AAPA Research Department

AAPA 2017 ePosters

Professional Outreach and Advocacy

August 29, 2017

Dear PAs, future PAs and those who conduct research with PAs,

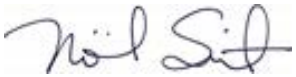
On behalf of AAPA, I would like to thank each of you for your support of PA workforce research.

This year we received a record number of submissions to present research findings at AAPA 2017. We continue to be impressed with the quality and sophistication of work submitted by PAs, PA students, and those who are conducting research in collaboration with, or for the benefit of, PAs. AAPA supports these endeavors so the profession will continue to thrive.

This report contains each of the posters highlighted at the AAPA 2017 ePoster Meet the Author Series. We provide these posters as a service to the profession. If you have questions, please reach out directly to the authors.

Thank you again for your support and we hope you will submit to present your research findings again next year.

Sincerely,



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Physician Perceptions of PA Certification and Practice

Dawn Morton-Rias, Ed.D, PA-C and Colette Jeffery, MA National Commission on Certification of Physician Assistants, Johns Creek, GA

Introduction:

Since certifying the first physician assistants (PAs) in 1975, NCCPA has collected data on the PA profession as PAs completed various processes related to obtaining initial certification and then maintaining certification by earning and logging continuing medical education credits and passing recertification examinations. In October, 2015, NCCPA and the Physician Assistant Advisory Committee to the GCMB jointly devolved a survey to evaluate physicians' perceptions of physician assistant (PA) certification and practice.

Data Editing and Analysis:

The online survey was administered to the 31,614 actively licensed physicians as of October, 2015. Data reflected includes responses from 5,377 physicians. Physicians who responded were routed to specific questions based on their responses. The survey was open for six weeks and physicians received one reminder.

The data provided has been aggregated from the individual responses provided by the physicians. Responses were examined for consistency and potential errors. In cases of obvious error or inconclusive data, the responses were not included in the analysis. The number of responses to individual items varies due to differing response rates or due to the data being removed for reasons previously noted. Analyses of the data consist primarily of descriptive statistics.

About NCCPA:

NCCPA is the only certifying organization for physician assistants in the United States. Established as a not-for-profit organization in 1974, NCCPA is dedicated to providing certification programs that reflect standards for clinical knowledge, clinical reasoning and other medical skills and professional behaviors required upon entry into practice and throughout the careers of physician assistants. All U.S. states, the District of Columbia and the U.S. territories have decided to rely on NCCPA certification as one of the criteria for licensure or regulation of PAs. More than 140,000 PAs have been certified by NCCPA since 1975, and more than 115,000 are certified today.

Table 1 : Reasons Why Physicians Did Not Have a PA in Their Current Practice

Reason	Percent
My practice uses nurse practitioners.	21.00%
I've never really considered using a PA in my practice.	18.30%
PAs don't have the qualifications necessary to work in my practice.	16.70%
PAs are too expensive to hire.	10.30%
There is a lack of availability of PAs in my specialty.	6.40%
I don't know enough about PAs to know if they would be beneficial to my practice.	6.00%
There is a lack of availability of PAs in my area.	3.20%
Practice laws in my state don't allow PAs to perform the tasks necessary for my practice.	2.20%
Other	39.00%

Note: 61% of physicians indicated they were not currently supervising a PA

Figures 1 & 2: PA Certification

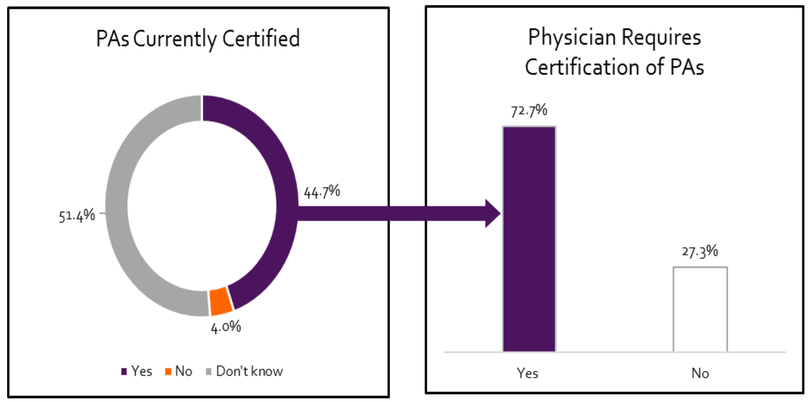

Figure 3 : Reasons Physicians Require Certification

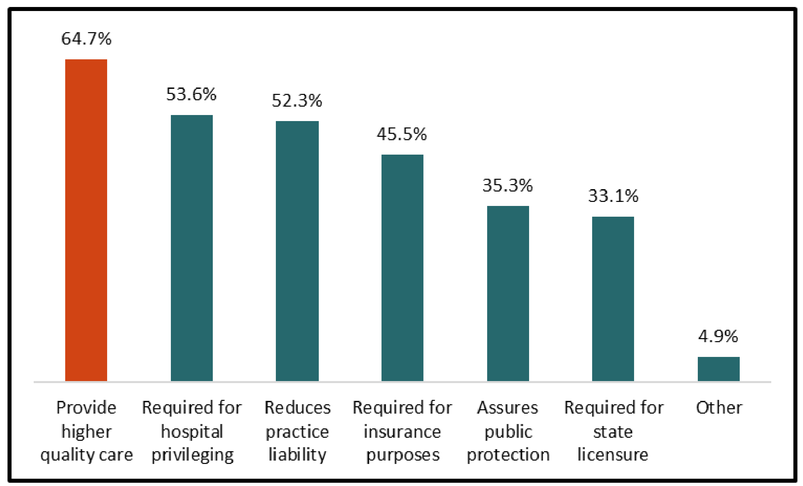

Table 2 : Benefits PAs Provide According to Supervising Physician

Reason	Percent
Means less wait time for my patients	86.1%
Is a great value for my practice	86.0%
Means better workflow throughout the day for me	84.6%
Improves my work/life balance	84.2%
Allows me to spend more time with patients who have critical or complex issues	83.1%
Allows me to see more patients during the course of the day	82.5%
Makes my day easier	80.5%
Generates more revenue for my practice	78.7%
Allows me to spend less time with routine cases	73.1%
Allows me to spend more time with each patient	67.0%
Results in higher reimbursements	37.8%
Reduces my on-call time	32.9%

Table 3: Percent of Physicians Who are Aware of Certification Maintenance Requirements and Rating Requirement as Important

Certification Maintenance	Percent of Physicians that are aware of this requirement	Percent of Physicians that rated this requirement as important
Recertifying exam every 10 years	46.3%	86.7%
CME requirements (100 hours every two years)	34.0%	95.4%

To view more NCCPA research:

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Statistical Profile of Recently Certified Physician Assistants

Dawn Morton-Rias, Ed.D, PA-C and Colette Jeffery, MA National Commission on Certification of Physician Assistants, Johns Creek, GA

Introduction:

Since certifying the first physician assistants (PAs) in 1975, NCCPA has collected data on the PA profession as PAs completed various processes related to obtaining initial certification and then maintaining certification by earning and logging continuing medical education credits and passing recertification examinations. In May 2012, NCCPA's data gathering efforts were significantly enhanced with the launch of the PA Professional Profile. This data gathering instrument is presented to PAs through a secure portal within NCCPA's website. The Profile was launched with two modules: "About Me" and "My Practice." In December 2012, NCCPA added a "Recently Certified" module delivered online to PAs who have been certified (for the first time) for less than six months. This poster highlights the data collected from all modules. The full report is available at http://www.nccpa.net/Uploads/docs/2015StatisticalProfileofRecentlyCertifiedPhysicianAssistants.pdf

Data Editing and Analysis:

Data reflected includes responses from PAs who were certified as of December 31, 2015 and completed at least a portion of the Profile. As of December 31, 2015, there were 101,739 certified PAs who provided responses out of the 108,717 certified PAs (93.6% response rate).

The data provided has been aggregated from the individual responses provided by PAs through the PA Professional Profile or other NCCPA data gathering efforts. Responses were examined for consistency and potential errors. In cases of obvious error or inconclusive data, the responses were not included in the analysis. The number of responses to individual items varies due to differing response rates or due to the data being removed for reasons previously noted. Analyses of the data consist primarily of descriptive statistics.

About NCCPA:

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Figure 1: Perception of Job Opportunities

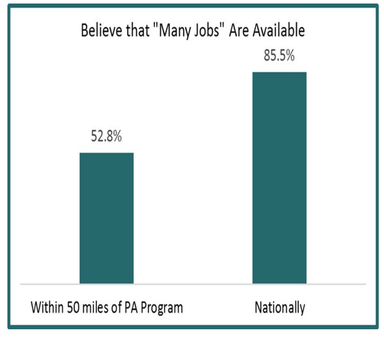
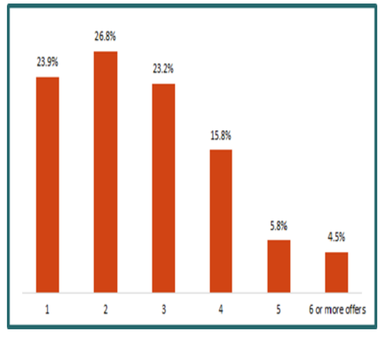


Figure 2: Number of Job Offers of PAs Who Have Accepted a Position



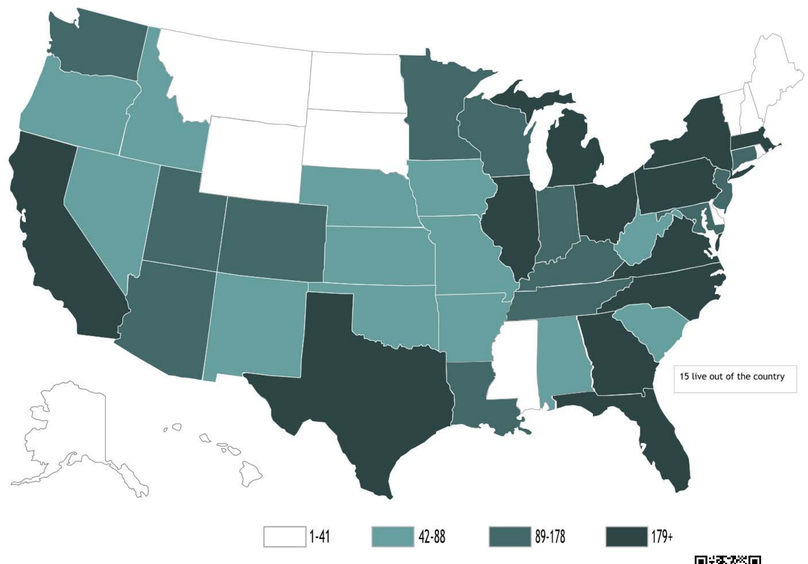
Tables 1 & 2: Educational Debt and Salary of Recently Certified PAs

Debt Range	#	%
None	439	9.5%
Less than $25,000	187	4.0%
$25,000—$49,999	299	6.5%
$50,000—$74,999	480	10.5%
$75,000—$99,999	632	13.8%
$100,000—$124,999	693	15.1%
$125,000—$149,999	633	13.8%
$150,000—$174,999	607	13.2%
$175,000—$199,999	326	7.1%
$200,000—$224,999	186	4.1%
$225,000 or more	108	2.4%
TOTAL	4,590	100.0%

18.8% indicated that educational debt influenced their decision to seek a primary care or non-primary care position
Median Salary: $85,000
Mean Salary: $89,319

Salary Range	PAs with a Position: Salary	PAs without a Position: Desired Salary
$40,000 or less	0.1%	<0.0%
$40,001—$50,000	0.9%	0.0%
$50,001—$60,000	2.0%	0.3%
$60,001—$70,000	2.6%	2.5%
$70,001—$80,000	14.7%	19.6%
$80,001—$90,000	37.3%	48.8%
$90,001—$100,000	25.5%	22.5%
$100,001—$110,000	9.5%	4.9%
$110,001—$120,000	4.0%	0.8%
$120,001 or more	3.4%	0.5%
TOTAL	100.0%	100.0%

Figure 3 : Distribution of Recently Certified Physician Assistants



To view the full report:

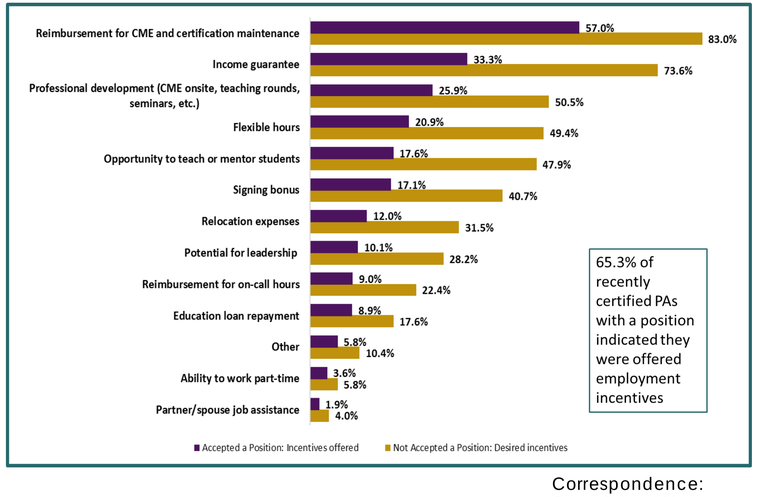
Table 3 : Practice Areas of Certified PAs Who Have Accepted a Position

Top 5 Practice Areas	#	%
Family Medicine / General Practice	656	20.4%
Emergency Medicine	607	18.9%
Surgery-Subspecialty	542	16.8%
Internal Medicine–Subspecialty	270	8.4%
Hospital Medicine	166	5.2%

Table 4 : Practice Settings of Certified PAs Who Have Accepted a Position

Top 5 Practice Settings	#	%
Hospital	1,621	50.4%
Office-based private practice	1,180	36.7%
Community health center	91,	2.8%
US Military	81	2.5%
Rural Health Clinic	58	1.8%

Figure 4: Employment Incentives Offered and Desired by Recently Certified PAs



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Assessing How PAs 'Put the Mouth Back in the Body' from Education to Practice

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1. nccPA Health Foundation

AAPA 2017 LAS VEGAS

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nccPA Health Foundation

INTRODUCTION

More than 51 million people in the US live in areas where accessing dental care is difficult; and poor oral health can impact patients physically, psychologically, and economically. The Surgeon General, the IOM, and others have called for equipping providers with oral health competencies to increase access to care. Certified physician assistants (PAs) are uniquely qualified to embrace oral health because screening, risk assessment, and behavior change counseling are fundamental to the profession.

AIM

More than 115,500 certified PAs practice in all settings and specialties; and over 8,000 PAs join the workforce annually, which allows the profession to quickly add providers equipped to address this need. The aim of this study is two-fold. First, there is an opportunity to quantify and better understand the penetration of oral health knowledge, skills, and competencies across PA practice. Second, there is an opportunity to evaluate how funded community outreach projects serve as a strategy for equipping PAs with the necessary knowledge and skills to recognize the oral-systemic connection, to provide preventive care, and to offer patient education as part of comprehensive, whole-person care.

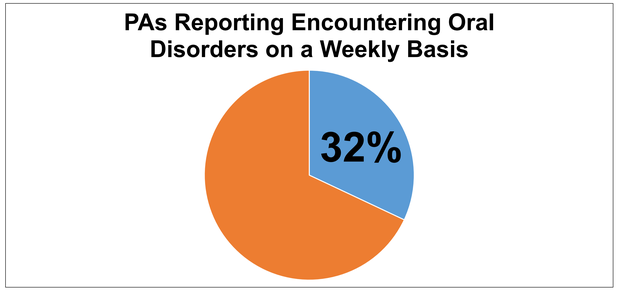
METHOD

This secondary research gathered information to assess and describe how certified PAs and students are engaged in oral health. Data were analyzed from two sources.

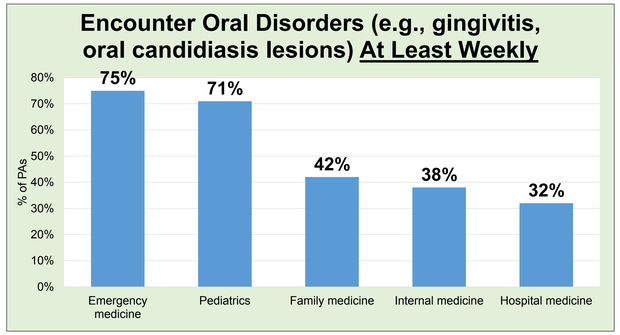
- **Data from the National Commission of Certification of Physician Assistants' (NCCPA) practice analysis**: A practice analysis is designed to delineate the knowledge and skills that characterize proficient performance in a specific area; the data may also illuminate how particular knowledge and skills are used. More than 15,770 PAs participated in the 2015 practice analysis. The response rate of 16.9% was a representative sample of the PA profession.
- **Data from case studies submitted by nccPA Health Foundation oral health outreach grantees (n=11):** Grants were awarded between March 2015 and December 2016 to PAs and PA students. Grantees were selected based on their analysis of their community/patient population and proposed outreach strategies.

