in ID can act as extenders of patient care, however this provider group role is not well understood or defined
- To better understand these providers, we examined APP years of experience in ID, primary practice settings, and perceived practice barriers from an APP perspective

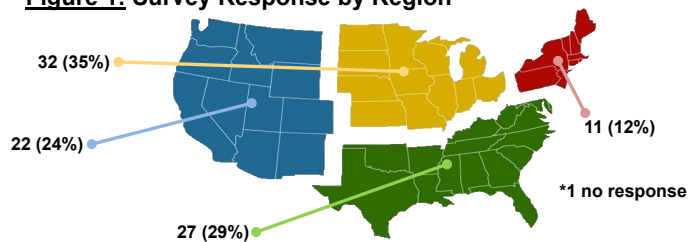
Objectives

To describe and better understand the APP workforce within the ID community

Methods

- Survey created in REDCap
- Distributed between 12/1/2019-1/31/2020 to self-identifying APPs practicing in ID
- Advertised by direct emails to key stakeholders, social media, and online IDSA community forums
- Responses captured in RedCap database

Figure 1: Survey Response by Region



Results

Figure 2:

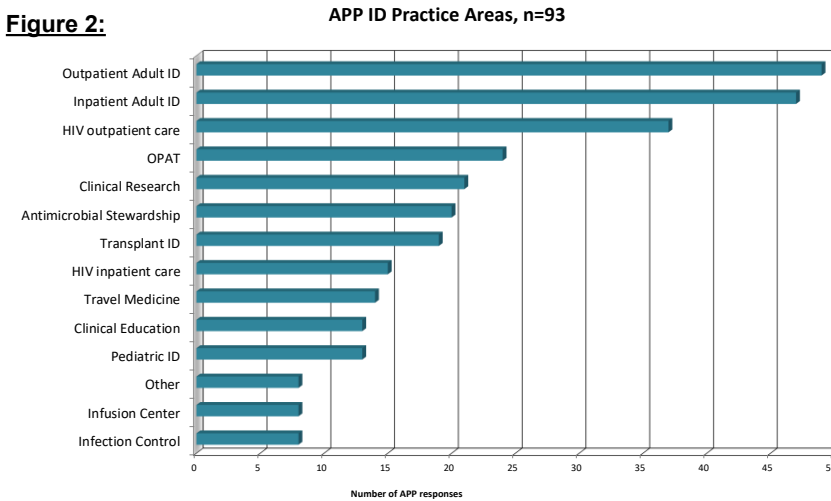


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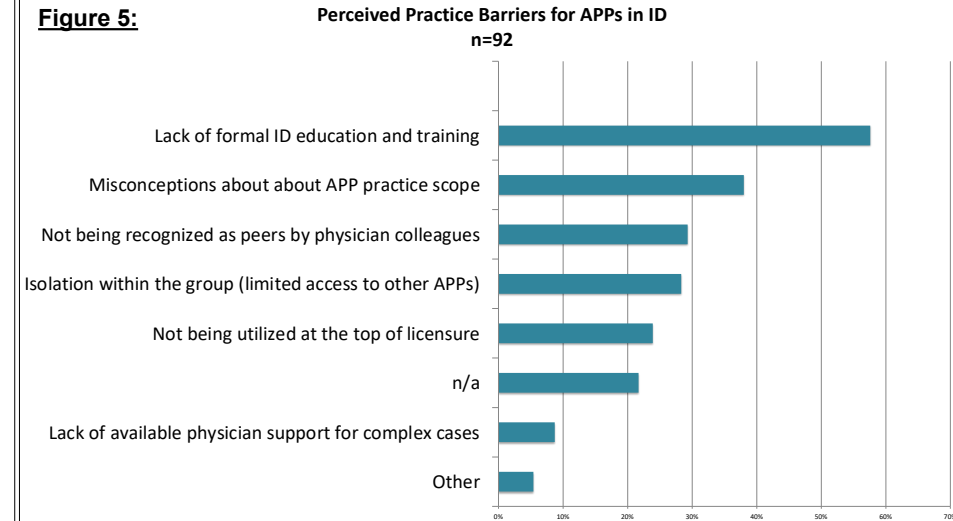


Figure 3:

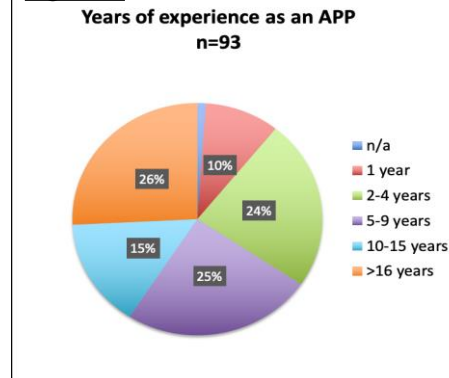
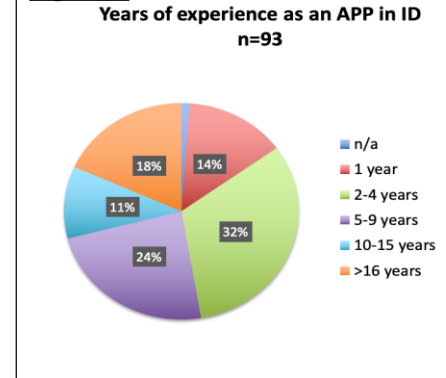


Figure 4:



Conclusions

- The APP ID workforce is an experienced provider group working in a variety of ID settings and geographic locations in the US.
- APPs can work as extenders of care in multiple settings within ID.
- Creation of directed ID educational opportunities, along with collaborating physician support are significant areas of opportunity and growth.
- APP specific mentorship and training courses will create more opportunities for APPs and further expand the ID workforce.

Physician Perspective: Utilization of Advanced Practice Providers (APPs) in Infectious Disease

Alison Beiel PA-C, ¹ Leah Yoke, PA-C, ^{2,3} Steven Pergam MD, ^{2,3} Anna Wald MD, ^{1,2,3} Catherine Liu MD, ^{2,3} Shireesha Dhanireddy MD ^{1,2,3}

¹ Harborview Medical Center, Seattle, WA; ² Division of Allergy and Infectious Disease, University of Washington, Seattle, WA; ³ Fred Hutch Cancer Research Center, Seattle, WA

Corresponding Author:
Alison Beiel PA-C
Harborview Medical Center
beielera@uw.edu



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BACKGROUND

- With recent shortfalls in applicants completing formal Infectious Disease (ID) fellowship programs, shortages of ID physicians is a challenge recognized by the clinical workforce.
- More Advanced Practice Providers (APPs) are being used in sub-specialties within ID to expand and extend existing practices.
- APPs clinical scope, roles, and opportunities for education are not well understood, including the number of practicing APPs working in ID.
- There is no formal training, guidance, or national education opportunities for APPs working in ID.
- We developed a physician survey to better understand the APP workforce in ID, the perceived barriers to APP utilization, and educational opportunities.

METHODS

Design: Voluntary anonymous physician survey data

Site: United States, and other locations

Survey period: Dec 1, 2019 – Jan 31, 2020

Survey population:

- Infectious Disease physicians who completed formal ID training

Physician survey links were distributed by social media, key stakeholder emails, and IDSA online community forum.

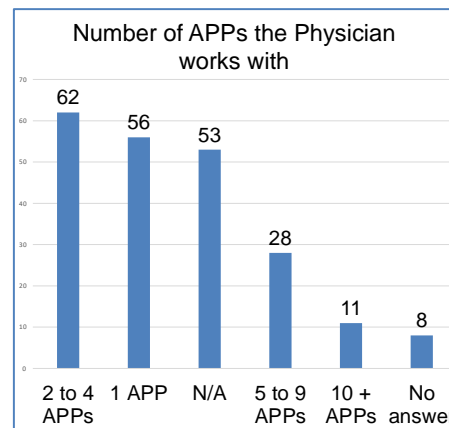
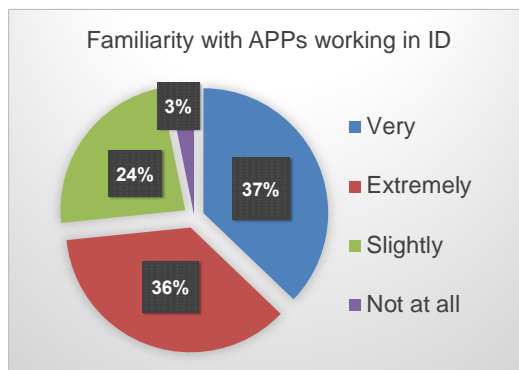
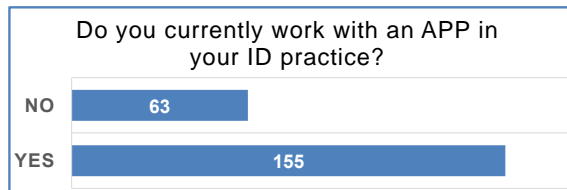
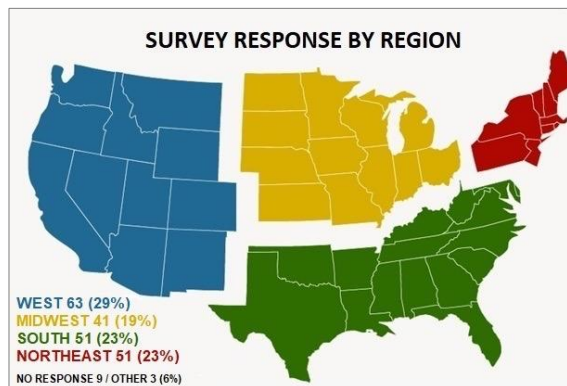
Anonymous data were gathered via REDCap data collection survey tool. ³ Below are the physician questions:

- Are you an Infectious Disease Attending, who has completed ID fellowship training?
- To what degree are you familiar with the utilization of APPs working in ID?
- Do you currently work with an APP in your group or practice? If yes, how many?
- If no, what are some reasons you don't have an APP in your practice?
- What services do you provide at your practice?
- What is your primary practice setting?
- What is your ID practice zip code?

RESULTS, n = 218

Physician Care Provided	n = 218 (%)
Inpatient Adult ID	185 (85%)
Outpatient Adult ID	162 (74%)
HIV Outpatient care	152 (70%)
HIV Inpatient care	137 (63%)
Clinical Education	132 (61%)
Antimicrobial Stewardship	131 (60%)
OPAT	128 (59%)
Clinical Research	111 (51%)
Infection Control	104 (48%)
Transplant ID	83 (38%)
Travel Medicine	79 (36%)
Infusion Center	38 (17%)
Pediatric ID	26 (12%)
Other	4 (2%)

Type of ID practice setting	n = 218 (%)
University/Medical school	104 (48%)
Hospital/Clinic	80 (37%)
Private Practice	28 (13%)
Federal Government	5 (2%)
Prefer not to answer	1 (0%)



RESULTS, n = 142 (*no response, n = 76)