RESULTS

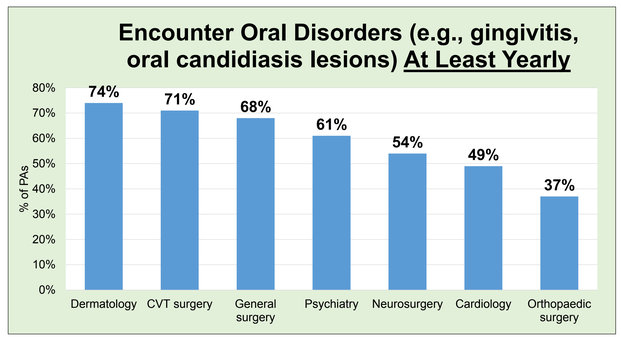
PRACTICE ANALYSIS FINDINGS



Across all responding PAs, 32% indicated that they encounter oral disorders on a weekly basis, setting an important baseline for the future.



Larger percentages of PAs practicing in emergency medicine and pediatrics reported encountering oral disorders on a weekly basis.



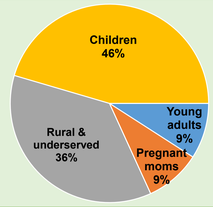
Across specialities, PAs reported encountering oral disorders at least annually, underscoring the need for all PAs to be equipped with oral health competencies.

IMPACT OF FUNDED OUTREACH

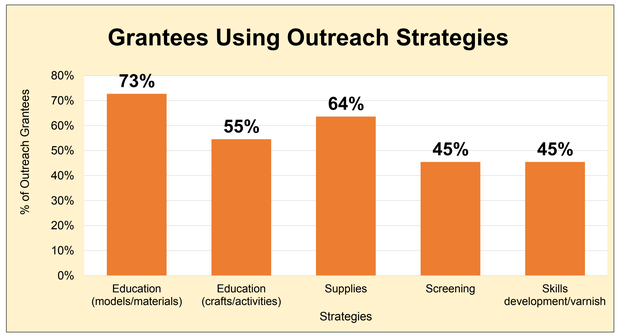
Provider Engagement

- 11 of 15 projects completed
- >160 PAs and students participated
- 75 interprofessional clinicians/ students participated
- Nearly 2,400 community members reached
- ~150 hours per project

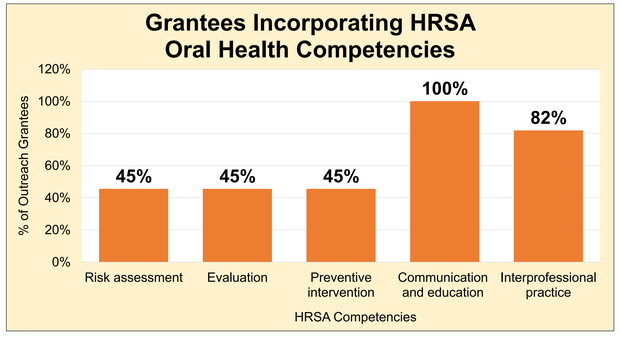
Community Engagement



Outreach allows PAs and students to partner with other health professions to reach diverse patient populations, highlighting the impact of oral health across the lifespan.



Outreach strategies afforded participants the opportunity to provide patient care and education while building and honing oral health knowledge and skills.



The PA profession participated in the development of the HRSA Oral Health Competencies, and funded outreach affords PAs and students the opportunity to implement those competencies.

CONCLUSIONS

Given the recognized linkage between oral health and overall health, including chronic conditions such as diabetes, coronary artery disease, stroke, obesity, lower respiratory disease, and substance abuse, there is a critical need to establish a baseline for the use of knowledge and skills related to oral disorders in PA practice. The finding that only 32% of responding PAs report the weekly use of related knowledge and skills suggests a potential knowledge gap and a significant opportunity to equip all PAs with the HRSA-identified competencies. The competencies are consistent with the scope of PA practice and foster recognition of the oral-systemic connection. Building PA knowledge and skills related to oral health positions PAs to put the mouth back in the body.

The case studies suggest educational and outreach strategies that may help fill the identified knowledge gap. Such strategies equip PAs to provide patient education and care that foster better health. Further study is needed to track longitudinal trends regarding how these strategies may increase the prevalence of oral health knowledge and skills in PA practice as measured by future practice analyses.

ACKNOWLEDGEMENTS

The PA Leadership Initiative in Oral Health has been supported by the National Interprofessional Initiative on Oral Health with funding from the DentaQuest Foundation and Washington Dental Service Foundation.

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CONTACT INFORMATION

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An Innovative Interdisciplinary, Inter-institutional Student Run Free Clinic for the Homeless

Liz Harrell, DNP, PHMNP-BC and Michelle DiBaise, DHSc, PA-C

This is a Sponsored Pioneer Project of the National Center for Interprofessional Education and Research

Abstract

The approach to healthcare in the US is undergoing a significant transformation. Universities assume a large responsibility in this transformation process by preparing students to move into the workforce equipped with the knowledge, abilities and confidence to take their place in an evolving environment and to be contributors and leaders in this process. Many studies have shown that service learning is an effective pedagogy for facilitating student understanding of social justice and healthcare disparities. This project utilizes the Student Health Outreach for Wellness (SHOW) clinic, which is a collaborative effort run by students and guided by faculty. Students and faculty from Arizona's universities have come together in partnership with community and government organizations to create a team of interdisciplinary professionals with diverse backgrounds, (nursing, social work, nutrition, medicine, pharmacy, PA, PT, and audiology, business, journalism, law, global health, computer science) serving the homeless in Maricopa County with the goal of striving to overcome socioeconomic barriers to well-being through health promotion, education, and social outreach. Students learn and experience real, hands-on skills and opportunities to impact health and healthcare at the individual, population and systems level.

Methods

Multiple metrics are tracked to evaluate project effectiveness with validated instruments:

- **IPFS: Interprofessional Education (IPE) Facilitation Scale**
  - **Assesses IPE facilitation with two subscales of interprofessional (IP) facilitation and collaborative patient-centered practice**
- **AITCS: Assessment of IP Teamwork Collaboration Scale**
  - **Measures IP collaboration with 37 statements (how team works and acts) with Scale elements:**
    - **(1) Partnership/shared Decision Making**
    - **(2) Cooperation**
    - **(3) Coordination**
- **IP-CRQ©: Interprofessional Collaboration Readiness Questionnaire**
  - **Student self-assessment of readiness to engage in problem-solving communication and effective working team relationships**
- **UWE-IQ©: University of the West of England IP Questionnaire**
  - **Student self-assessment of communication, team work skills and attitudes toward collaborative learning and working.**
- **Tracked ED/Urgent care clinic diversion, community impact, and patient satisfaction with services.**

Results

SHOW diverted: 28 emergency department visits & 27 urgent care visits

- **58% of survey respondents stated they would have sought care elsewhere**
- **>92% of patients surveyed felt their health was improved as a result of the visit**
- **SHOW operations served over 270 individuals through clinical activities & 1083 individuals through outreach activities**

Methods

Clinical Student Participants

Research Activity/ Procedure	Duration of Time in Research Activity During Study Period
Demographic Survey	15 minutes at the start of each 4-month semester rotation
UWE-IQ ©	15 minutes at the start and end of each 4-month semester rotation
IP-CRQ ©	15 minutes at the start and end of each 4-month semester rotation
AITCS ©	15 minutes at the end of each clinical shift (1 x month for each clinic participant) or outreach activity as relevant to student participant

Committee Student Participants

Research Activity/ Procedure	Duration of Time in Research Activity During Study Period
Demographic Survey	15 minutes at the start of each 4-month semester rotation
UWE-IQ ©	15 minutes at the start and end of each 4-month semester rotation
IP-CRQ ©	15 minutes at the start and end of each 4-month semester rotation

Clinic Preceptor Participants

Research Activity/ Procedure	Duration of Time in Research Activity During Study Period
Demographic Survey	15 minutes at the start of each 4-month semester rotation
IPFS ©	15 minutes at the end of each clinical shift (1 x month for each clinic participant) or outreach activity

Results

	Measure	Clinical Student Results	Student Committee Results	Clinical Preceptors' Results
Gender	Female	85.5% (N=53)	76.7% (N=23)	94.4% (N=17)
	Male	14.5% (N=9)	23.3% (N=7)	5.6% (N=1)
Current Program of Study or Degree	Audiology	12.7% (N=8)	0%	10.5% (N=2)
	Biology	14.3% (N=9)	36.7% (N=11)	0%
	Exercise & Wellness	1.6% (N=1)	0%	0%
	Kinesiology	3.2% (N=2)	6.7% (N=2)	0%
	Medicine	15.9% (N=10)	16.7% (N=5)	26.3% (N=5)
	Nursing (RN, ANP, PMHNP)	14.3% (N=9)	6.7% (N=2)	21% (N=4)
	Occupational Therapy	1.6% (N=1)	0%	5.3% (N=1)
	Physical Therapy	3.2% (N=2)	0%	10.5% (N=2)
	Physician Assistant	7.9% (N=5)	0%	5.3% (N=1)
	Social Work	3.2% (N=2)	3.3% (N=1)	0%
	Healthcare Delivery/Innovation/ Leadership	3.2% (N=2)	3.3% (N=1)	0%
	Other	19% (N=12)	26.7% (N=8)	0%
Race/Ethnicity	Non-Hispanic White	61.5% (N=40)	51.7% (N=15)	63.2% (N=12)
	Non-White Racial/ethnic Minority	38.5% (N=15)	48.3% N=14)	36.8% (N=7)
Participant Age (years)	< 23	50.8% (N=33)	77.9% (N=14)	47.2% < 40 years (N=9)
	24-30	38.5% (N=25)	5.6% (N=1)	NA
	> 31	10.7% (N=7)	16.8% (N=3)	52.8% > 40 years (N=10)
Months in SHOW Clinic	0-12 months	78.7% (N=37)	27.9% (N=8)	58.1% (N=9)
	> 12 months	21.3% (N=10)	72.5% (N=22)	41.9% (N=6)

Results

Clinic Student Results Fall, 2015 & Spring, 2016

Test	Scale	Fall	Spring
UWE-IQ	Communication and Teamwork	p=0.03	NS
	Interprofessional Interactions	p=0.027	p=0.031
	Interprofessional Learning	p<.001	NS
IP-CRQ	Communication Processes	p=0.022	p=0.001
	Dimensions of Relationships	p=0.006	p<0.001
AITCS	Partnership (shift 1 vs 2-4)	p=0.006	p=0.008
	Cooperation (shift 1 vs 2-4)	p=0.04	p=0.08

Preceptor IPFS Results

(Higher scores = More facilitation)						
IFS						
Interprofessional interaction		Shift 1	Shift 2	Shift 3	Shift 4	
scale range: 1-4	n	43	40	25	22	
	M	3.42	3.48	3.46	3.43	
	SD	0.58	0.53	0.57	0.54	
	p				0.160	Shift 1 vs. Shifts 2-4, p = 0.028
Interprofessional Education		Shift 1	Shift 2	Shift 3	Shift 4	
scale range: 1-4	n	43	40	25	22	
	M	3.28	3.53	3.40	3.44	
	SD	0.72	0.49	0.48	0.58	
	p				< 0.001	Shift 1 vs. Shifts 2-4, p < 0.001
Total scale range: 1-4		Shift 1	Shift 2	Shift 3	Shift 4	
	n	43	40	25	22	
	M	3.39	3.49	3.44	3.40	
	SD	0.56	0.50	0.50	0.52	
	p				0.039	Shift 1 vs. Shifts 2-4, p = 0.004

Conclusion

In its fledgling year, SHOW has demonstrated success developing a student-run, faculty-guided free clinic that can improve interprofessional collaboration, team communication, and provide high quality care with a decrease in high-end emergency services. Future Directions and Next Steps: SHOW is expanding care teams into a new community setting: Crossroads Inc. This experience will focus learning and practice on individuals recovering from substance use disorders thus, answering the call for integrated medical and behavioral health education of our future health care professionals.

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Answering the Call: Using Physician Assistants in a prehospital environment to address ED and EMS superusers

Katherine M. Thompson, MCHS, PA-C, FE, EMT-B

INTRODUCTION: In 2005, the number of Americans with at least one chronic condition was 133 million (1). By 2020, this number is expected to rise to at least **157 million**. With these rising numbers comes an increased demand on the healthcare system in the United States and a particular burden on the emergency medical services (EMS) and emergency departments (ED).

Overuse of the ED: more patients in the ED → more admissions → strained inpatient capacity → more patients waiting → more fire/EMS waiting → fewer resources available in the city

San Francisco: only 0.3% of the study population was superusers. Generated 6% of the annual EMS charges and reimbursements. (6)

San Diego: Made up 11% of their calls, at an uncompensated cost of $6.4 million. (7)

Los Angeles: 1 in 8 transports by LAFD resulted in a delay at the hospital

Who are Superusers?

Most commonly:
Male
Receiving public benefits
Older than 40
Combination of psychiatric, homelessness, substance abuse, complex medical.

We had this forehead-smacking realization that poverty has all these expensive consequences in healthcare…we'd pay to amputate a diabetic's foot but not for a warm pair of winter boots." – Ross Owen, Hennepin, MN

Why PAs? Why EMS?

Provides a perfect access point.
Offers immediate and consistent feedback.
Training in primary care gives them the skills to manage acute AND chronic conditions.
Training in behavioral medicine.
This background, combined with their ability to prescribe medications, work autonomously and as part of the healthcare team, and initiate treatment and therapies, make them an ideal professional to manage this pre-hospital population.

Mobile Urgent Care Model: Littleton, CO "Care Car"

Responds to less acute and frequent user calls
Provides immediate service (examples include sutures, casting, minor medical evaluations, etc) and also long-term follow-up and intervention.

Case Management Model: Los Angeles, CA Venice Family Clinic

Multidisciplinary team addressing the needs of homeless and chronically mentally ill individuals
Reaching out to homeless individuals who might otherwise be "lost to follow-up" in an ER or clinic setting

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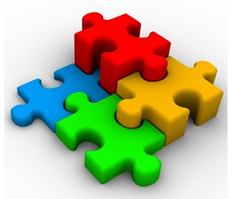
Autism and/or Developmental Disability Education Provided to NH Law Enforcement and EMS Personnel

Christina Shaffer, MPAS, PA-C, Class of 2016
Linda Martino, MPAS, PA-C



Introduction

New Hampshire has a successful model on how to provide services for individuals who have autism and/or developmental disabilities in a cost effective way. This often involves getting their needed services in their home communities, which also helps them to get integrated and involved in their communities.[1] The services they receive aim to help with common issues such as:

- Expressive communication challenges
- Difficulty understanding unfamiliar situations
- Sensitivities to their environment that can trigger unexpected, impulsive behaviors

With more involvement in their communities, these will likely have more interactions with law enforcement, firefighters, EMTs and paramedics. If these interactions occur in unplanned situations it is quite possible for escalations to occur even if that is not the original intent.

Some NH towns have programs where families can register some pertinent information about their family member who has autism and/or developmental disability. This allows law enforcement and EMS providers to be aware in cases when a situation arises where they need to interact with the individual.

Individuals with autism are seven times more likely to have interactions with law enforcement, but only 20% of these interactions are related to criminal activity.[1] Over the last year alone, there have been several reports of unfavorable interactions between law enforcement and individuals with autism.[2,3,4,5] Most, if not all, of these situations escalated because the autism was not identified early on so adjustments could be made in handling the situation.

AIM

Law enforcement officers & EMS providers need to be able to identify individuals with autism and/or developmental disability as well as know how to interact with them, especially in unplanned situations.

This study looks at the following:

- Autism and developmental disability training that is provided to a subset of NH:
  - Law enforcement officers
  - Fire fighters
  - EMTs
  - Paramedics
- Personal experiences in the field

METHODS

- Designed a 10-question anonymous survey to investigate the following topics:
  - Demographics – Type of Service, Length of Service, County of Service
  - Training – Types Offered, Frequency of Training
  - Field Experiences
- Determined the four most populated NH counties – Hillsborough, Merrimack, Rockingham, Strafford
- Determined the towns within these four counties – 107 total
- Email an explanation of the study and a link to the survey to each law enforcement & EMS office in the specified towns. If email was not available, social media was attempted using the same message & link.
  - Emails Sent – 781
  - Social Media Messages – 14
- Analyzed data using Excel – 193 total responses, 192 responses from targeted audience
- Evaluated data by both NH County (Hillsborough, Merrimack, Rockingham, Stafford) and Professions (Law Enforcement, Firefighter, EMT, Paramedic)

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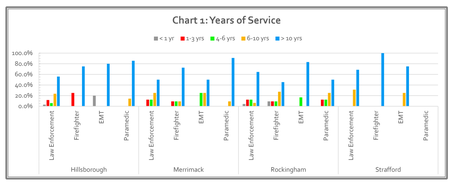
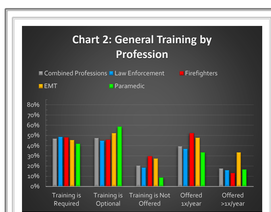
RESULTS

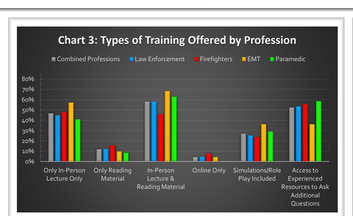
There were 193 responses to the survey. One response was eliminated because an administrator was not included in the targeted audience, and only the demographic information was completed. The responses did yield a representation of all targeted professions & counties. The data collected is summarized in the tables and charts below.