What are some reasons/concerns for not having APPs in your ID practice

Physician Responses	n (%)
Reported reasons/concerns for not having APPs	n = 142 (%)
No concerns	81 (57%)
No standardized ID specific training	22 (15%)
Practice has sufficient staffing	19 (13%)
Amount of time training would take	17 (12%)
Loss of physician revenue	16 (11%)
Not comfortable providing job training	12 (8%)
Legal (malpractice) ramifications	11 (8%)
Concerned about proper billing	10 (7%)
Do not feel equipped to provide oversight	7 (5%)
Other reasons (Open End Responses)	
Knowledge gaps	6 (4%)
Lack of funding	5 (4%)
Lack of weekend/call coverage	4 (3%)
Decision made by other administration	3 (2%)
In process of hiring APP	2 (1%)

DISCUSSION AND CONCLUSIONS

- Results of 218 surveys demonstrate collaboration between ID physicians and APPs exists to meet current workforce needs.
- 57% of Physicians reported no concerns with utilizing APPs in ID (n = 142).
- Lack of APP ID specific training is a perceived concern/barrier to utilization of APPs.
- Opportunity exists for formal ID education and resource development both to enhance APPs clinical skills and address perceived knowledge gaps.
- Inclusion of APPs in the ID workforce may allow physicians to expand ID care into more resource limited areas to continue to provide high quality patient care.

Invitation to present at IDWeek 2020

onlinexperiences.com/scripts/Server.aspx

IDWeek

VIDEO

SLIDES

The Role of Advanced Practitioners in Infectious Disease

Leah Hampson Yoke, PA-C, MCHS

Infectious Diseases Clinical Services, Vaccine and Infectious Disease Division
Fred Hutchinson Cancer Research Center

Teaching Associate, Division of History and Infectious Diseases
University of Washington School of Medicine

Clinical Faculty, MEDICC PA Training Program, Department of Family Medicine
University of Washington School of Medicine

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IDWeek

VIDEO

SLIDES

Summary of the Role of APPs

- Increase access – substantial increase in appts (50% increase)
- Improve quality of care through OPAT and coordination of care
- Improve patient experience

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IDWeek

VIDEO

SLIDES

In Summary

- APP/MD collaboration can:
 - improve access to patient care and patient satisfaction
 - improve continuity of care
 - improve ID practice productivity
- Physician survey responses echoed the need for the development for APPs in ID
- Academic institutions with ID APPs could potentially develop a framework for education

ID WEEK 2020

onlinexperiences.com/scripts/Server.aspx

IDWeek

VIDEO

SLIDES

Role of APP in Immunocompromised Host ID

Catherine Liu, MD

Director, Antimicrobial Stewardship and OPAT Programs, Seattle Cancer Care Alliance

Associate Professor, Fred Hutchinson Cancer Research Center

Associate Professor, University of Washington

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Contents lists available at [ScienceDirect](#)

Journal of Interprofessional Education & Practice

journal homepage: www.elsevier.com/locate/jiep



Advanced practice providers in the infectious disease workforce: A nationwide utilization survey

Alison M. Beieler^{a,*}, Leah H. Yoke^{b,c,**}, Catherine Liu^{b,c}, Steven A. Pergam^b, Anna Wald^{a,b,c}, Shireesha Dhanireddy^{a,c}

^a Harborview Medical Center, Seattle, WA, USA

^b Vaccines and Infectious Diseases Division, Fred Hutchinson Cancer Research Center, Seattle, WA, USA

^c Division of Allergy and Infectious Diseases, Department of Medicine, University of Washington, School of Medicine, Seattle, WA, USA



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Advanced Practice Providers in Infectious Disease: Educational Needs and Opportunities

Leah H. Yoke, PA-C, MCHS^{1,2}; Alison M. Beiler, PA-C³; Catherine Liu, MD^{1,2}; Steven Pergam, MD, MPH^{1,2}; Shireesha Dhanireddy, MD^{1,3}

¹Division of Allergy and Infectious Diseases, University of Washington, Seattle, WA; ²Fred Hutchinson Cancer Research Center, Seattle, WA;

³Harborview Medical Center, Seattle, WA.

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Corresponding Author:
Leah Yoke, PA-C
lyoke@fredhutch.org

Background

- Advanced Practice Providers (APPs) provide high quality medical care in multiple specialties, including Infectious Diseases (ID)
- There is a paucity of specific and directed educational opportunities available for APPs within ID.
- To better understand these providers, we examined specific APP educational needs and how educational programs could create and provide high quality programs for APPs in ID

Objectives

To understand and describe continuing education (CE) needs and opportunities for APPs within ID.

Methods

- Anonymous survey created in REDCap
- Distributed between 2/15/2021-3/31/2021 to self-identifying APPs practicing in ID
- Advertised by direct emails to key stakeholders, social media, and online Infectious Diseases Society of America (IDSA) community forums
- Responses captured in REDCap database