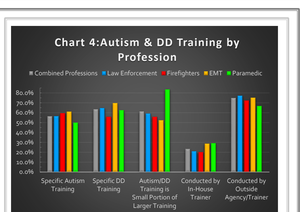
Table 1: Responses by Profession & County

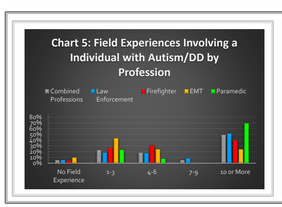
	Law Enforcement	Firefighter	EMT	Paramedic	Responses by County
Hillsborough	34	4	10	7	55 (28.6%)
Merrimack	16	11	4	11	42 (21.9%)
Rockingham	48	11	6	8	73 (38.0%)
Strafford	16	2	4	0	22 (11.5%)
Responses by Profession	114 (59.4%)	28 (14.6%)	24 (12.5%)	26 (13.5%)	

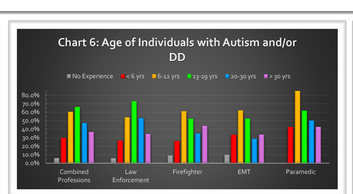


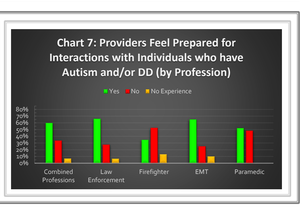


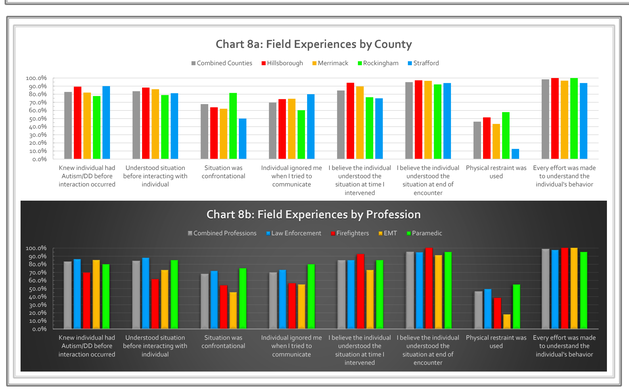


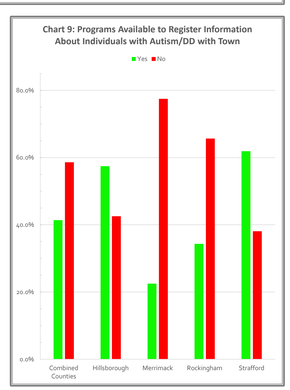












DISCUSSION

The majority of participants in this study were law enforcement officers (59.4%); however, all targeted professions were represented in this study. The distribution for Years of Service shows that most individuals that responded to this study have at least ten years of service.

When looking at the training types and frequency as well as field experiences, the following are noted when comparing data between professions:

- Training is required for about half of the participants
- Training is done mostly in-person, although there is a small percentage of on-line only training
- The majority of responders do get some kind of training in regards to autism and/or DD but this training tends to be a small part of a larger training
- Role play is included in only about 24-36% of the trainings
- Training is conducted mostly by an outside agency/trainer
- About half of the participants have access to additional resources that are experienced in working with individuals who have autism and/or DD in case they have further questions
- A small subset indicate training is not offered at all
- The vast majority have some field experience with about half having ≥ 10 interactions
- Them majority of interactions have occurred with individuals ages 6-19 years old

Based on their received training, about 60% of the participants say they feel prepared for their interactions with individuals with autism and/or developmental disability. However, suggestions on additional training were afforded by forty-seven (24.4%) of the participants. Many of the comments indicate that the provided trainings are not enough. Some comments are listed below:

- "Awareness, do's and don'ts when making contact"
- "I feel a minimum of 16 hours of training dealing with people with disabilities should be given to ALL Law Enforcement Officers"
- "Make it a part of the core competencies which we need to review as part of our 2 year refresh cycle."
- "Any training would help."
- "More speakers that have an immediate family member with Autism and /or a Developmental Disability."
- "Offer training during the police academy"
- "Our training is little to none. Most of how I interact with Pt's with developmental disabilities has been through experience and repetition. Training is drastically needed in our department."
- "The only training we receive as law enforcement is a three day course during the Police Academy, which is required for graduation. On going training on a yearly basis would be helpful. "
- "Continued and re-occurring training."

CONCLUSION

From the data collected in this study it appears that law enforcement and EMS providers do not receive enough specific training that prepares them to interact with individuals who experience autism and/or developmental disabilities in unplanned encounters. The trends in the data are similar professions so perhaps this is a state wide concern. Providing the data from this study would be the first step in helping create a more adequate and uniform education for these providers about interacting with those who have autism and/or developmental disability.

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DISEASE AND NON-BATTLE INJURY IN AUSTERE ENVIRONMENTS – CONTINGENCY LOCATION GAROUA, CAMEROON, WEST AFRICA

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Abstract

Objective: To provide Commanders and healthcare providers information regarding Disease and Non-Battle Injury (DNBI) trends that may adversely affect personnel readiness and mission accomplishment.

Background: This is a performance improvement/quality assurance (PI/QA) project based on a retrospective descriptive analysis of the DNBI trends identified while establishing Contingency Location (CL) Garoua, Cameroon, West Africa.

Purpose: Provide outcomes based on 12 months of DNBI data collection in an environmentally challenging location, and identify possible relationships between the trends that were noted.

Method: A retrospective descriptive analysis of DNBI trends was performed findings were stratified based on the top 5 presenting illnesses / injuries.

Results: A cause and effect relationship was identified based on action or inaction by both the command and medical team and the DNBI trends.

Discussion: Army Medicine is moving towards a smaller, more agile and modular force. The healthcare provider and the Commander must fully understand the risks associated with expeditionary operations and limited equipment sets.

Conclusions: Commanders and healthcare providers must communicate clearly to ensure that each is ready to engage the challenges that exist during contingency operations.

Introduction

Austere environments and initial entry operations present unique challenges to commanders, troops and the medical personnel supporting them. During the establishment of CL Garoua in Cameroon, West Africa (2015-2016) we collected and analyzed disease and non-battle injury data over the course of twelve months to identify trends that may adversely affect personnel and in turn create 2nd and 3rd order effects on personnel readiness and mission accomplishment. The most obvious trend occurred during the first 90 days of the operation.

Background

During late 2015, a small contingent of US Army personnel from USARAFs Contingency Command Post (CCP) arrived in Garoua Cameroon with the purpose of establishing a CL. This included establishing a secure site from which to operate and in turn coordinate for the development of air supply bridges to support the operation. Establishment of the CL included providing a security element, and standing up basic supporting infrastructure. This included providing for all classes of supply required to support sustaining operations. The operation was for the US government to provide requested support to the Cameroonian Defense Force's counter insurgency operations in the Lake Chad basin and northern portions of the Cameroon. A memorandum of understanding (MOU) between the US DoD and the Cameroon Defense Forces (CDF) provided mutual support and paved the way for operational success, however conditions on the ground and a dynamic operational tempo created early hurdles to the operation. Temperatures in excess of 100 degrees Fahrenheit, equatorial humidity levels and non existent hygiene facilities resulted in an early spike in DNBI trends.

Statement of the Problem

Minimizing of the importance of Field Sanitation Teams (FST) and a lack of understanding of the true impact DNBI casualties have on an operation will result in a reactive medical environment. This environment is marked by commanders and medical personnel responding to medical concerns and conditions, rather than preempting them, and following a preventative or proactive approach. Physician Assistants and healthcare providers should be well versed in field sanitation practices and regulations to ensure adequate secondary coverage should FSTs not exist or fail to be proactive in their approach.

Objectives

To provide healthcare providers and commanders, tasked with establishing Contingency Locations (CL) forward or other forms of forward operating bases, information regarding Disease and Non-Battle Injury (DNBI) trends that may adversely affect personnel readiness and mission accomplishment. Identify the early need for command and medical team collaboration.

Purpose

Provide: (1) objective information and DNBI data collected over 12 months in an environmentally challenging location. This data presented is for the initial entry period (90 days) as stability operations saw preventative measures in full force and minimal key DNBI events; (2) Identify examples of interventions used to reduce the DNBI numbers during the initial entry and CL establishment; (3) Offer information that may be helpful to both healthcare providers and command teams for future operations.

Method

A retrospective descriptive analysis of DNBI trends was conducted. DNBI was stratified based on the following top 7 presenting illnesses: Dermatology, Genitourinary/Gastrointestinal, Upper Respiratory Infections/Ear Nose and Throat (ENT), Climate, Bite /Vector; Musculoskeletal and Soft Tissue Injuries. Patient encounters were tracked in a DNBI database and trends were analyzed and compared to significant events in order to establish a cause and effect relationship. The medical team implemented field sanitation practices, treated injuries and illness as they presented, and were tasked with local water treatment for personnel use.

Results

Distinct connections were made between action or inaction by both leaders and the medical team, and the DNBI trends identified over the course of the initial entry period (90 days). Additional data collection and causal relationships have been identified for the 9 months that followed and continue at present. A significant downward trend of DNBI was observed within the first week that preventative measures (PM) were initiated and implemented.

Significant reductions in both dermatologic and climatic injuries were noted with the implementation of laundry services, hygiene and climate controlled facilities, regardless of how rudimentary the initial systems were. Gastrointestinal (GI) illnesses spiked when Soldiers became disinterested in Meals Ready to Eat (MRE) and gained access to host nation food sources despite warnings. GI illness reduced markedly when the dining facility (DFAC) opened and Soldiers returned to consuming unit provided rations.

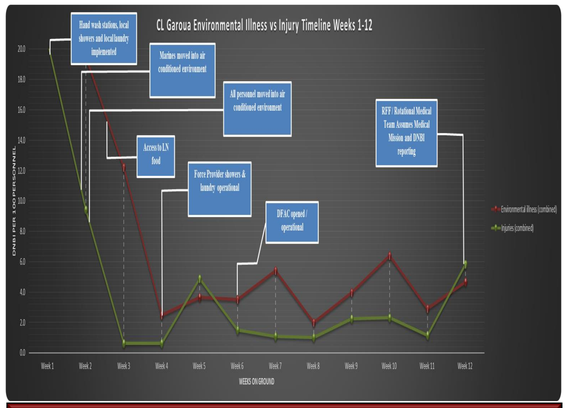

Figure 1: Cameroon, CL Garoua Injury and Illness trends over the first 90 days. These include environmental and illness combined, and injuries sustained during weeks 1-12. Also identified are key events that have a potential cause and effect relationship with the DNBI statistics noted. See graph below for more detail.

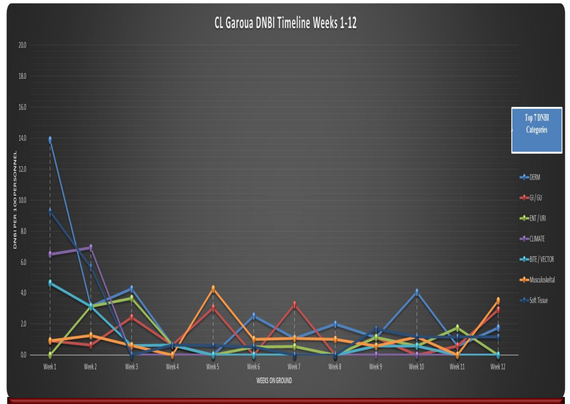

Figure 2: Cameroon Top 7 DNBI categories shown included Dermatological disorders, Gastrointestinal / genitourinary ailments, Otorhinolaryngological (ENT) and upper respiratory presentations, climatic injuries, bite and vector related illnesses, and Musculoskeletal and soft tissue injuries.

Photo 1: Fungal infections were rampant in the first 10-14 days. Above is a case of Majocchi's granuloma which is a fungal invasion of the hair follicles requiring a 30-day course of oral Terbinafine without being able to establish baseline LFTs or follow up labs.

Photo 2: Fungal infection of the foot with secondary bacterial infection. Patient suffered similar infection bilaterally and was removed from work details and allowed to air feet to facilitate healing. Conditions: temperatures nearing 115 degrees F. and humidity close to 100%.

Discussion

Army Medicine is moving towards a smaller, more agile and modular force. The days of moving entire Role I facilities forward are no longer the norm. The healthcare provider and the Commander must fully understand the potential risks associated with expeditionary operations, and should implement mitigation measures to ensure a successful outcome.

The current operational climate requires identifying environmental and work related hazards when preparing to conduct operations in austere environments. This PI/QA project was conducted to analyze DNBI trends associated with CL Garoua, Cameroon, ISO USARAF and SPMAGTAF and provide lessons learned.

The end state information will offer commanders vital information to take into account when planning for similar operations, and highlight the importance of incorporating Field Sanitation Teams (FST) into the initial entry package.

Photo 3: CPT(P) Jason Auchincloss , front row first on the left, with his medic SPC Kassandra King, front row first on the right, and the Cameroonian Defense Forces medical team at the Cameroon Airforce Medical Clinic, Garoua, Cameroon.

Conclusions and Next Steps

Commanders and healthcare providers must communicate clearly to ensure that each is ready to engage the challenges that exist during such operations. Work practices and preventative medicine strategies should play an important roles in the decision making process. Role I medical equipment sets (MES) should be modifiable, modular and tailored to the environment in which medical care will be provided.

Intelligence personnel and army medical planners should survey resources such as the National Center for Medical Intelligence (NCMI), the Center for Disease Control (CDC), Foreign Clearance Guides, Combatant Command (COCOM) Force Health Protection (FHP) directorates, Shoreland TRAVAX and the World Health Organization for current country specific DNBI trends. Equipment sets should be modified to treat the preponderance of ailments but should also contain the appropriate items to manage the majority of life threatening diseases and pathogens endemic to the region. Careful review should be conducted of prominent disease vectors, and other life threatening fauna and flora (snakes, spiders, arthropods, etc.)

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[The views expressed in this presentation are those of the authors and do not reflect the official policy of the Dept of the Army, or the Department of Defense.]

		Daily	Often	Sometimes	Rarely	Neve
hlight the e of ded but ed ns?	Always	12	8	1	1	
	Mostly	3	6	6	6	
	Sometimes	0	3	2	4	
	Rarely	0	0	2	2	
	Never	0	0	0	0	
		15	17	11	13	

There is a significant association between frequency of administering vacc
cy of highlighting the importance of recommended vaccinations (p-value

	Do you highlight the importance of recommended bu not required vaccinations?				
	Always	Mostly	Sometimes	Rarely	Never

The Role of the Physician Assistant in the Acute Care Surgery setting: Results from an academic tertiary care centre

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Background

- The Physician Assistant (PA) role emerged within the Canadian military healthcare setting in 1984 and remains relatively new in the Canadian healthcare system
- The 1st Physician Assistant civilian programs were established in 2008
- The role of a PA has been well established in the United States since the 1960's with over 100, 000 PAs who currently practice to date
- While PA's in the US, work in virtually every aspect of medicine, the approximate 500 practicing Canadian PAs mainly work in the areas of primary care, emergency medicine and more recently, surgical specialities
- The PA has been an integral part of the Acute Care Surgery (ACS) service at our hospital since 2014
- Our PA works 7:00-15:00, on weekdays. The role includes: surgical consults, daily rounds, acting as the liaison amongst the multidisciplinary team and families, and assisting in the operating room (OR)

Purpose

- This descriptive study focuses on the emergence of the PA role in an ACS team within an academic tertiary care centre in Canada
- Our review quantifies the contributions, skill set and program components of a successful ACS PA

Methods

- An ACS database was initiated in September 2016 and data collection is ongoing
- Data is prospectively collected on a daily basis regarding the following information:
    1. Total Patient Encounters
    2. Total Surgical Consults (Day, Night)
    3. Total ACS Admissions
    4. Total ORs
    5. Total PA patient encounters
    6. Total Family Meetings, and
    7. Total Multidisciplinary Meetings

Results

Table 1: Total number of patient encounters, consults, and surgeries within 33 weeks

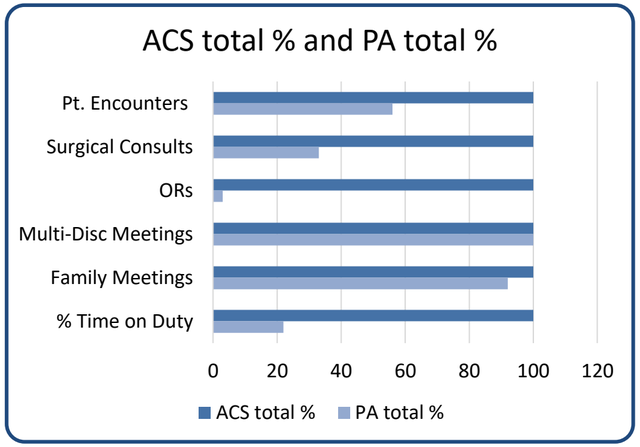
Variable	Total	Ave (daily)
ACS Surgical Consults	1414	6.23
ACS Surgical Consults (Day)	693	3.30
ACS ORs	470	2.07
ACS Patient Encounters	7608	33.52

Results (cont.)

Table 2: PA participation in overall service volume within 33 weeks

Variable	Total
PA Surgical Consults	460
PA Patient (Pt) Encounters	4288
PA-attended Family Meetings	24
PA-led Multidisciplinary (Multi-Disc) meetings	60

Graph 1: Percentage of PA's contribution compared to overall team totals



Discussion

- The PA currently works daytime hours only, which equates to 22% of the total working hours during the study
- Despite this, the PA has been directly involved in 56% of patient encounters during the study period, 95% of encounters with patients with lengthy hospital stays and 100% and 92% of multidisciplinary and family meetings respectively
- In our teaching hospital, we have found that the PA is effective at managing the consult, ward patient care and patient flow if the staff surgeon and residents are in the OR, or unavailable due to academic responsibilities. As a result, the PA was only directly involved in 3% of the ORs.
- With appropriate communication and knowledge of patient plans, the PA is able to effectively manage the team, and implement patient health care decisions in a timely manner. This allows for more accessibility and consistency of care and less handover.
- At our institution, we have also advocated for medical directives for our PA, and this has further improved patient flow and patient care.
- Further research needs to be conducted to better understand the impact on the Staff Surgeon and Surgical Residents' workload and satisfaction, with the integration of the PA on the ACS team.

Executive Leadership Conference for PAs

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Purpose

Competition to recruit and retain PAs into health systems and large clinical practices is increasing as healthcare turns to value-based purchasing and market forces necessitate labor force cost containment. Employers seek to improve PA utilization, create effective management systems, and maximize their return on investment. As PAs become better integrated within the healthcare workforce, clinical leadership roles for PAs are emerging. There is little known about the PAs who enter healthcare leadership. The current study seeks to describe the population of PAs engaged in healthcare leadership and management.

Methods

This study is drawn from data from three surveys sources:

1. 2015 Executive Leadership Conference Attendees Survey (ELC 2015)
2. 2016 Executive Leadership Conference Attendees Survey (ELC 2016)
3. 2016 AAPA Salary Survey

A leadership survey was emailed to all registered attendees of ELC 2015 ahead of the conference start. The leadership survey was fielded a second time for the registered attendees of ELC 2016. Both ELC 2015 and ELC 2016 were designed for PAs with clinical leadership and management roles. The leadership surveys included questions about clinical leadership and management activities and roles. Response rates for the leadership surveys were 71% (n=69) in 2015 and 78% (n=66) in 2016.

Data from these 2015 and 2016 convenience samples were supplemented with data from the 2016 AAPA Salary Survey for the overall analysis. AAPA administered the 2016 AAPA Salary Survey online survey and promoted it via newsletters, the AAPA website, and social media. The response rate for the 2016 AAPA Salary Survey was 16% (n=15,999). The sample was compared to 2015 NCCPA Statistical Profile of Certified PAs and was determined representative of the PA profession.

Data from the three survey sources were merged; in case of duplicate data, the most recent data was used. A total of 533 respondents were included across the three surveys, representing PAs working in clinical administration roles. Analyses were performed using SPSS 23.0.

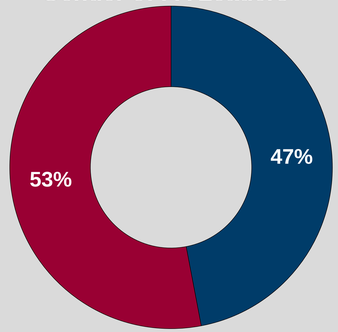
Table 1. Characteristics of PAs in Leadership

Role as a PA	%
PAs in healthcare administration in the U.S.[1]	3.3
Clinical practice primarily	74.6
Healthcare administration primarily	21.9
Experience	**Median**
Years as a PA	13.0
Years in administration	3.0
Hours worked per week	48.0
Top 3 Employers	**%**
Hospital	47.8
Single or multiple-specialty group physician practice	27.2
Some other type	25.0
Top 3 Systems	**%**
Integrated delivery system	69.1
Patient-centered medical home	31.1
Accountable care organization	29.5
Top 3 Specialties	**%**
Family medicine	17.7
Emergency medicine	12.4
Orthopedics	7.9

Table 2. Leadership Opportunities for PAs

Openness to PAs in Leadership	%
Organization offers leadership training	77.1
Organization has a pathway to leadership	19.2
Leadership/Management Opportunities for PAs	**%**
Executive level/C-suite (CEO, CFO, CMO, etc.)	8.6
Department chairman	2.6
Director	49.0
Manager/supervisor	71.5
Service line administrator	17.9
Chief PA	76.8
Management responsibility with no title	46.4
Participation in the Medical Community	**%**
Department meetings	86.4
Grand rounds	85.7
Morbidity/Mortality meetings	64.3
Medical staff lounges	56.4
Medical staff meetings	55.0
Tumor board	50.0
Committee Participation	**%**
Credentialing/Peer Review	72.0
EMR Implementation	61.6
Quality & Safety	60.8
Medical Executive	33.6
Pharmacy & Therapeutics	31.2
Ethics	24.8

Gender of PA Leaders



Employer Type of the PA Leader

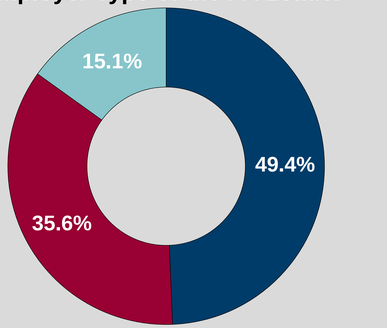


Table 3. Roles and Responsibilities of a Central PA Administrator

Centralized Administrators Responsible for All PAs	%
There is a centralized administrator	63.9
The centralized administrator is a PA	83.7
What are the responsibilities of a central PA administrator?	
Ensuring PA compliance with federal, state and accreditation requirements	95.4
PA credentialing participation	81.6
Helping to determine how many PAs are hired	79.3
Supervising or managing PAs	66.7
Performance assessment of PAs	60.9
Hiring and firing of PAs	58.6
Managing a budget	56.3
Competency assessment of PAs	49.4
Supervising or managing non-clinical staff	33.3
Supervising or managing clinical staff other than PAs	28.7

Results

Limited conclusions may be drawn from the current research. As convenience samples, both the ELC 2015 and ELC 2016 respondents may be subject to bias in their responses. In addition the 2016 AAPA Salary Survey has a low response rate, although respondents were representative of the PA profession based on published demographic variables for the PA profession. This study was designed to be preliminary in nature, provide an early glimpse at the characteristics of PAs within leadership roles, and inform subsequent studies.

A very small number of PAs were working in healthcare administration in 2015. Of those who identified themselves in an administrator role (3%), the overwhelming majority were in clinical practice as their primary employment role (75%). Table 1 highlights the characteristics of PAs in leadership in 2015.

Among the PAs in leadership in the current study, 77% had a chief PA at their organization, while just 9% had a PA in the C-Suite. PAs were given opportunities to participate in the medical community at their organization through meetings and committees. Table 2 highlights the opportunities for leadership at respondents' organizations.

Among the 64% of PAs who reported a centralized administrator at their organization who was responsible for all PAs, most of these respondents (84%) said that person was a PA. Table 3 highlights the responsibilities of these centralized administrators.

Discussion

The actual number of PAs working in clinical leadership and management roles in the profession is unknown. Based on data and observations from various sources, the number of PAs in healthcare administration is estimated to be between 500 and 3,600. Limitations exist in the generalizability of these data sources due to use of convenience samples, self-reporting, lack of a primary source for validating employment, and inconsistencies in survey instruments for defining and describing healthcare administration roles. As the number of PAs employed in the U.S. continues to increase, demand for qualified administrators will increase.

Employers may want to look for PA leaders with specific expertise regarding their PA employees, including recruitment and retention, privileging and credentialing, billing and compliance, quality and safety, assessment for competency and ongoing professional development, and optimal configurations of clinical teams. Hospitals, namely academic medical centers and integrated healthcare delivery systems, may be leading the way in designing and integrating clinical leadership and management roles for PAs. Many questions remain about this population, such as educational preparedness or effectiveness as clinical leaders, impact on patient care quality or financial performance measures within their institutions, or the various pathways taken to advance their careers in clinical leadership and management

AAPA 2017, Las Vegas, NV · May 15-19, 2017

Global Advocacy for Women: Impact of Simulation-based Training

Nora Lowy, PhD, MPA, PA-C; Michael Rota, MS, PA-C; Carol Galarza, MS, PA-C

Introduction

Our medical mission trips to Latin America impressed upon our faculty and students the importance of women's health issues, specifically related to maternal and child health. Post-partum hemorrhage (PPH), defined as blood loss of 500 mL or more within 24 hours after birth, is the leading cause of maternal mortality in low-income countries and the primary cause of nearly one quarter of all maternal deaths globally. Latin America is plagued by high maternal and infant mortality rates. This has often been attributed to limited maternal healthcare being provided by traditional birth attendants, or *comadronas*. This led to our interest in developing an educational program geared specifically towards these providers.

Study Design

PA faculty and students developed a simulation-based culturally-sensitive training program for *comadronas* in Guatemala. The training began with an oral presentation (in English, Spanish, and Mayan), emphasizing key points of the normal birthing process and discussions on the management of complications such as post-partum hemorrhage (PPH). In addition, visual aids and simulation manikins afforded the *comadronas* hands-on opportunities to practice key points. The study involved the distribution of pre- and post-training surveys to the *comadronas* reflecting on their knowledge and opinions of birthing practices, as well as their ability to prevent and manage complications such as PPH. The surveys consisted of twenty-five (25) questions divided into four (4) sections reflecting on (A) demographics and current birthing practices, (B) medical knowledge, (C) opinions on the handling of complicated deliveries, and (D) feedback on the learning process.

Question	Pre Survey	Post Survey	p-value
12	8%	55%	<0.001
17	19%	73%	<0.001
		Total	<0.01

Results

PA faculty and students piloted a simulation-based, culturally-sensitive training program with two groups of *comadronas* in two rural locations of Guatemala.

The results of the pilot study indicated that the knowledge of the *comadronas* improved from pre- to post-training surveys regardless of formal education, language, or age. Improvements per question ranged from 4-54%. Significant improvements were noted with specific questions such as "amount of blood loss requiring medical treatment" ($p < 0.001$) and "signs of placental separation" ($p < 0.001$).

The opinions of the *comadronas* with respect to management of the normal birthing process and possible complications also showed a positive change overall ($p < 0.005$), but with age contributing to statistically significant differences in results. Although knowledge improved irrespective of age, older *comadronas* were less likely than younger *comadronas* to change their opinions on their practices.

Conclusion

We believe that our novel use of simulation manikins may have strongly contributed to our outcomes. We look forward to implementing a more expansive study and hope that this endeavor will result in a positive impact on lowering the rate of maternal mortality in Guatemala and the other countries in Latin America that we will be visiting.

This project was made possible through funding from the Fox Family Faculty Fellowship and support from Brother's Brother Foundation.

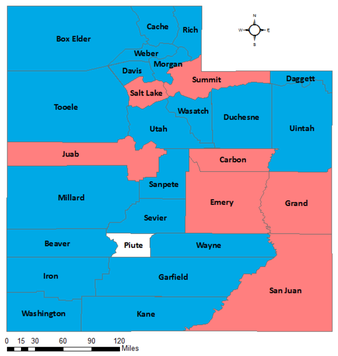
Physician Assistants and the Beehive state

Virginia Valentin, MCMS, PA-C, University of Utah Physician Assistant Program
Jennifer Coombs, PhD, PA-C, University of Utah Physician Assistant Program
Jeffery Jones, PhD, Georgia Southern University, College of Public Health

Purpose

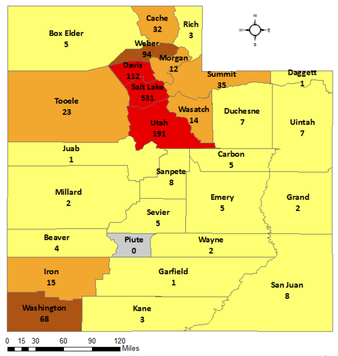
Utah has a critical physician shortage with the second to lowest primary care physician to population ratio at 6:100,000 in the United States (US).[1] An important mission of PA education is to educate PAs to work in primary care or medically underserved areas. This study identifies the demographics and distribution of PAs in Utah to serve as a benchmark for policy analysis.

Physician Assistants by Sex
Utah, 2015

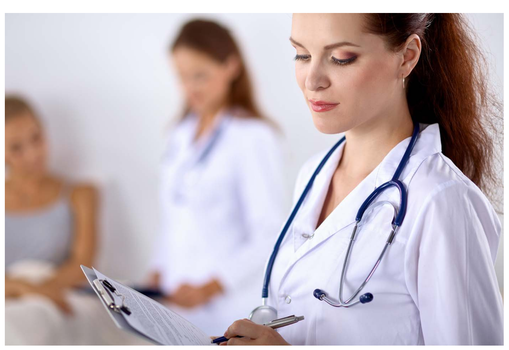


Data: Utah Division of Professional Licensure, 2015
Map: Jeff Jones, Ph.D., Georgia Southern University, 2016

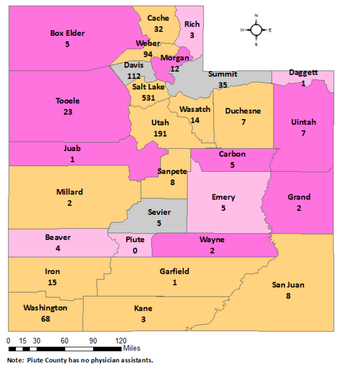
Number of Physician Assistants by County
Utah, 2015



Data: Utah Division of Professional Licensure, 2015
Map: Jeff Jones, Ph.D., Georgia Southern University, 2016

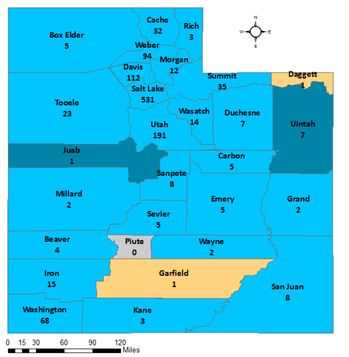


Number of Physician Assistants
by Health Professional Shortage Area (HPSA)
2015



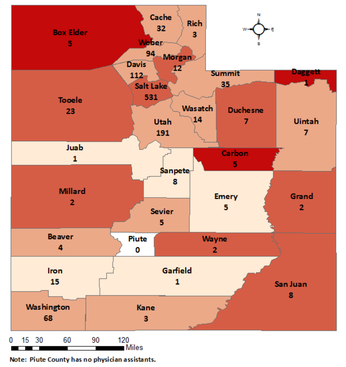
Data: Utah Division of Professional Licensure, 2015, & Office of Primary Care and Rural Health, Utah Department of Health, 2015
Map: Jeff Jones, Ph.D., Georgia Southern University, 2016

Number of Physician Assistants by County
by Mean Year of Graduation
2015



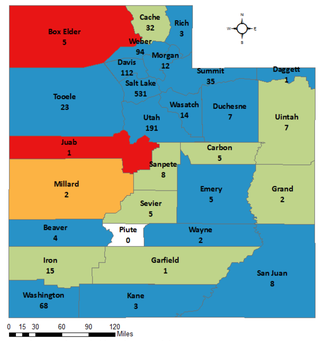
Data: Utah Division of Professional Licensure, 2015, & Office of Primary Care and Rural Health, Utah Department of Health, 2015
Map: Jeff Jones, Ph.D., Georgia Southern University, 2016

Percentage of Physician Assistants
Who Are UPAP Alumni
Utah, 2015



Data: Utah Division of Professional Licensure, 2015
Map: Jeff Jones, Ph.D., Georgia Southern University, 2016

For Each Physician Assistant (PA) in a County,
The Number of People Per PA to Be Served
2015



Data: Utah Division of Professional Licensure, 2015
Map: Jeff Jones, Ph.D., Georgia Southern University, 2016

Conclusion

Although Utah is one of the healthiest states in the US it has a significant primary care shortage due in part to the high birth rate and a sizeable elderly population.[2] In what would be considered a PA friendly state with four of the six key elements by AAPA, Utah is an ideal state for PAs to fill this critical gap in the workforce.[3] This study shows that the majority of Utah graduates leave the state, but those that stay in Utah work in HPSA but minimally in MUA or MUP.

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Project iFLOSS: Integrating Oral Health and Primary Care through an Interprofessional Service Learning Module

Gerald Kayingo PhD, PA-C

Introduction & Purpose

- Oral health services are scarce despite a growing epidemic of oral diseases word-wide.
- Patients and practitioners are generally not equipped with the knowledge, skills and attitudes to manage oral health problems.

- The primary goal of project *iFLOSS* is to integrate oral health and primary care through an interprofessional service module. This is a student led community outreach project that educates patients, providers and the general community on oral health through a network of student run clinics in underserved Sacramento.
- It involves PA, NP, MD and undergraduate (Pre-Health) students.

Methods

- This longitudinal module involves didactic oral health seminars and service learning (Dental Days) at student run clinics in Sacramento.
- We adopted the Smiles for Life curriculum. Student's knowledge, skills, and attitude on oral health were measured via focus groups, skill observations and SurveyMonkey software before and after exposure to the module.

iFLOSS Conceptual Framework

Needs Assessment	• Provider/student survey • Focus groups
Service learning IPE	• Didactic curriculum • Smiles for life curriculum • Clinic based teaching/video
Evaluation	• Modified RIPLES/IEPS • Knowledge, skills , attitudes • Patient related outcomes

Preparation for Oral Health Education activities

Interprofessional students practice oral health physical exam skills (above) and use models to demonstrate to patients (below)

Results/Project Outcomes

- Forty-eight student volunteers participated of which only 17% were comfortable recognizing oral diseases.
- After the oral health course, 90% of the *respondents indicated that they were less* apprehensive about examining a patient's mouth.
- About 45% reported improved confidence in skills when performing a basic oral exam and 80% reported improved confidence in managing a patient who presents with an oral complaint.
- Community members and patients who have been served by project *iFLOSS* report improved knowledge and attitudes about oral health.
- Referrals to community dentists also improved as a result of this intervention.