Are you interested in ID specific education for APPs? n=99

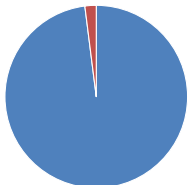


Figure 1: ■ Yes ■ No

Results

Figure 2: Distribution of Respondents, n=85¹

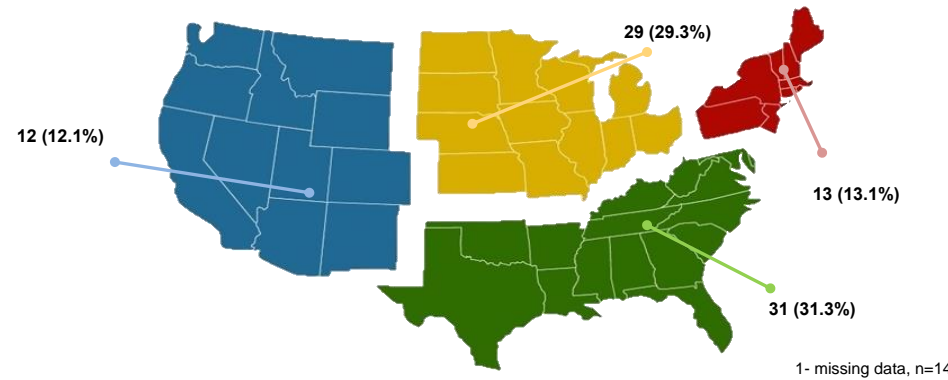


Figure 3: Preferred ID Educational Methods for APPs, n=98¹

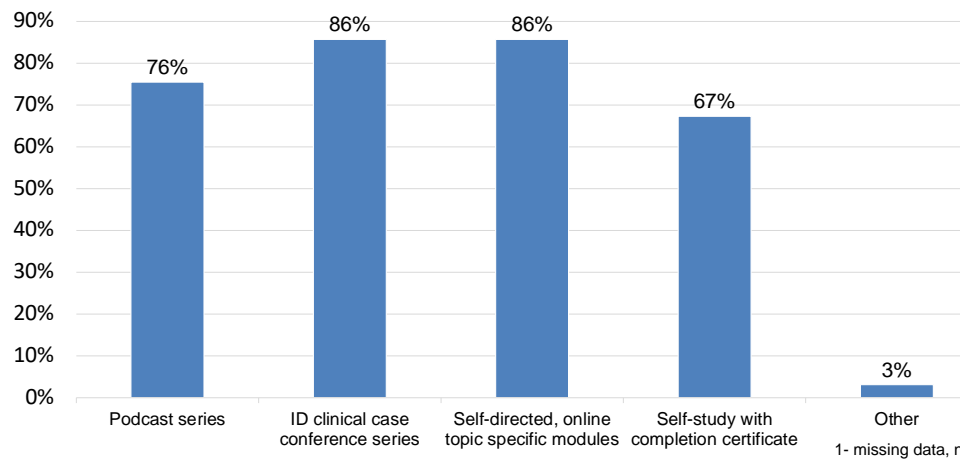
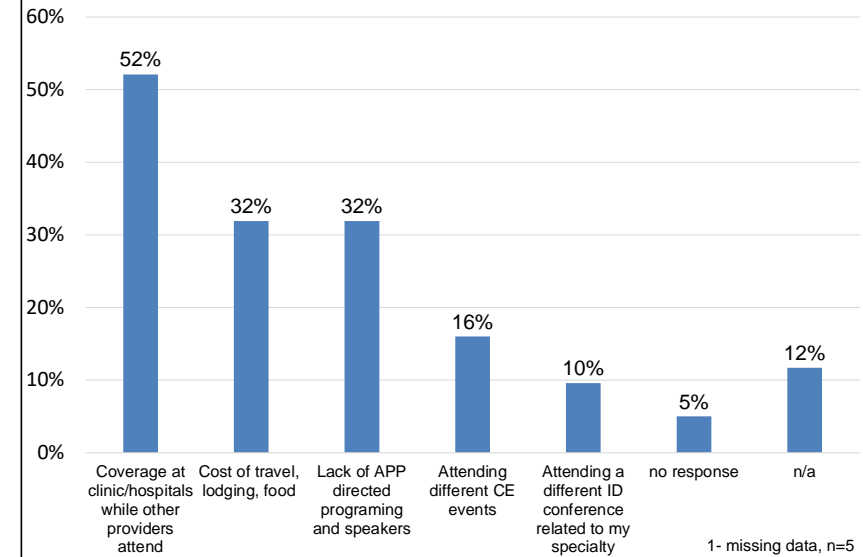


Figure 4: Barriers to ID Week Participation; n=94¹



Conclusions

- APPs in ID provide collaborative and specialized care in a variety of settings.
- Educational opportunities specifically tailored for APPs has been identified as a need.
- The majority of APPs in ID do not attend ID Week, citing clinical coverage and cost being significant barriers.
- Podcasts, online lectures, and self-study certificate programs were identified as avenues for ID teaching and are accessible, alternative methods for training.
- With a growing APP ID workforce, educational opportunities are necessary to support them in their practice

Future work

- Development of educational opportunities for APPs in ID
- Mentorship for new APPs in ID
- Future directed CME and networking opportunities
- Virtual and “on the go” CME
- Goal of increasing attendance at IDWeek for APPs

Leadership Lesson #3:

Ask a good question... and find the answer!

Enter COVID...







Development of a SARS-COV-2 Testing Algorithm at a Cancer Center



May 20, 2020

Development of a SARS-COV-2 Testing Algorithm at a Cancer Center

By Leah Hampson Yoke, MCHS, PA-C, Fred Hutchinson Cancer Research Center and University of Washington School of Medicine

COVID at a Cancer Center

Clinical Features and Outcomes of COVID-19 Infection Among Cancer Patients in Seattle, Washington

Leah H. Yoke, PA-C, MCHS,^{1,2*} Juhye Lee, PhD,^{1*} Elizabeth M. Krantz, MS,¹ Jessica Morris, MPH,¹ Sara Marquis, MPH,¹ Pooja Bhattacharyya, PA-C,^{1,2} Lisa So, PA-C,^{1,2} Francis Riedo, MD,³ Jason Simmons, MD, PhD,^{2,4} Ali Raza Khaki, MD,^{5,6} Steven A. Pergam, MD, MPH,^{1,2} Alpna Waghmare, MD,^{1,7,8} Chikara Ogimi, MD,^{1,7,8**} Catherine Liu, MD, FIDSA^{1,2**}

¹Vaccine and Infectious Disease Division, Fred Hutch Cancer Research Center, Seattle, WA; ²Division of Allergy and Infectious Diseases, University of Washington, Seattle, WA; ³EvergreenHealth, Kirkland, WA; ⁴VA Puget Sound Health Care System, Seattle, WA; ⁵Clinical Research Division, Fred Hutch Cancer Research Center, Seattle, WA; ⁶Division of Oncology, University of Washington, Seattle, WA; ⁷Department of Pediatrics, University of Washington, Seattle, WA; ⁸Pediatric Infectious Diseases Division, Seattle Children's Hospital, Seattle, WA

*These authors contributed equally **Joint senior authors



Background

- High morbidity and mortality have been observed with SARS-CoV-2 infection. However, there are limited data on clinical characteristics of COVID-19 disease among cancer patients
- Factors such as exposures, coinfections, and antimicrobial use among cancer patients with COVID-19 disease are not well understood

Objectives

To characterize clinical features and outcomes of COVID-19 disease in cancer patients at the Seattle Cancer Care Alliance (SCCA).

Methods

- Study design:** Retrospective chart review
- Subjects:** 71 consecutive patients at the Seattle Cancer Care Alliance diagnosed with SARS-CoV-2 infection by RT-PCR between February 28, 2020 and June 15, 2020.
- Models:** Generalized estimating equations with binomial distribution and logit link were used to test for associations of baseline factors with days alive and out of the hospital in the 30 days after COVID-19 diagnosis
- Definitions:**
 - Day of diagnosis:** date of first positive SARS-CoV-2 RT-PCR test
 - Lower respiratory tract infection (LRTI):** clinically diagnosed LRTI with new abnormal exam findings, abnormal radiologic findings, or new oxygen support
 - Household contact:** member of household with suspected or laboratory-confirmed COVID-19 diagnosis
 - Community, non-household contact:** interaction with community member with a suspected or laboratory-confirmed COVID-19 diagnosis
 - LTCF:** long-term care facility

Results

Table 1. Baseline Demographics for COVID-19 Positive SCCA Patients

Baseline ¹ Characteristic	Patients Testing Positive for COVID-19 (n = 71) ²
Age (years), median (range)	61 (22 - 98)
Male	32 (45)
Race	
White	53 (75)
Black	6 (9)
Asian	5 (7)
Hawaiian/Pacific Islander	2 (3)
American Indian/Alaska Native	2 (3)
Multiple Races	1 (1)
Unknown	2 (3)
Ethnicity	
Hispanic	9 (13)
Non-Hispanic	60 (85)
Unknown	2 (3)
Body mass index (BMI)	
Less than 25	21 (30)
25-29.9	30 (42)
30 or greater	19 (26)
Unknown	1 (1)
Number of comorbidities	
0	18 (25)
1	13 (18)
2	21 (30)
≥ 3	19 (26)
Comorbidities	
Hypertension	32 (45)
Chronic kidney disease	15 (21)
Other malignancy	15 (21)
Coronary artery disease	11 (15)
Diabetes	9 (13)
Asthma	9 (13)
Heart failure	5 (7)
Other underlying lung disease	5 (7)
COPD	2 (3)
Other	30 (41)
Tobacco use	
Current & Former	34 (48)
Never	35 (49)
Unknown	2 (3)
Primary disease, broad category	
Solid tumor	42 (59)
Hematologic malignancy	19 (27)
Hematologic disorder	4 (6)
Inherited immunodeficiency	1 (1)
Autoimmune disorder	1 (1)
Other	4 (6)
Primary disease, specific ³	
Breast cancer	10 (14)
Other solid tumor	6 (8)
Colorectal cancer	5 (7)
Prostate cancer	5 (7)
Non-Hodgkin lymphoma	5 (7)
Other heme malignancy	4 (6)

¹Baseline defined as date of first positive COVID-19 test
²Values are in n (%) unless otherwise specified.
³Only primary diseases with frequency of at least 5% are shown

Figure 1. Distribution of COVID-19 Exposures*

*39% of exposures were unknown. No cases were identified as healthcare exposures.

Figure 2. Frequency of Symptoms at COVID-19 Presentation Among 71 Patients

Figure 3. 30-Day Mortality by Age Group*

Percentages signify 30-day mortality rates for each age group
^{*}Two deaths were not thought to be directly attributable to COVID-19: one 24-year-old and one 72-year-old

Figure 4. Empiric Antibiotic Use for Pneumonia in 30 Days After Diagnosis

*Includes patients who may have started antibiotics prior to Day 0.
 †Three patients had a documented respiratory coinfection. No viral or fungal copathogens were reported. One patient diagnosed with parainfluenza or COVID-19 infection came first.

Figure 5. Model estimates for associations with days alive and out of hospital

*Multivariable models adjusted for age, sex, and number of comorbidities
 OR = odds ratio, LCL = lower limit for 95% confidence interval, UCL = upper limit for 95% confidence interval

Conclusions

- COVID-19 is associated with significant morbidity and mortality in cancer patients, particularly among older age groups.
- More than half of cases appeared to acquire SARS-CoV-2 from LTCF or household exposures, indicating need for infection prevention and family/caregiver education.
- Despite few documented coinfections, empiric antibiotic use for pneumonia was common within 30 days of diagnosis early on in the pandemic but decreased over time.
- Greater number of comorbidities is significantly associated with lower odds of days alive and out of hospital in the 30 days after COVID-19 diagnosis

COVID at a Cancer Center- in print!