Qualitative Themes

- Oral health education is very important for primary care providers
- Include more oral health topics in the Curriculum
- Project iFLOSS changed "my attitude about oral health "

<17%	• Student volunteers were comfortable performing oral exams prior to *iFLOSS*
45%	• Reported improved confidence in performing oral health skills post *iFLOSS*
80%	• Reported improved confidence in managing a patient who presents with an oral complaint.

Summary & Conclusions

- The mouth is the gateway to the gut. Oral health is critically important for systemic health and general wellbeing.
- Most students and primary care providers are not familiar with oral health diseases; they are also not comfortable taking history and performing basics oral health exam.

- Project *iFLOSS* improved students' competence, skills and attitudes towards oral health. It also improved patient and community attitudes towards oral health. Service learning modules on oral health may be effective in improving provider oral health competence and can have a positive impact on community health.

Recommendations/Next Steps

- Reach out to other primary care clinics
- Recruit more health professions students
- Partner with dental programs and local dentists
- Utilize dental simulators, standardized patients and pre-recorded videos
- Develop case scenarios to ensure consistency
- Utilize newer methods of assessing IPE
- Develop database of local dentists /accepted insurance plans

Acknowledgements

- Project funded through NCCPA, PAEA and PAF Grants
- UC Davis Department of Family and Community Medicine
- UC Davis NP/PA Oral Health Champions :
- Keith Bryan Byrd, Sandra Guadalupe Calderon, Jasleen Kaur, Genevieve Marie Green, Gloretha Wilcots.
- Operation Smiles at the University of California Davis- President- Ms. Tooka Zokaie
- Co- Investigators Dr. Virginia Hass and Dr. Kris Srinivasan

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2. Berkowitz, O., Brisotti, M. F., Gascon, L., Henshaw, M., & Kaufman, L. B. (2017). The Impact of an Interprofessional Oral Health Curriculum on Trainees. *JPAE 28*(1), 2-9.
3. Phillips, K. E., & Hummel, J. (2016). Oral health in primary care: a framework for action. *JDR Clinical & Translational Research*, *1*(1), 6-9.

"I had never imagined how oral health is connected to systemic health until I attended this workshop. -Premed Student, Class 2017

UC DAVIS
BETTY IRENE MOORE SCHOOL OF NURSING

SCHOOL of HEALTH and REHABILITATION SCIENCES
MGH INSTITUTE

Physician Assistant (PA) advocacy through mentorship and career development of underrepresented populations

Jennifer Gerard, PA-S[1] and Shekitta Acker, PA-C[1]
MGH Institute of Health Professions, Department of Physician Assistant Studies

Background

- PA profession struggles to recruit underrepresented students.
- Growing US diversity, increased need for culturally competent care.
- Underrepresented clinicians are more likely to provide the described care.
- Underrepresented clinicians are more likely to practice in medically underserved areas where patients are suffering from increased disease rates and shorter life expectancy.

Purpose

1. Teach middle and high school aged children about the PA profession.
2. Educate local students about health and science relevant to their current studies/future studies.
3. Measure short-term interest trend in PA profession.

References:

1. Charlestown: ***https://www.census.gov/quickfacts/***
2. Gang Xu et. al. 1997. The relationship between the race/ethnicity of the generalist physician and their care for underserved populations.
3. Legler C et al. 2007. Integrating diversity into a physician assistant program.

Methods

- Participants: Middle school aged students (N =) in Charlestown, MA from 6th to 9th grade
- Mentors: PA students (N = 9) from Boston Physician Assistant Programs (Tufts, Boston University, MGH, Northeastern)
- Developed seven week lecture series on health, science, and the PA Profession

- Demographic Information: Age, Grade, Race, Ethnicity
- Students completed the following survey at time of registration (all rated from 0 - None to 10 – Very Much):

1. How interested are you in going into math or science?
2. How interested are you in going into medicine?
3. How much do you feel you know about what Physician Assistants do at work?
4. How interested are you in becoming a Physician Assistant?

Charlestown, MA Demographics

13.3%	Percentage, Black
17.7%	Percentage, Hispanic
77.1%	Percentage, White
13.2%	Percentage, Persons Foreign Born
29.8%	Percentage, Persons w/ Bachelor Degree

Initial Survey Results (N = 18, 15 F, 3 M)

6.9	Avg., Interest in Math/Science
4.8	Avg., Interest in Medicine
2.2	Avg., Knowledge of PA Profession
2.8	Avg., Interest in PA Profession

Conclusion

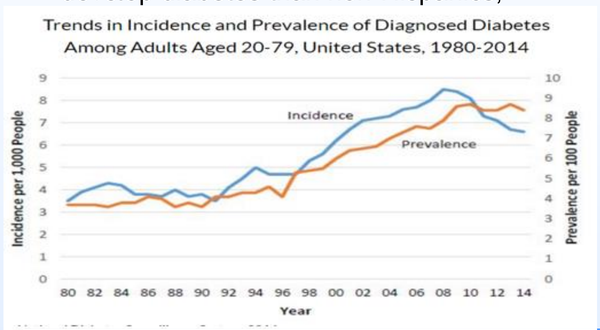
Through the series, the impact of PA mentorship on middle school aged students will be measured. The hypothesis of this study is short-term integration will demonstrate the importance of educating students of their career options from a young age, allowing extrapolation to other populations.

Motivating the African American Patient: What Can Healthcare Leaders Learn About Motivating Type 2 Diabetic Patients to Adhere to Their Treatment Plan?

Yolonda Freeman-Hildreth PA-C, David Aron MD, Adrian Wolfberg Ph.D., Phil Cola Ph.D.
Case Western Reserve University, Weatherhead School of Management

♦ Introduction

- Diabetes is a chronic disease affecting over 29 million people in the United States.
- As of 2014, diabetes is forecasted to rise to 592 million worldwide by the year 2035 with cost expected to rise 53% by 2030 totaling $622 billion.
- African Americans are twice as likely to develop diabetes than non-Hispanics,



♦ Problem of Practice

- According to the American Diabetes Association (2016), treatment adherence, self-management and behavior modification is required for glycemic control.
- Despite the proven benefits of glycemic control in T2D management, patient adherence and behavioral modification is reduced.
- There is an existing gap between the recommended guidelines and what inspires long term treatment adherence.

♦ Purpose

The purpose of this research is to understand the existing gap between diabetes treatment adherence and what motivates African American diabetic patients to adhere to long-term behavioral change.

♦ Research Question

.

What factors are involved with motivating African American diabetic patients to manage their diagnosis and have successful outcomes?

♦ Methods

Demographic Data

Gender	Female	N=17
	Male	N=15
Number of Years Diabetic	0-5 Years	N=12
	6-10 Years	N=7
	>10 Years	N=13
Provider Type	PA	N=10
	NP	N=11
	MD	N=11
Treatment Type	Oral Meds	N=15
	Insulin	N=8
	Oral Meds and Insulin	N=9

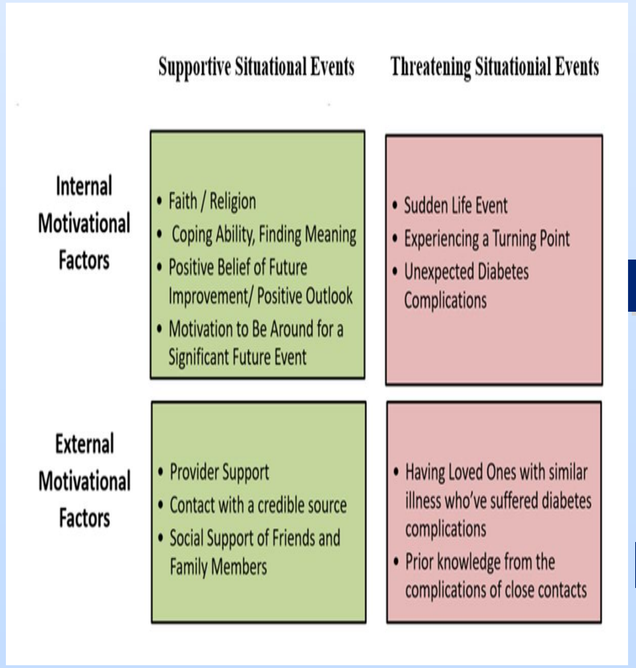
♦ Methods

- Qualitative study was conducted using Grounded Theory analysis
- Sampled 30 African American T2D patients from two primary care medical offices in the Metro Detroit area.
- Data was collected through semistructured face-to-face interviews, recorded with consent, and subsequently transcribed.
- Data was reviewed for meaning, symbolism, using comparative methods while looking for similarities and differences among each interview seen.
- This process led to 1,068 initial open codes, reduced to 15 categories, and five major themes.

♦ Results

- Our findings show that successful T2D treatment and adherence is influenced by internal and external motivational factors affected by positive feedback mechanisms that occur through supportive or threatening situational events.
- Our participant's motivational force was either internally or externally driven and related to positive feedback mechanisms occurring as a result of situational occurrences for the participant.
- These findings illustrate a significant interaction between motivation and positive feedback mechanisms such as self-regulation affecting adherence.

♦ Results



♦ Discussion

- These findings demonstrate that there is a significant interaction between motivation and positive feedback mechanisms affecting adherence and behavior change.
- This study contributes to our understanding of the motivational factors that increases adherence in T2D patients.
- We incorporated the concepts of control theory with self-regulation feedback to examine with greater precision the motivational relationships associated with having T2D.
- Prior studies have conceptualized this relationship with negative feedback linear associations.
- However, we find that there are situational, dispositional, and dual influences that increased motivational engagement and treatment adherence.

♦ Implications

- Research has implications for future diabetes interventions and management.
- Study has acknowledged the benefits of patient-provider interactions involving communication with positivity, hope, and encouragement regarding the diabetes treatment approach.
- Research has implications for providing a greater understanding and analysis from the patient perspective regarding expectations as a healthcare consumer

♦ Conclusion

Adherence to T2D treatment by African Americans is influenced by internal or external motivational factors related to positive feedback mechanisms occurring through supportive or threatening situational events resulting in motivating adherence and behavioral change.

♦ References

American Diabetes Association. 2014. Standards of Medical Care in Diabetes—2014. Diabetes Care 2014; 37 (Suppl. 1): S14–S80) Diagnosis and Classification of Diabetes Mellitus. Diabetes Care 2014; 37 (Suppl. 1): S81–S90. ***Diabetes Care,*** 37(3): 887–887.
Additional references provided upon request

Hospital Administrators' Attitudes and Opinions Regarding Physician Assistants as Candidates for Organizational Leadership Positions

Matthew E. Noll, PA-S, EMT
Principle Student Investigator & Physician Assistant Student

John B. Oliphant, PhD, MHP, MSEd, PA-C, ATC
Faculty Advisor & Assistant Professor of Medical Sciences

Abstract

Aim: The purpose of this pilot study was to assess the current perception of PA-trained candidates for organizational leadership positions within healthcare systems in Rochester, NY. The survey tool was designed to use a quantitative research approach to gather information regarding the attitudes and opinions of current healthcare administrators regarding the utilization of Physician Assistants (PAs) in administrative roles within hospitals and healthcare systems. Furthermore, this project aimed to identify potential barriers to administration or management specific to PA applicants. Additionally, this research served to index specific criteria (i.e., educational, experiential) deemed desirable by the respondents pertinent to prospective PA leaders. **Methods:** Data collection was conducted via the primary survey tool electronically disseminated to current administrators and managers within the Rochester Regional Health System and the University of Rochester Medical Center. **Results:** Sixty-four individuals participated in the survey. Mean response values indicated general disagreement or low rated importance for most experiential and education-based survey items. To a statistically significant level—based on the mean agreement responses—respondents generally: disagreed that physicians or nurses receive superior healthcare administrative education in their training compared to PAs; disagreed that lack of interest explained the disproportion of PA leaders to physicians and nurses; and agreed that lack of precedence and lack of leadership training are contributing factors to the relatively low number of PAs in organization leadership roles. Inferential statistical models suggested that participants' highest degree of education, leadership role classification, career leadership duration, clinical background, generalized level of PA interaction, and profession influenced responses to a significant level. **Conclusions**: In general, higher education degrees and experiential background in traditional business and management fields are not highly valued in a prospective PA leader by their peers and superiors. Also, certain factors in respondents' backgrounds framed their attitudes and opinions about PA leadership.

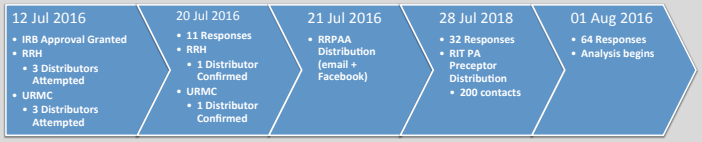
Methods

Survey Tool

The survey tool for this study was comprised of 35-39 items and consisted of multiple choice, Likert scale, and one of each of the following: multiple select, ranking, and free response. The survey was offered exclusively in electronic format using Rochester Institute of Technology's (RIT) proprietary survey software--- Clipboard (© 2016, Rochester Institute of Technology). Following Institution Review Board (IRB) approval through the Human Subjects Research Office (HRSO) at the university on 12 Jul 2016, the survey immediately became available. Survey responses were accepted until 01 Aug 2016 for the purposes of these preliminary results; total survey administration duration was 22 days.

Sampling, Dissemination, and Survey Administration

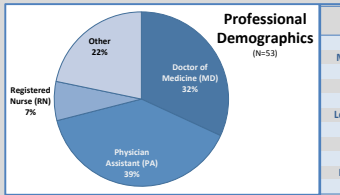
The sampling technique utilized in this project is best characterized as snowball sampling. Potential subjects for the pilot study were unit or practice, departmental, divisional, and executive administrators and managers at all subsidiary clinical locations of the two major health systems in the Monroe and surrounding counties: namely, Rochester Regional Health (RRH) and the University of Rochester Medical Center (URMC). Because a snowball sampling technique was applied, the investigators are unable to identify the exact population of potential subjects from which the sample was derived. In order to initiate the snowballing technique, the survey tool was sent to six "Distributors" charged with disseminating the questionnaire to their colleagues meeting the recruitment criteria and encouraging them to forward the survey to others in similar leadership capacities. See the ***Flowcart*** below for a time line and additional methods information.



Preliminary Results

Sixty-four individuals participated in the survey. Respondent demographic data are compiled in ***Professional Demographics*** and ***Select Participant Demographics*** *below.*

See ***Experience Metrics*** for a tabulation of the section. The mean importance responses indicated respondents found the overwhelming majority (save for *Management*) of the experiential metrics to be less important given a hypothetical PA candidate for an unspecified organizational leadership position. *Business, Medicine/Nursing Educator, Grant Writing, Legal Affairs/Credentialing, Management, Public Health*, and *Research and Publication* were all statistically significant.

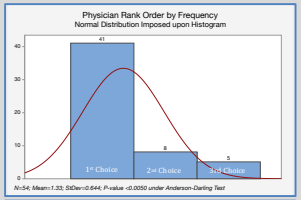


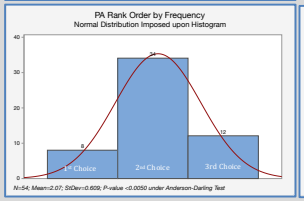
Experience Metric	N	Mean Importance Response*	StDev	*P-value*
Business	57	2.40	0.88	0.0011
Medical/Nursing Educator	57	2.53	0.91	<0.0001
Finance/Accounting	56	2.11	0.76	0.2929
Global Health	56	1.91	0.94	0.48
Grant Writing	57	1.68	0.87	0.0082
Legal Affairs/Credentialling	56	2.34	0.98	0.012
Management	57	3.16	0.92	<0.0001
Public Health	57	2.26	0.88	0.0273
Public Policy	57	2.11	0.92	0.3912
Research and Publication	56	1.79	0.76	0.0384

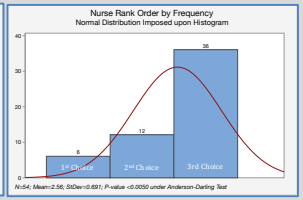
*KEY: < 1 (undecided); 1-2.99 (less important); 3-4 (more important)

Select Participant Demographics	Executive	Divisional	Service Director/ Chief	Managerial	Other	Associate's	Baccalaureate	Master's	Professional Doctorate	< 6 mo	1-4 yrs	5-9 yrs	10-15 yrs	> 15 yrs	Yes	No	Daily Interaction	Regular, but Not Daily Interaction	Some, but Not Regular Interaction
Leadership Role Classifier (N=62)	8	11	8	23	12														
Highest Degree of Education (N=61)						3	16	19	23										
Duration in Current Leadership Role (N=60)										4	23	15	7	11					
Career Leadership Duration (N=61)										3	13	14	12	19					
Clinical Practice Over Entire Career(N=54)															59	5			
Currently Clinically Active (N=53)															48	4			
PA Interaction Over Entire Career (N=53)																	41	9	3

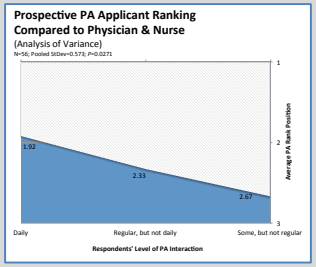
Given one nurse, one PA, and one physician candidate with comparable résumés, respondents were asked to endorse a first, second, and third choice for an unspecified leadership position from the professions represented. As illustrated in the three ***Rank Order by Frequency*** histograms, the physician was selected most often as first choice (n=41, 75.926%), the PA as second choice (n=34, 62.963%), and nurse as third choice (n=36, 66.667%). All variable receive a *P*-value<0.005 under the Anderson-Darling Test.