Open Forum Infectious Diseases

MAJOR ARTICLE



Clinical and Virologic Characteristics and Outcomes of Coronavirus Disease 2019 at a Cancer Center

Leah H. Yoke,^{1,2,a} Juhye M. Lee,^{1,a} Elizabeth M. Krantz,¹ Jessica Morris,¹ Sara Marquis,¹ Pooja Bhattacharyya,^{1,2} Lisa So,^{1,2} Francis X. Riedo,³ Jason Simmons,^{2,4} Ali Raza Khaki,^{5,6,7} Guang-Shing Cheng,^{5,8} Alexander L. Greninger,^{1,9,10} Steven A. Pergam,^{1,2} Alpana Waghmare,^{1,10,11} Chikara Ogimi,^{1,10,11,b} and Catherine Liu^{1,2,b,c}

¹Vaccine and Infectious Disease Division, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA, ²Division of Allergy and Infectious Diseases, University of Washington, Seattle, Washington, USA, ³EvergreenHealth, Kirkland, Washington, USA, ⁴Veterans Affairs Puget Sound Health Care System, Seattle, Washington, USA, ⁵Clinical Research Division, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA, ⁶Division of Oncology, University of Washington, Seattle, Washington, USA, ⁷Division of Oncology, Department of Medicine, Stanford University, Palo Alto, California, USA, ⁸Division of Pulmonary and Critical Care, University of Washington, Seattle, Washington, USA, ⁹Department of Laboratory Medicine and Pathology, University of Washington, Seattle, Washington, USA, ¹⁰Department of Pediatrics, University of Washington, Seattle, Washington, USA, and ¹¹Pediatric Infectious Diseases Division, Seattle Children's Hospital, Seattle, Washington, USA

Background. High morbidity and mortality have been observed in patients with cancer and coronavirus disease 2019 (COVID-19); however, there are limited data on antimicrobial use, coinfections, and viral shedding.

Methods. We conducted a retrospective cohort study of adult patients at the Seattle Cancer Care Alliance diagnosed with COVID-19 between February 28, 2020 and June 15, 2020 to characterize antimicrobial use, coinfections, viral shedding, and outcomes within 30 days after diagnosis. Cycle threshold values were used as a proxy for viral load. We determined viral clearance, defined as 2 consecutive negative results using severe acute respiratory syndrome coronavirus 2 reverse-transcription polymerase chain reaction results through July 30, 2020.

Results. Seventy-one patients were included with a median age of 61 years; 59% had a solid tumor. Only 3 patients had documented respiratory bacterial coinfection. Empiric antibiotics for pneumonia were prescribed more frequently early in the study period (February 29–March 28, 2020; 12/34) compared to the later period (March 29–June 15, 2020; 2/36) ($P = .002$). The median number of days from symptom onset to viral clearance was 37 days with viral load rapidly declining in the first 7–10 days after symptom onset. Within 30 days of diagnosis, 29 (41%) patients were hospitalized and 12 (17%) died. Each additional comorbidity was associated with 45% lower odds of days alive and out of hospital in the month following diagnosis in adjusted models.

Conclusions. Patients at a cancer center, particularly those with multiple comorbidities, are at increased risk of poor outcomes from COVID-19. Prolonged viral shedding is frequently observed among cancer patients, and its implications on transmission and treatment strategies warrant further study.

Keywords. antimicrobial use; cancer; clinical outcomes; COVID-19; viral shedding.

Equitable Access to COVID19 Therapeutics



The Lancet Regional Health - Americas

Available online 18 May 2022, 100263

In Press, Corrected Proof



Comment

A call to action: A need for initiatives that increase equitable access to COVID-19 therapeutics

Jacinda C. Abdul-Mutakabbi ^{a, b} , Elizabeth B. Hirsch ^c, Caroline Ko ^d, Britny R. Brown ^e, Aiman Bandali ^f, Jason Mordino ^g, Leah H. Yoke ^{h, i}, Taison Bell ^j, Talia H. Swartz ^k, Uzma Syed ^l, Matifadza Hlatshwayo ^m, Ila M. Saunders ⁿ

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COVID-19 Test to Treat Locator

Faster, Easier Access to Life-Saving COVID-19 Treatments

[View Locations](#)

Leadership Lesson #4

Show up, be present, and take calculated risks.

Chief PA at UW Medicine

- Positions created about 20 years ago to help advocate and lead the APP groups across the enterprise (now including Northwest Hospital, UW Medical Center, and the UW clinics)
- Represent APPs on the Medical Leadership Meetings, the Medical Staff Administrative Committee, and other enterprise -wide committees
- Sign all credentialing files for APPs to ensure safety and compliance
- Advocate for the needs of the over 600 APPs across the enterprise.

September, 2020

- COVID
- EMR transfer from Cerner to EPIC
- Budget shortfalls
- Burnt out providers

Leadership Lesson #5

If you have an opportunity, take it. It might not come back again.

4:36



< All Inboxes



UWMC Weekly Update 12/7-12/11



- **Chief PA Position Announcement**
- **COVID-19 Montlake Surge Planning Update (attachment included)**
- **Letter of Appreciation**

To: UWMC Medical Staff
From: Tom Staiger, MD, Medical Director
Re: Appointment of Leah Yoke PA-C, MCHS, as Chief PA

Colleagues:

I am very pleased to announce that Leah Yoke PA-C has agreed to become our UWMC Chief PA, effective Jan. 1st, 2021. Leah has been a member of the UWMC Infectious Diseases service since 2014. She has been recognized as a “Top Doc” in Infectious Diseases by Seattle Met Magazine from 2016-2020 and for her teaching excellence by the UW MEDEX PA program. In her role as chief PA, she will be partnering with Laurie Soine, Chief ARNP, to support advanced practice providers across UW Medicine. Her advocacy work will include initiatives on leadership, mentorship, and recognition of the valuable role that APPs play within our health care teams.

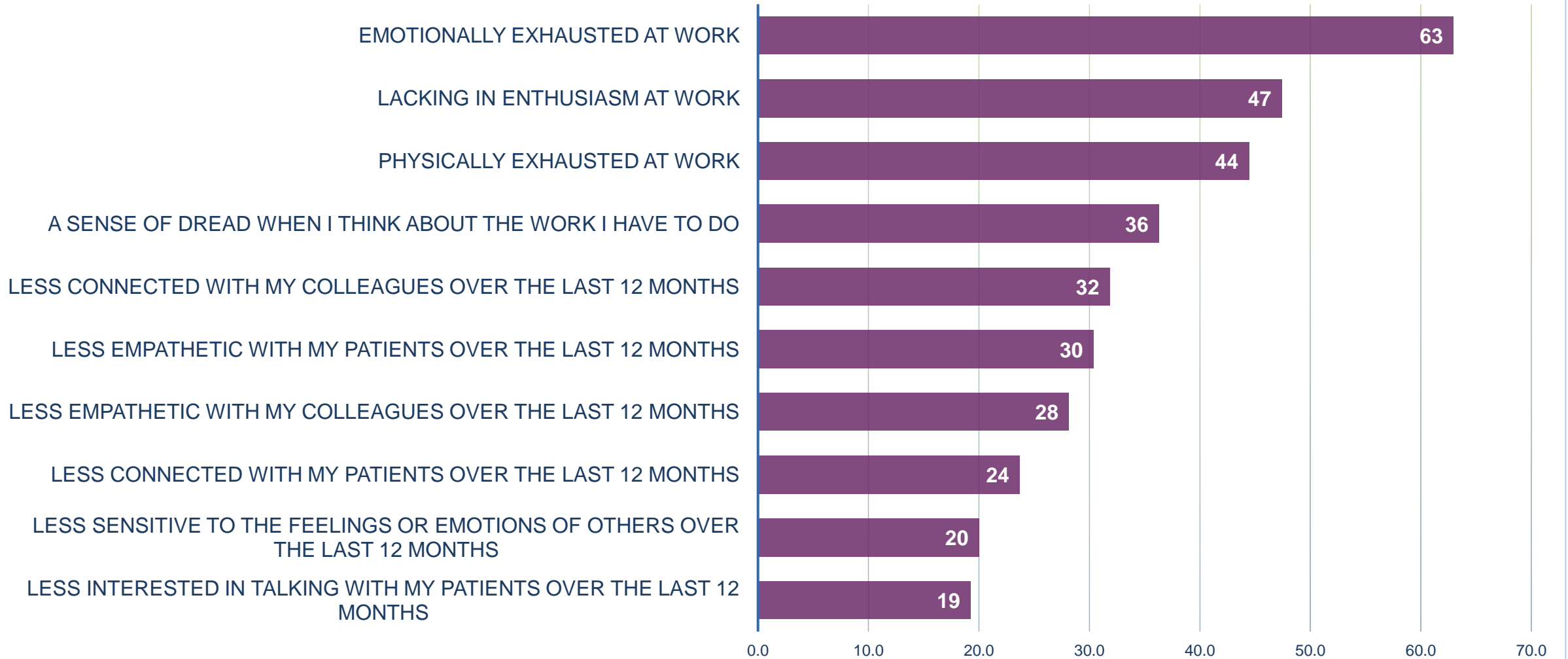


First things first- make a survey!

- After a year of difficulty and concern for burn-out, a survey was developed to better assess the state of our APPs
- Survey open May 19, 2021- July 15, 2021
- 158 (25%) APP survey respondents from a variety of specialties across the enterprise