Also, the level of aggregate PA interaction throughout a respondent's career suggested what order they might rank a hypothetical PA candidate in comparison with a physician or nurse, as seen in ***Prospective PA Applicant Ranking Compared to Physician & Nurse***. Those with more frequent PA interaction throughout their clinical careers consistently rated the PAs closer to the 1st choice position compared to those with less interaction.

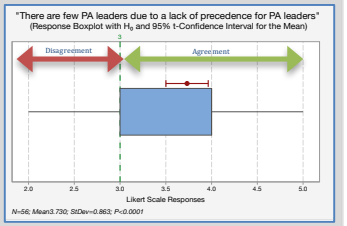


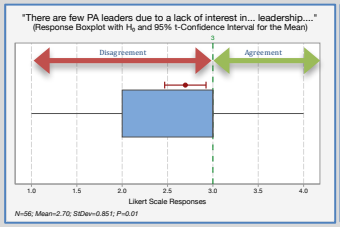
Degree	N	Mean Importance Response*	StDev	*P-value*
Master of Business Administration	55	2.02	1.03	0.8961
Master of Public Health	55	1.82	0.86	0.1239
Master's Degree in Health Administration	55	2.13	0.96	0.3315
Doctor of Education	55	1.22	0.60	<0.0001
Doctor of Health Science	54	1.31	0.75	<0.0001
Doctor of Jurisprudence	55	1.13	0.70	<0.0001
Doctor of Philosophy	55	1.13	0.70	<0.0001
Doctor of Public Health	54	1.37	0.83	<0.0001
Post-Graduate Residency	55	1.91	1.16	0.5632
Certificate of Added Qualifications	54	1.57	0.74	<0.0001

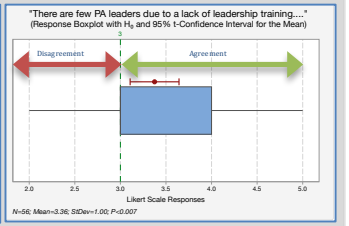
*KEY: < 1 (undecided); 1-2.99 (less important); 3-4 (more important)

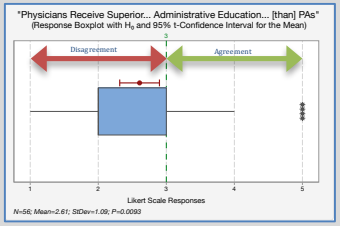
See the ***Degree*** table above for a summary of the section. Here, all mean importance responses were reported under the "less important" status. *Doctor of Education, Doctor of Health Science, Doctor of Jurisprudence, Doctor of Philosophy, Doctor of Public Health,* and *Certificate of Added Qualifications* were all statistically significant.

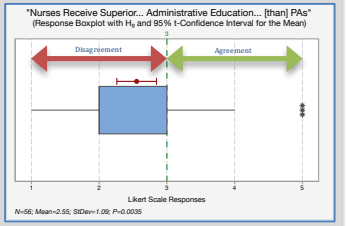
Refer to the five ***Boxplots*** to the right and below for details regarding the statement agreement section. To a statistically significant level—based on the mean agreement responses—respondents generally disagreed that physicians or nurses receive superior healthcare administrative education in their training compared to PAs; disagreed that lack of interest is a contributing factor to the relatively low number of PAs in organization leadership roles; and agreed that lack of precedence and lack of leadership training contributes to the relatively low number of PAs in organization leadership roles.







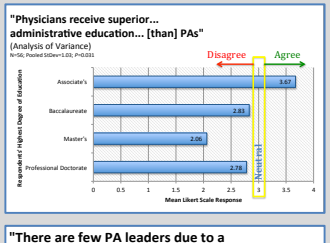


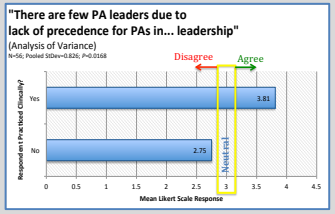


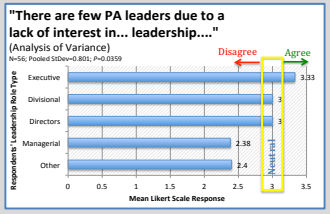
One-way Analysis of Variance (ANOVA) illustrated statistically significant interactions between the respondents' highest degree of education and six different survey items. In ***"Physicians receive superior... administrative education... [than] PAs,"*** respondents with Master's and Associate's degrees deviated from Baccalaureate and professional doctorate responses; those with Associate's degrees agreed that physicians received superior healthcare administrative education in their training compared to PAs while those with Master's degrees opposed the statement.

Whether or not the respondent had practiced clinically throughout their career may have impacted their response to the statement "The are few PA leaders due to a lack of precedence for PAs as organizational leaders," as shown in ***"There are few PA leaders due to a lack of interest in... leadership...."*** Clearly, those with professional clinical experience found that a lack of precedence of PAs as leaders had a direct effect on the number of PA leaders while those without clinical experience differed.

Leadership Role Classifiers also proved significantly influential in four separate survey items. As illustrated in ***"There are few PA leaders due to lack of precedence for PAs in... leadership"***, Executive are of the belief that the sparse number of PAs in organizational leaders is due, at least in part, to lack of interest among those in that profession. Divisional and Directorial staff are undecided while Managerial leaders disagree.







Discussion & Future Study

Based on the response data, the experiential and educational metrics detailed in this study are not as important to healthcare leaders as originally hypothesized. This conclusion supports the notion that there are other experience factors beyond those associated with traditional administration and higher education degrees that would prove more beneficial to a prospective PA leader. Additionally, it may denote a departure from other clinical professions who have demonstrated their value of these subjects, such as physicians (i.e., MD-MBA programs). Clearly, more research is needed to isolate those variables that better represent desirable characteristics for future PA leaders.

Respondent backgrounds were found to affect the perspective of PAs as leaders in this study. Chiefly, highest degree of education, leadership role classification, career leadership duration, clinical background, generalized level of PA interaction, and profession were statistically significant. With the exception of educational level, these other factors illustrate a meaningful divergence of opinion about PA leadership based on the clinical experience the person in question has had, if any. Consider, for example, the consequences of an upper-level executive without a clinical background making decisions impacting the leadership potential of PAs under the inferences of this study. Such differences in opinion translate to individualized and anecdotal climates of PA leadership that are not homogeneous or easily reproducible at other healthcare systems across the country. While efforts have been made to standardize a leadership model for the profession, more is needed to reconcile these differences and ameliorate ascension to leadership for all PAs.

PA Use of Flexibility in Specialty, Role, Employer, and Setting Choice

AAPA 2017

Tim McCall, PhD
Najeebe Danielle Melton, MBA
Noël Smith, MA

INTRODUCTION

PAs are educated and certified as generalists. This generalist orientation allows PAs to change specialties over the course of their careers. The clinical flexibility of PAs allows them to move quickly to where the demand is in the healthcare system, helps employers meet temporary needs, and provides individual PAs with variety and enhanced career satisfaction.

PURPOSE

The purpose of this study is to examine career flexibility among PAs, including changes in specialty, setting, employer, and role.

We hypothesize that PAs who made a career change in 2015 would report higher levels of satisfaction with their career and equal or lower levels of life stress compared to those that have not made a change..

METHOD

Data was collected through the 2016 AAPA Salary Survey. With 15,999 responses, the response rate was 16.4%. The demographics of the sample were comparable to those published by the NCCPA (which has data that closely approximates the PA universe), indicating the representativeness of our sample in light of a low response rate.

The authors examined characteristics of PAs who experienced career changes in 2015 in the form of specialty, setting, employer, and role changes by using analysis of variance, descriptive, and column proportion statistics.

RESULTS

Why are PAs Changing?

1. They want to work in a higher paying specialty (23.3%)
2. They are ready for a change (15.0%)
3. They want a better work-life balance (14.3%)
4. They are moving (11.4%)
5. They always intended to change specialties after getting a broad knowledge based in primary care (10.7%)

MORE PAs who made a change were dissatisfied with their employer

MORE PAs who made a change were unlikely to recommend their employer to others

FEWER PAs who changed employers were satisfied with their current employer

FEWER PAs who changed employers indicated that they were somewhat likely to recommend their current employer

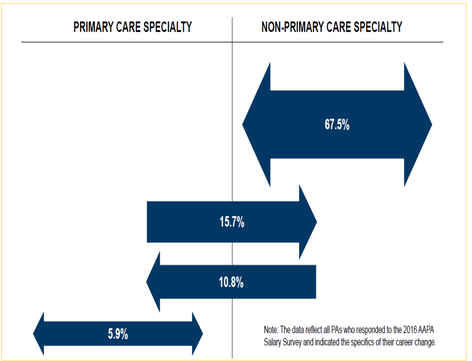
Overall Changes

5.5% changed their specialty

5.6% changed their setting

5.3% changed their role

11.0% changed their employer



Changers Are...	
Less experienced	9.0 years versus 10.6 years
Younger	38.6 years versus 39.9 years
Female	69.6% versus 65.6% female

CONCLUSIONS

Research revealed that PAs were taking advantage of flexibility offered by their profession. Future research should focus on motivators of change as well as longer-term outcomes of specialty change including lifetime income, job satisfaction, and patient experience.

PAs are uniquely positioned to meet changing healthcare needs, with the ability to move to specialties and settings as gaps arise. Employers should avail themselves of the PA profession to fulfill healthcare workforce needs.

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AAPA 2017

Compensation Disparities Between Male and Female PAs: A 2016 Update

Noël Smith, MA
Tim McCall, PhD
Najeebe Danielle Melton, MBA

AAPA

INTRODUCTION

Despite years of progress, women still earn less money than men in nearly every field, and scholarly interest in this issue began over 100 years ago (Webb, 1891). This is not an issue unique to the United States; the World Economic Forum predicts that worldwide, gender pay equality will not occur for around 80 years, and [it] ranked the U.S. 65th of 142 nations in terms of wage equality and 20th for overall gender equality (World Economic Forum, 2014). Similar conclusions have been made by other organizations, including the Institute for Women's Policy Research, the U.S. Equal Employment Opportunity Commission, and the U.S. Department of Labor.

A widely cited statistic is that women are compensated $0.77 for every $1 that men are compensated (Bureau of Labor Statistics, 2011). While this number is absolutely accurate, various factors explain portions of the wage disparity (Blau & Kahn, 2006). For example, women often work fewer hours per week than men, have been in the workforce less time, and take more leaves of absence (Bertrand, Goldin, & Katz, 2010). These data are confirmed by numerous sources, including AAPA when examining data specific to the PA profession.

PURPOSE

The present research aims to examine PA compensation in the United States to assess the extent of a likely gender pay disparity and whether this disparity [is] changing from historical figures or has remained stable. We have developed a more complete model from previous work that controls for numerous factors presumably affecting compensation.

METHOD

Using compensation data from PA surveys from the past two decades, we examined the absolute disparity in compensation between male and female PAs to determine both the trajectory of base salary since 1997 as well as median female compensation as a percentage of male compensation.

AAPA collected compensation data from 2015 from thousands of PAs in 2016. The sample for this analysis included all respondents (over 7,200) who provided values for all practice variables in question. We controlled for factors related to compensation, including geographic region, major specialty area, practice variables (total years as a PA, hours worked, weeks worked), leadership and military experience (leadership position, practice ownership, active duty, and bonus receipt) in an ordinary least squares sequential regression model to examine whether there was still a disparity between men and women for total compensation from primary employer.

RESULTS AND CONCLUSIONS

PA Compensation Disparity Over Time

AAPA data from 1998 to 2015 indicate that while the average disparity of median male and female PA total compensation over the last 17 years is 87%, disparities in total compensation for the two most recent years available have modestly improved over past years, with compensation amounting to a greater ratio of female-male median compensation (89%) than most previous years analyzed, with the exception of 2000. While these improvements in the PA pay gap are promising, when the trajectories of compensation of men and women over time for the full 17-year period are considered, the disparity, on average, is not closing.

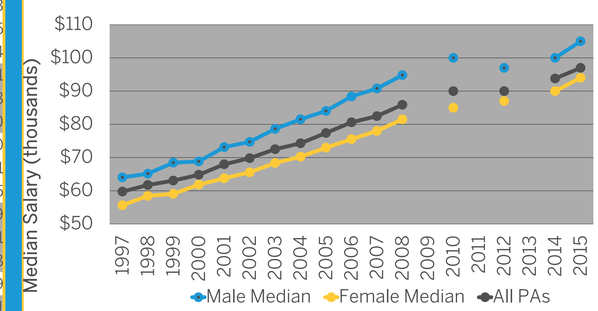
Regression Analysis of PA Compensation

We used a sequential regression analysis, which controls for variables that may co-vary with a factor. Each set of predictors was entered into a model before accounting for the relationship that gender may have with compensation. Each individual factor significantly predicted total compensation. After being entered into the model one after another to control for compensation-relevant differences that co-vary with gender, a significant gender disparity still existed.

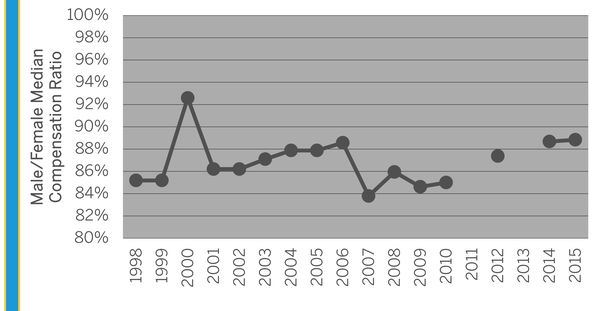
Parameter	B	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Certificate	$1,968.54	$1,576.84	-$1,122.53	$5,059.60
Associate's	-$4,476.29	$2,422.62	-$9,225.34	$272.75
Bachelor's	$684.30	$1,135.48	-$1,541.57	$2,910.18
Internal Medicine	$3,115.82	$1,307.65	$552.45	$5,679.20
Pediatrics	$8,121.00	$3,147.49	$1,951.00	$14,291.00
Surgery	$10,061.97	$1,030.29	$8,042.31	$12,081.63
Emergency Medicine	$22,254.86	$1,375.66	$19,558.16	$24,951.55
Other Specialty	$8,599.02	$996.09	$6,646.41	$10,551.64
Northeast Region	$1,443.74	$1,056.31	-$626.93	$3,514.41
Southern Region	$1,898.26	$946.65	$42.54	$3,753.98
Western Region	$4,126.38	$1,073.68	$2,021.66	$6,231.10
Hours weekly PCE	$697.22	$35.34	$627.94	$766.50
Years experience	$722.38	$50.67	$623.06	$821.71
Weeks worked PCE	$976.96	$38.41	$901.66	$1,052.25
Own or share practice ownership	$16,857.15	$2,987.18	$11,001.41	$22,712.89
PA is in leadership position	$11,389.49	$919.97	$9,586.07	$13,192.91
Active duty military	-$22,560.91	$2,929.98	-$28,304.53	-$16,817.28
PA receives bonus	$10,468.27	$725.56	$9,045.96	$11,890.59
Gender: Male PA	$12,878.47	$795.52	$11,319.02	$14,437.91

Note: Reference group is master's-level primary care PAs in the Midwest region. Steps of regression model are alternating shades. Each step significantly contributed to the prediction model and the adjusted R^2 of the model is .317.

MALE & FEMALE SALARY OVER TIME



FEMALE/MALE PA COMP. RATIO



	2015 CHARACTERISTICS	
$116,146	Mean W2/1099 Compensation	$93,913
$13,696	Mean Bonus	$10,010
44.14	Hours worked/week	40.66
46.71	Weeks worked/year	45.59
12.63	Years of experience	9.22
51.4%	Received bonus	45.4%
28.1%	PA in leadership	16.9%
2.4%	Fully owns/shares practice ownership	1.8%
3.4%	Currently active duty military	0.6%
$116,146	Mean W2/1099 Compensation	$93,913

MORE INFORMATION: Noel Smith, Senior Director, PA and Industry Research and Analysis, American Academy of PAs, 2318 Mill Road, Suite 1300, Alexandria, VA 22314. nsmith@aapa.org, aapa.org

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Implementation of a Standardized Substance Abuse Screening in a Community Health Center Setting

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Sandra Gomez, RN, BSN, MSN, MPA; Carolyn Crowder, LCSW, LCAS
Lincoln Community Health Center

BACKGROUND

- In North Carolina, 1 in 12 adults is either dependent on or abusing alcohol or drugs.
- Within our own community, a needs assessment estimated 19,000 residents of Durham County need substance abuse treatment.
- Lincoln Community Health Center (LCHC), a Federally Qualified Health Center, serves 30,000+ patients annually, the majority of whom are medically underserved.
- A peer review at LCHC indicated the majority of primary care providers were assessing substance use/abuse, but methods and documentation varied.
- LCHC identified a need to formalize a substance use screening process for primary care patients.