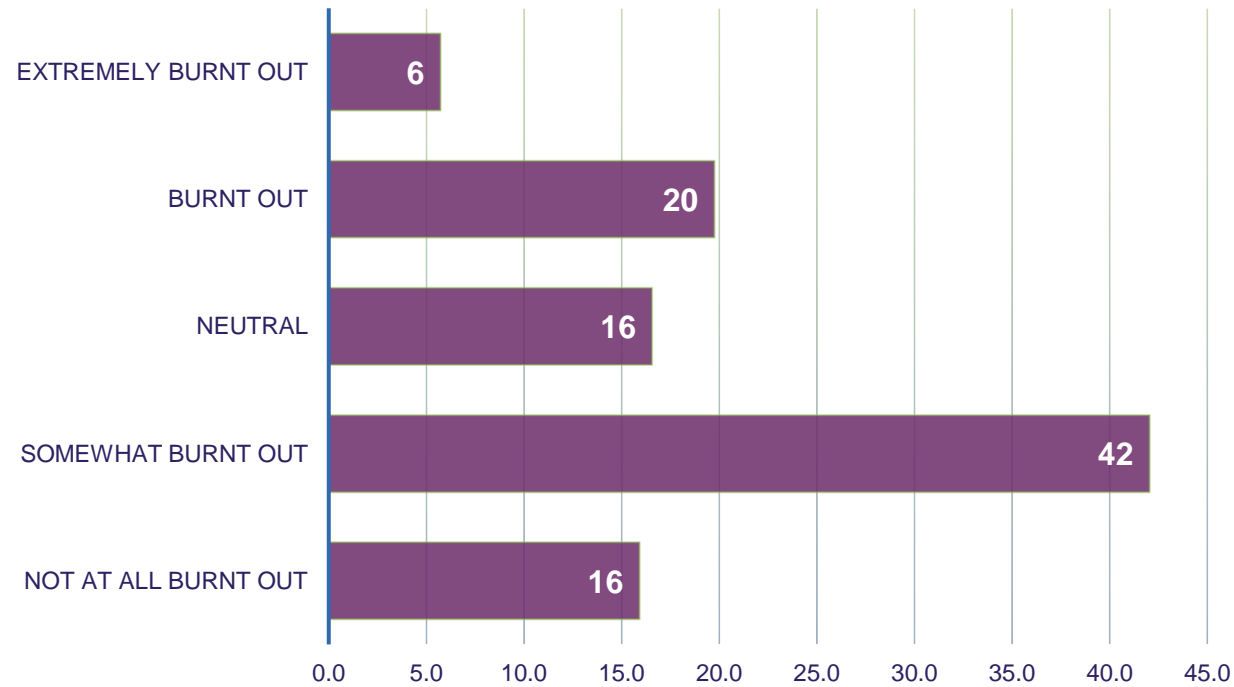
Wellness and burnout across UW Medicine

I currently feel the following:

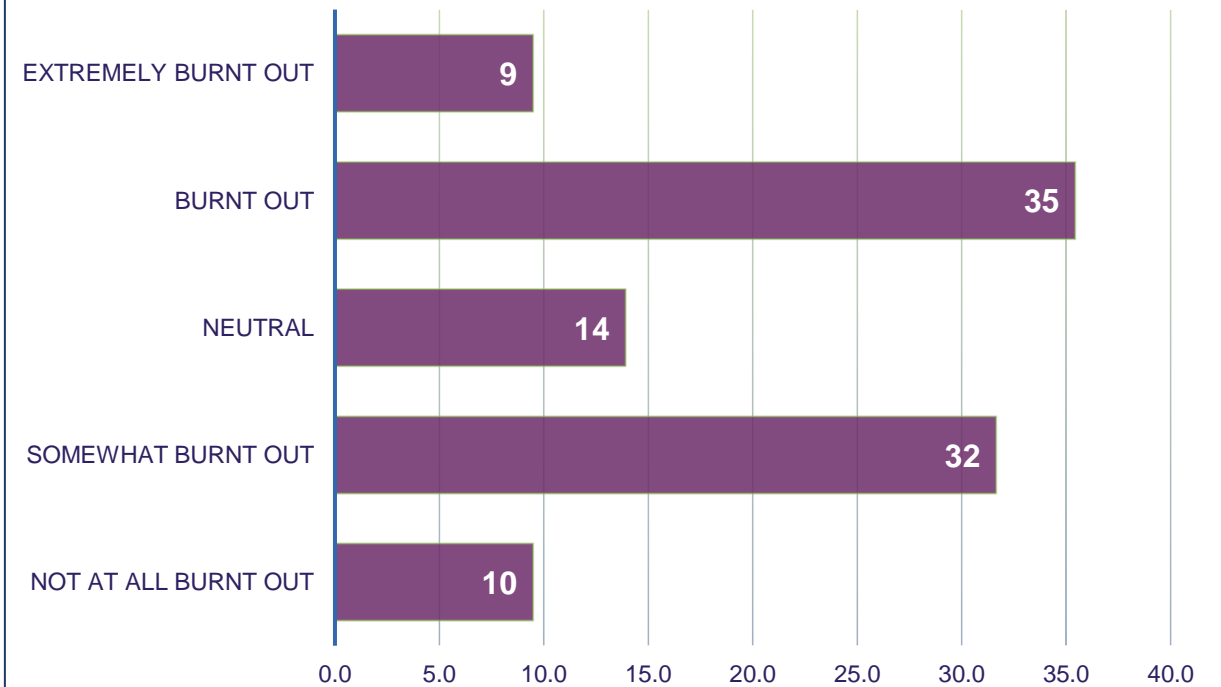


Burn-out trajectory

Fall 2020
n=157



Summer 2021
n=158



The response of UW Medicine Leadership

- Developed a salary equity task force and salary adjustments
- Appointed an APP Task Force to create standards on appropriate use of APPs, staffing, onboarding, recruitment, and ultimately building clinical teams using APPs
- Provided funds for an APP Week



Leadership Lesson #6

Understand the needs of your group and make a plan for action.

Current work across UW Medicine

- APP Task Force
- Salary equity and promotional pathway development
- Collaboration between our physician colleagues and APPs
- Managing continued repercussions from the pandemic response

The practicalities...

- Show up to the meetings.
- Get involved.
- Respond to emails.
- Join Twitter.
- Don't be afraid to speak up.
- Surround yourself with mentors and wise colleagues.
- Do what you love.

Acknowledgements

- Gabe Zecha, PA-C
- Alison Beieler, PA-C
- Catherine Liu, MD
- Steve Pergam, MD
- Shireesha Dhanireddy, MD
- Frank Tverdek, PharmD
- Rupali Jain, PharmD
- Thomas Staiger, MD
- Santiago Neme, MD

- Anna Wald, MD
- Laurie Soine, ARNP, PhD

All my colleagues who have worked tirelessly over the past 2+ years.



Questions?

**Leah Hampson Yoke
lyoke@fredhutch.org**

Twitter: @LeahYoke