PURPOSE

Based on the identified need to develop a substance abuse screening protocol, a quality improvement projected was initiated to:

1. Identify a standardized substance abuse screening tool to be used in the primary care setting.
2. Develop a protocol that informs when and by whom patients are screened for substance misuse/abuse and how to address positive screenings.

DESCRIPTION

The Two Item Conjoint Screen (TICS) was selected as a validated substance abuse screening tool readily available in the electronic health record (EHR).

- TICS consists of 2 questions.
- Administered annually by Nursing Staff to adults.
- Documented in the EHR.

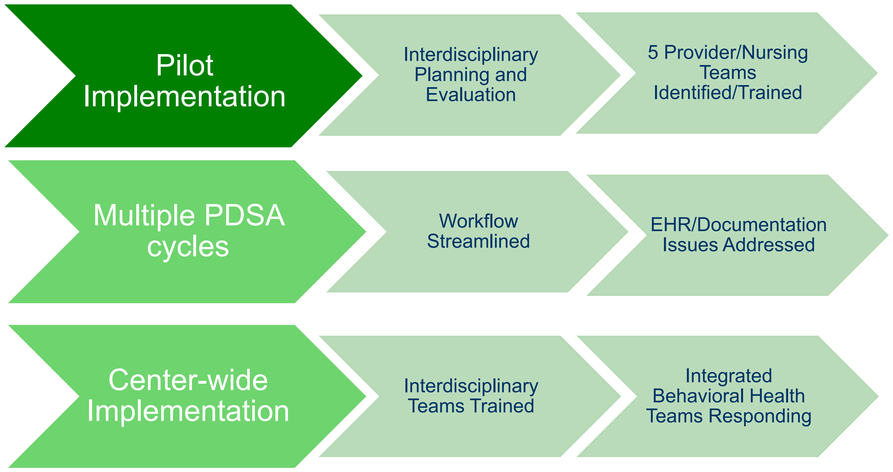
1. "In the last year, have you ever drunk or used drugs more than you meant to?"	Yes/No
2. "Have you felt you wanted or needed to cut down on your drinking or drug use in the last year?	Yes/No

A yes to either question is a positive screening.

↓

Addressed by Primary Care
and/or
Referred to Integrated Behavioral Health Team

IMPLEMENTATION PROCESS

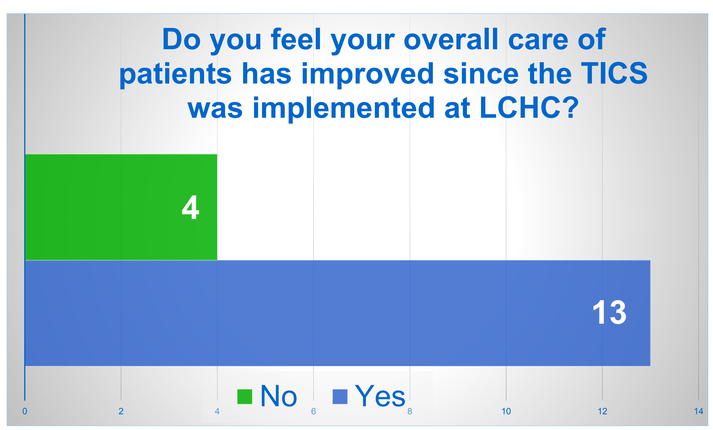


RESULTS

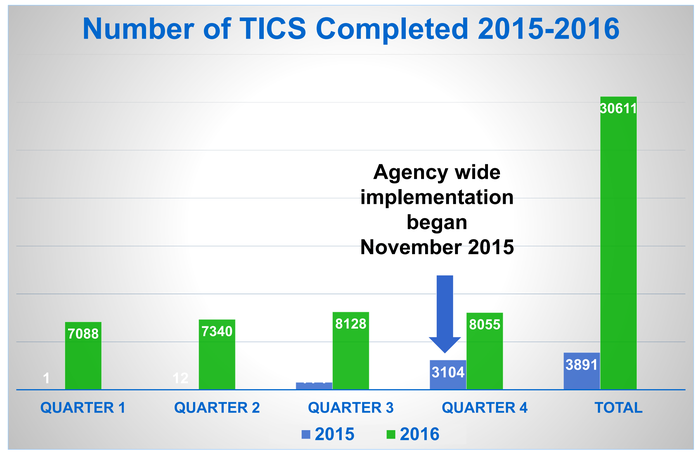
Primary Care Provider Survey

LCHC Primary Care Providers were surveyed January 2016, two months after the pilot screening protocol was implemented across Lincoln Community Health Center.

17 out of 22 providers (77%) responded.



Screening Data



DISCUSSION

- Screening was easily integrated and is being well utilized.
- Providers found screening to be useful in identifying substance related concerns and overall care of patients.
- Pilot process was valuable in implementation. Roll-out of agency-wide protocol requires inter-professional training and buy-in.
- Substance abuse screening requires increased integration between primary care and behavioral health teams.
- EHRs may pose barriers to implementation and reporting.

ACKNOWLEDGEMENTS

The authors acknowledge Brandi Tuttle, MSLIS, AHIP, for her contribution to poster design and formatting.

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Institutional Review Board: Declared Exempt from IRB Review

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Cervical Cancer Screening in Tanzania

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Introduction

Cervical cancer has the highest cancer-related mortality rate in East Africa.[1] Numerous obstacles exist in developing countries, such as Tanzania, that make screening and treatment interventions difficult.[2]

- Lack of cancer awareness, knowledge, and capacity among health workers.
- Lack of diagnostic and treatment capacity.
- Fragmented and under-financed health care systems.
- Insufficient political priority and funding among donor agencies and governments of developing countries.

World Health Organization recommends the "**See and Treat**" method.[3]

- Atypical cervical cells are identified by **visual inspection with acetic acid** (**VIA**).
- **Cryotherapy** can then be used immediately for treatment.

Purpose

To screen women for cervical cancer in Tanzania, treat precancerous lesions and train local health care providers in the "See and Treat" method.

Methods

Location: Mwanza, Tanzania at Buzuruga Hospital.

Event: One-week cervical cancer screening organized by the University of California Irvine School of Medicine and CureCervicalCancer.org.

- Two PA students and a Professor from St. Catherine University assisted with participant registration, screening and data collection.

Intervention:

- Screened using the "See and Treat" method.
- Offered cryotherapy if VIA positive lesions.
- Referred patients to higher level of care if lesions suspicious of cancer.
- Trained Tanzanian healthcare workers on cervical cancer screening and treatment.

Data: Demographics, number of women screened, VIA status, HIV status, number of women treated with cryotherapy, and number of women with suspicious lesions or large lesions referred for further evaluation.

Results

A total of 544 women were screened with VIA.

- 51 (9%) were VIA positive.
- 48 (94% of those VIA positive) received cryotherapy.
- 6 (1%) women had lesions suspicious for cancer.
- 22 (4%) women were self-reported HIV positive.
- Women in the age groups 20-29 and 30-39 accounted for 80% of VIA positive patients ($p < 0.05$), having the greatest benefit from screening.
- HIV positive patients had a higher VIA positive rate than HIV negative patients (22% and 9% respectively), however these results are limited by the small sample size of patients who reported to be HIV positive ($p=0.07$).
- Ten Tanzanian healthcare workers were trained and educated in the "See and Treat" method.

Age Range	Number screened	Number +	% +	Susp. for Cancer	Number treated
10-19	16	1	6.25%	0	0
20-29	144	17	11.81%	0	16
30-39	206	24	11.65%	1	24
40-49	116	8	6.90%	2	7
50-59	37	0	0	1	1
60-69	12	0	0	2	0
70-79	3	0	0	0	0
80+	3	0	0	0	0
Unknown	7	1	14.29%	0	0
Total	544	51	9.37%	6	48

Table 1: Cervical cancer screening event results.

Conclusion

1. This highlights the importance of the "See and Treat" method in Tanzania, especially in age groups 20-39 years old.
2. In a 5-day course, 10 Tanzanian healthcare workers were successfully trained in this method, and they were given the materials needed to start local screening programs.

Acknowledgements

Thank you to CureCervicalCancer.org and the University of California Irvine Medical School for conducting this screening event. Thank you to Buzuruga Hospital for hosting this event. A grant from the PA Foundation provided cryotherapy equipment for Dr. Mbise, a Tanzanian OB/GYN, who was trained during this event to treat patients and train additional healthcare workers. Thank you to MPAS faculty including Kari Hartwig, DrPH.

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Minding the Gap: An Opportunity for Physician Assistants to Affect the Rheumatology Workforce Shortage

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INTRODUCTION

There are many anticipated challenges now and in the near future to train and sustain a robust workforce of rheumatology specialists. The 2015 American College of Rheumatology Workforce Study describes the current rheumatology workforce, including the role of PAs and NPs.

BACKGROUND

-Ten years have elapsed since last rheumatology workforce study (WFS)

-Much has changed with many anticipated challenges now and in the future

-2005 WFS documents shortfall of rheumatologists with potential solutions suggested:
- ***improve practice efficiency**
- ***increase rheumatology physician fellowships**
- ***increase utilization of physician assistants (PAs) and nurse practitioners (NPs) in rheumatology practice.**

-Additional variables identified as key influencers in 2015 WFS study
- ***growing predominance of millennials**
- ***increasing female gender shift in workforce**

PURPOSE

2015 WFS sought to expand current knowledge of rheumatology workforce which includes PAs

METHODS

-American College of Rheumatology (ACR) Workforce Study Group
- ***Academic and private practice physicians representing adult and pediatric practices**
- ***One adult PA**
- ***One pediatric NP**
- ***Expert workforce consultants**
- ***ACR staff**

-Primary data sources
- ***Web-based Survey of current rheumatology health professionals, Including PAs**
  - ****demographics**
  - ****work settings**
  - ****practice patterns**
  - ****retirement planning**
- ***Focus groups with select stakeholders**

-Secondary data sources
- ***ACR member database**
- ***State licensure registries**
- ***2005 ACR workforce study**
- ***Professional organizations (including AAPA)**
- ***Other medical literature**

RESULTS

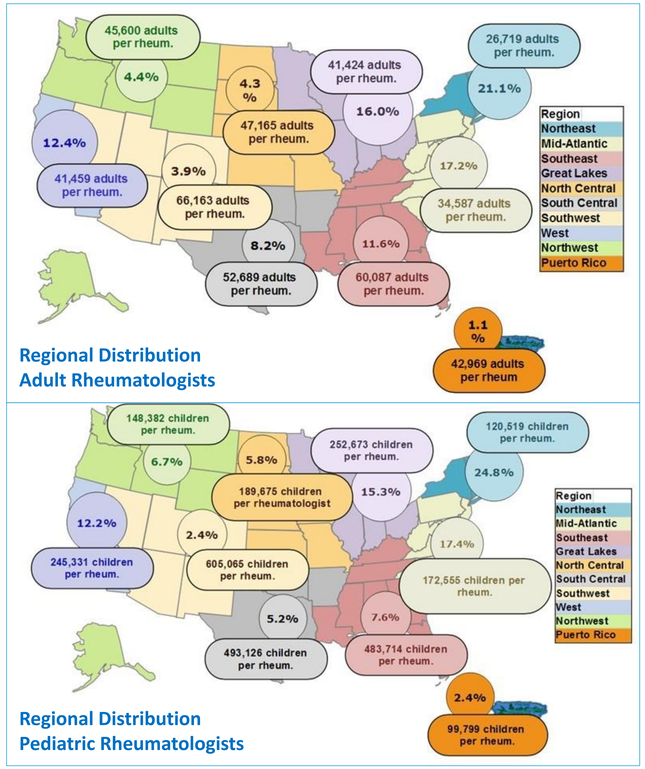
Primary Rheumatology Workforce by Specialty

Specialty Training	Adult		Pediatric	
	Total #	Est. Clinical FTE	Total #	Est. Clinical FTE
Rheumatologists	5,595	4,997	300	287
Nurse Practitioners*	248	228	22	20
Physician Assistants*	207	190	4	4
Total Active Primary Providers	6,050	5,415	326	311

Sources: AMA, ABIM, ABP; RNS, AAPA, PRCSG, & ACR Workforce Study Survey Results. ABIM most current numbers of active rheumatologists were provided February 2016. *Numbers were pulled from the non-physician association information and the published literature. These numbers only reflect active certificates.

Sensitivity Testing Projections Nurse Practitioners and Physician Assistants

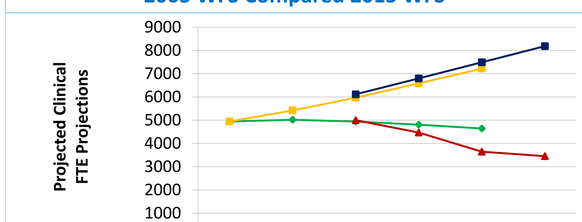
NPs/PAs	2020			2025			2030		
	Base	10%	30%	Base	10%	30%	Base	10%	30%
Adult NP	336	370	437	344	378	447	352	387	458
Adult PA	276	304	359	289	318	376	304	334	395
Pediatric NP	22	24	29	26	29	34	28	31	36
Pediatric PA	4	4	5	6	7	8	6	7	8



Regional Distribution
Adult Rheumatologists

Regional Distribution
Pediatric Rheumatologists

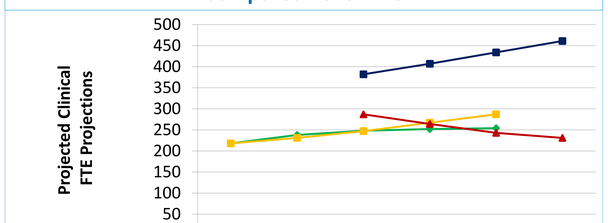
Long-term Projections Adult Rheumatologists, 2005 WFS Compared 2015 WFS



	2005	2010	2015	2020	2025	2030
2005 Projected Supply	4946	5019	4940	4806	4643	
2005 Projected Demand	4946	5422	5968	6584	7219	
2015 Projected Supply			4997	4470	3645	3455
2015 Projected Demand			6115	6796	7490	8184

2005 Projected Supply · 2005 Projected Demand · 2015 Projected Supply · 2015 Projected Demand

Long-term Projections Pediatric Rheumatologists, 2005 WFS Compared 2015 WFS



	2005	2010	2015	2020	2025	2030
2005 Projected Supply	218	238	248	252	254	
2005 Projected Demand	218	231	247	267	287	
2015 Projected Supply			287	264	243	231
2015 Projected Demand			382	407	434	461

2005 Projected Supply · 2005 Projected Demand · 2015 Projected Supply · 2015 Projected Demand

RESULTS, CONT.

-Current data indicate 41% of adult rheumatologists are female, expected to increase to 57% by 2030

-Current data indicate 68% of pediatric rheumatologist are female, which is expected to remain constant through 2030

-Millennial physicians see 5% fewer patients compared to 2005 counterparts, with expectation that number of rheumatology visits per rheumatologist will continue to decline

->50% of rheumatologist plan to retire in next 5-10 years, with most reducing patient load before retirement

CONCLUSIONS

The gap between supply and demand in the rheumatology workforce is expected to widen substantially by 2030

- **-PAs have been identified as one potential solution**
- **-Value of PAs in medical practice has been documented**
- **-Opportunity exists to further document the value of PAs in rheumatology practice**
- **-Additional recruitment and training strategies should be developed to increase the number of adult and pediatric rheumatology PAs**

Other considerations to address the rheumatology workforce shortage may include:

- **-Mechanisms to increase training positions for adult and pediatric rheumatology fellows**
- **-Utilization of telemedicine**
- **-Optimizing practice efficiency**

ACKNOWLEDGEMENTS

2015 AMERICAN COLLEGE OF RHEUMATOLOGY WORKFORCE STUDY GROUP

HTTP://WWW.RHEUMATOLOGY.ORG/PORTALS/0/FILES/ACR-WORKFORCE-STUDY-2015.PDF

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North Carolina United Scholars Program:

An early intervention program to increase diversity in the Physician Assistant workforce

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INTRODUCTION

- The number of practicing Physician Assistants that are from under-represented minority (URM) groups is estimated to be 12% nationwide.
- This signifies the disparity between under-represented minorities and educational opportunities such as the Physician Assistant career pathway.
- The North Carolina United Scholars Program (NCUSP) was established to advocate for the PA profession and to serve as a resource to high school students in the local Hickory, North Carolina area.

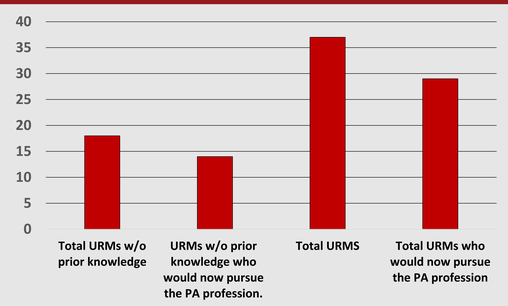
PURPOSE

- The aim of this study is to demonstrate how PA programs can increase URM interest in the PA profession through outreach initiatives.
- The NCUSP promotes the PA profession and engages participants in clinical skills taught at the graduate level.
- The goal of NCUSP is to provide URMs access to resources for future matriculation.

METHODS

- Participants
  - 69 High School students from the local area.
- 60 to 90 min Workshops
  - Introduction to the PA profession
- Skills component:
  - EKG reading station
  - Stethoscope Listening Station
  - Tracheal/ Nasogastric Intubation
  - Trauma Station
  - Virtual Dissector
- Q&A session
- NCUSP Survey

URM SURVEY RESULTS



Tirrany Osborne guiding high school students through an NCUSP Workshop Virtual Dissector Anatomy Station .

RESULTS

- Of the total workshop participants 37 identified as URMs and survey results concluded that 48% were unaware of the PA profession as a career pathway.
- 78% of URM students who were unaware of the PA profession reported that they would now likely pursue the PA profession.
- Similarly, 78% of ALL URM students who participated reported that they would now likely pursue the PA profession.
- 54% of Non-URMs without previous exposure to the PA profession reported they would now likely pursue the PA profession.
- 63% of All Non-URMS reported a interest in the likelihood of pursuing the PA profession.

Survey Responses	Total Participants	Total URM Participants	Total Non URM Participants	Race Unknown
	69	37	30	2
Reported very likely or likely to pursue the PA Profession	50	29	19	2
Reported an increased interest in the medical field	65	36	27	2
Reported an understanding of the PA Profession	69	36	27	2

CONCLUSION

- The Accreditation and Review Commission on Education for the Physician Assistant has currently accredited 218 programs.
- The number of URMs matriculating into PA programs has not kept pace with the increasing number of programs.
- The results of the NCUSP survey demonstrate that similar outreach initiatives may positively impact URM interest in the PA profession.
- The increase in URM interest in the PA profession should increase representation in the applicant pool and ultimately impact diversity in the PA workforce.

Volunteers of the NCUSP.

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Special Thanks to the faculty from LRU PA Studies and The Powell-Pasour Student Society for their continued support.
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An Analysis of Diseases and Disorders Encountered in PA Practice Based on Data Obtained Through a Practice Analysis Study

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Introduction:

Practice analyses are conducted for a variety of reasons, and serve as a systematic means of gathering data as to what tasks are being performed in a given profession, and what knowledge and skills are required to perform those tasks. Current best practices in testing require that such data be used to help determine what content appears on a certification exam, so that the test reflects the actual practice of the profession in question. Such a process is said to contribute evidence to support an examination's content validity. A rigorous validation strategy is required by external accrediting organizations that approve the processes of certifying bodies.

In 2015, twelve panels of PAs were convened to develop a practice analysis survey for the PA profession. Over 70 PAs served as subject matter experts, and helped delineate the major knowledge and skills areas required for PA practice in primary care and eleven practice-focus areas. A new component that had not been included in previous studies was the inclusion of a list of diseases and disorders that were linked to primary organ systems. This added a level of detail that had not previously been captured and that provided greater insights into the practice of the profession. Frequency and criticality ratings were included for each disease/disorder, as well as knowledge, and task statements for the different task areas. Pertinent demographic questions were also developed for inclusion on this survey of the profession.

Data Editing and Analysis:

The survey instrument was deployed electronically to 101,252 certified PAs, and 7,617 emails were returned due to inactive/incorrect email addresses. The survey remained open from April to June, 2015, and a response rate of 16.9% was achieved. Various analyses were conducted on the response data. The collective data was reviewed to help inform recommendations for certification examination content specifications. Data collected by NCCPA through other means was also utilized for certain analyses.

The data was also analyzed to determine if differences existed between PAs who have been in practice longer than six years (the previous recertification cycle length) and those were newer to PA practice. The most significant differences were discovered in the professional practice sections of the survey. For example, the more experienced practitioners spent more time in activities relating to precepting, management, contract negotiations and advocating for the profession. Analyses were also conducted to determine if PAs' practice focus had an impact on the ratings provided for the knowledge, skills, and diseases/disorders statements. Larger differences were seen for the ratings of diseases/disorders than for ratings of the task knowledge and skill statements. Differences between PAs in primary care and PAs in certain practice-focus areas were largely as one might expect. For example, PAs practicing in orthopaedic surgery encountered fewer diseases associated with primary care and more diseases and disorders associated with the musculoskeletal system. The data obtained provide a number of opportunities to examine both the similarities and differences in practice among the different primary care and non-primary care specialty areas and how those may cluster among different specialties

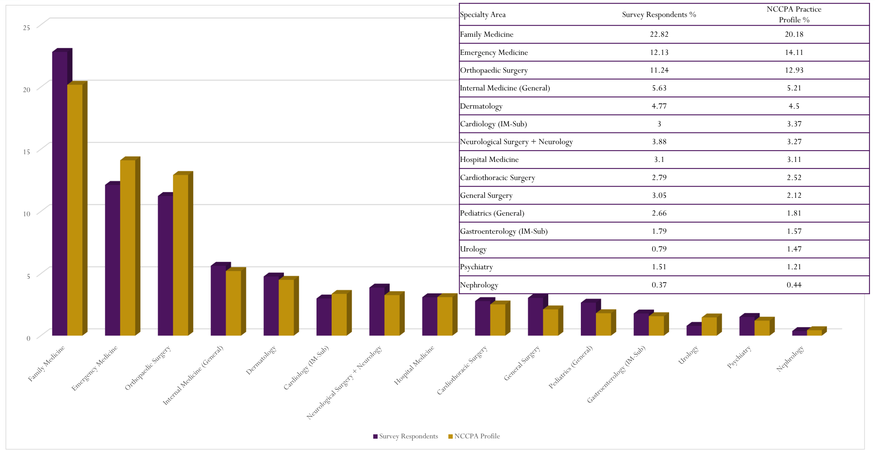
About NCCPA:

NCCPA is the only certifying organization for physician assistants in the United States. Established as a not-for-profit organization in 1974, NCCPA is dedicated to providing certification programs that reflect standards for clinical knowledge, clinical reasoning and other medical skills and professional behaviors required upon entry into practice and throughout the careers of physician assistants. All U.S. states, the District of Columbia and the U.S. territories have decided to rely on NCCPA certification as one of the criteria for licensure or regulation of PAs. More than 140,000 PAs have been certified by NCCPA since 1975, and more than 115,000 are certified today.

Comparison of Response Sample to Total PA Profession

To determine that the results of the practice analysis survey were representative of the PA-C population, a number of different variables were analyzed, including specialty area of practice, length of certification, geographic region, age, gender, and race/ethnicity. Additional data collected by NCCPA through other means such as the PA Professional Profile and NCCPA's database of certified PAs were used to facilitate these analyses. Throughout all of the variables, the response sample proved to be aligned with the total PA-C population. The figure below demonstrates the comparison of the response sample with the PA-C profession for specialty area of practice.

Figure 1 : Comparison of Specialty Area of Practice for the Practice Analysis Response Sample with the PA-C Profession



Specialty Area	Survey Respondents %	NCCPA Practice Profile %
Family Medicine	22.82	20.18
Emergency Medicine	12.13	14.11
Orthopaedic Surgery	11.24	12.93
Internal Medicine (General)	5.63	5.21
Dermatology	4.77	4.5
Cardiology (IM-Sub)	3	3.37
Neurological Surgery + Neurology	3.88	3.27
Hospital Medicine	3.1	3.11
Cardiothoracic Surgery	2.79	2.52
General Surgery	3.05	2.12
Pediatrics (General)	2.66	1.81
Gastroenterology (IM-Sub)	1.79	1.57
Urology	0.79	1.47
Psychiatry	1.51	1.21
Nephrology	0.37	0.44

A note on interpreting Figures 3 & 4

The "Delta Plots" presented in Figures 3 and 4 present an overview of a large amount of data, but require interpretation. First, what is presented are the number and magnitude of the differences found on the same variables in two different data sets from two different groups of PAs. For example, Figure 3 depicts the number and magnitude of differences on PA ratings of diseases and disorders on two variables, Frequency and Criticality, by PAs in two different practice areas, primary care and orthopedic surgery. The tallest bar represents the number of times (65) average ratings of diseases or disorders from orthopedic surgery PAs were rated 0.5 points lower on Criticality than those of primary care PAs. Put another way, orthopedic surgery PAs rated 65 diseases or disorders 0.5 points lower on Criticality than primary care PAs. Looking at the Frequency data on the same chart, it can be seen that the tallest Frequency bar indicates that 27 diseases or disorders were rated 0.75 points lower on Frequency than primary care PAs. Looking at the data overall, not surprisingly, most of the diseases or disorders seen by primary care PAs are seen less frequently by orthopedic surgery PAs, while a few (including musculoskeletal disorders) are seen more frequently.

Figure 3 : Criticality/Frequency Deltas for Diseases and Disorders Encountered by PA-Cs Working in Orthopaedic Surgery Compared to PA-Cs Working in Primary Care

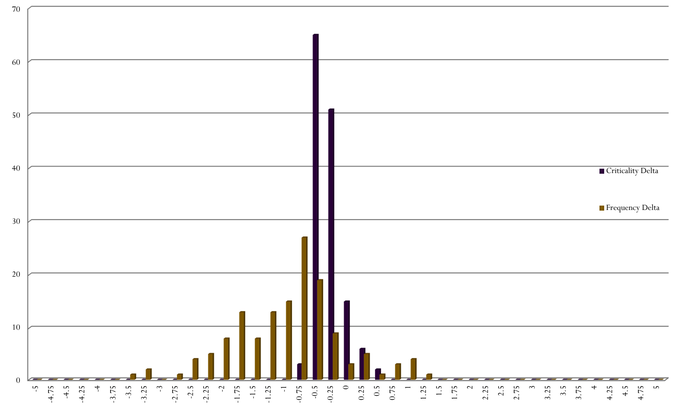
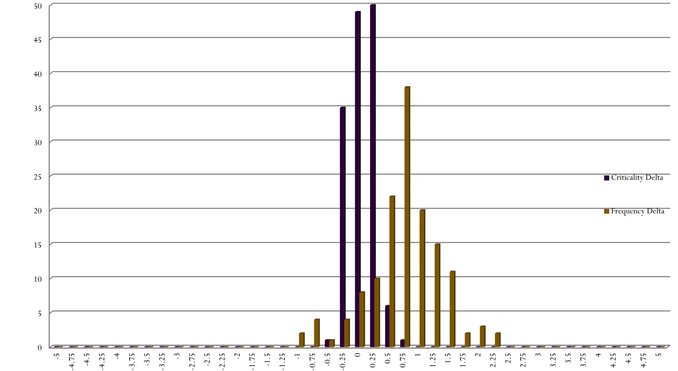


Figure 4 : Criticality/Frequency Deltas for Diseases and Disorders Encountered by PA-Cs Working in Emergency Medicine Compared to PA-Cs Working in Primary Care



To view more NCCPA research:

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Physician Perceptions of PA Preparedness in Primary vs. Subspecialty Care

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Faculty Advisor: Biscardi C., PA-C, PhD

BACKGROUND

Physician Assistants (PAs) are nationally certified and state-licensed medical professionals who are an essential addition to the healthcare delivery team. Initially founded in 1965 during World War II, the PA profession was created as a means to help fill the void of primary care physicians at the time.[1]

Trained as generalists with a strong background in primary care, PAs also have the ability and skillset to work in nearly all medical and surgical subspecialties with guidance and input from their collaborating physician.

Nearly sixty years after the first class of PAs graduated, the landscape of medicine continues to change and theorists are predicting that there will again be an increased demand for healthcare providers. PAs are well-qualified and skilled to, again, help alleviate this burden and ensure effective and safe primary care delivery.

Despite the need for providers in primary care, PAs have a *tendency to work in medical and surgical subspecialties over primary care*. In a recent study by Morgan et al, it was found that approximately **73%** of PAs work in **medical and surgical subspecialties** whereas only about **27% work in primary care** - a percentage that has been steadily decreasing over the years.[2]

The fact that large majority of PAs practice in medical and surgical subspecialties creates an interesting paradigm. Classically, PA educational programs are focused on educating primary care providers. Therefore, upon graduation new PAs are theoretically better equipped to work in the primary care field due to their generalist educational foundation.[3]

This concept is in stark contrast to the current PA career landscape, in which the majority of PAs work in subspecialties in medicine and surgery, either right out of PA school or at some point in their careers.[4]

PURPOSE

Presently, there is little current research concerning physician perception of PAs, let alone their preparedness to practice and participate in daily clinical activities and responsibilities**.**

The aim of this study is to investigate physician perceptions of PA preparedness in primary care in comparison to medical and surgical subspecialties.

It is possible that education for future PAs could be guided by the results of this study. Understanding physician perceptions regarding PA preparedness in both primary care and medical and surgical subspecialties will provide educators, healthcare managers, and PA professional leaders a clearer picture of current PA educational preparedness to meet the demands of today's healthcare arena.

HYPOTHESIS

We hypothesize that physicians in primary care will rate PA preparedness to participate in daily clinical activities and responsibilities more favorable than physicians in surgical and medical subspecialties, based on the PA's generalist education.

METHODS

PARTICIPANTS

Inclusion Criteria: Licensed, clinically active Medical Doctors (MD) or Doctors of Osteopathic Medicine (DO) over the age of 21 years of age

SURVEY TOPIC AREAS

- Demographic information: specialty, age, gender, length of practice
- Understanding of PA profession, education, clinical training
- Experience working with PAs and/or educating or precepting PA students
- Rating of PA preparedness to practice and participate in clinical activities
- PA procedural proficiency and potential areas of further instruction

PROCEDURE

1. Secured IRB approval
2. Survey developed by the authors with quantitative, qualitative, and open-ended questions
   - Questions utilized Likert scale responses, ranging from "strongly agree" to "strongly disagree"
3. A letter of recruitment was sent via Listserv to various physicians employed at health systems throughout the Northeast
4. Data was collected on the application *Qualtrics* and then exported to SPSS for analysis

POPULATION DEMOGRAPHICS

Total participants: n = 36
18 Female (50%)
10 Male (28%)
8 No Response (22%)

Age Range: 25 – 67 years old
Majority 30-39 y.o.
(n=12, 33%)

Length of Practice
Less than 5 yrs (n=1, 50%)

Geographic Location
Northeast (n=36, 100%)

	Primary Care n = 23 (64%)	Subspecialty n = 13 (36%)
Gender		
Female	17 (74%)	1 (8%)
Male	2 (9%)	8 (62%)
No response	4 (17%)	4 (31%)
Age (yrs.)		
20-29	7 (30%)	0 (0%)
30-39	8 (35%)	4 (31%)
40-49	2 (9%)	1 (8%)
50-59	2 (9%)	2 (15%)
60-69	1 (4%)	4 (31%)
No response	3 (13%)	2 (15%)
Length of Practice (yrs.)		
0-5	15 (65%)	3 (23%)
5-10	3 (13%)	3 (23%)
11-20	0	0
21-30	3 (13%)	3 (23%)
31-40	1 (4%)	3 (23%)
40+	1 (4%)	1 (4%)
Practice Environment		
Clinic	2 (9%)	0
Federally Funded	6 (26%)	0
Private Practice	4 (17%)	4 (31%)
Outpatient	1 (4%)	3 (23%)
Inpatient	10 (44%)	6 (46%)

RESULTS

Figure 1: Participant Area of Practice: Primary vs. Subspecialty

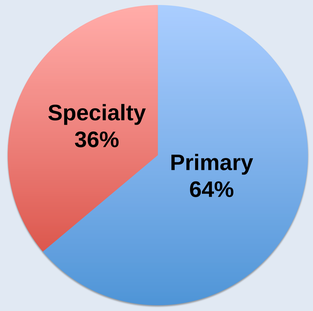


Table 1: Participants, Primary v. Subspecialty

Primary Care, n = 23 (63%)
Internal Medicine, 5 (14%)
Pediatrics, 4 (11%)
OB/GYN, 14 (39%)
Subspecialty, n = 13 (36%)
Surgery, 9 (25%)
Emergency Medicine, 3 (8%)
Addiction Medicine, 1 (3%)

Table 2: Primary v Subspecialty Responses	Primary, n=23	Subspecialty, n=13
Work with PA		
Currently	5 (22%)	12 (92%)
In the past	12 (52%)	1 (8%)
Never	6 (26%)	0
Rate the PA's preparedness		
Extremely prepared	4 (17%)	3 (23%)
Moderately prepared	17 (74%)	9 (69%)
Unprepared	1 (4%)	1 (8%)
Moderately unprepared	1 (4%)	0
Extremely unprepared	0	0

Figure 2: Primary Care - Physician Rating of PA Preparedness

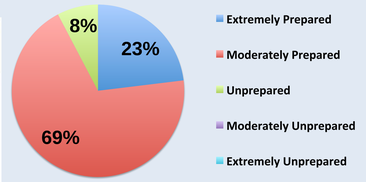
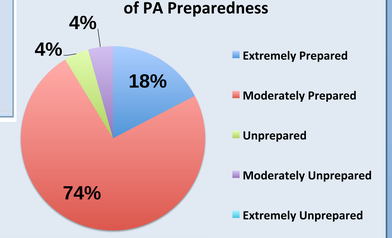


Figure 3: Subspecialty – Physician Rating of PA Preparedness



DISCUSSION

Our results show that, based on this sample, physicians in primary care and medical and surgical subspecialties rate PA preparedness to actively participate in daily activities essentially the same.

The researchers conclude that PA education is, as suspected, well structured and should not bow to the changing healthcare field but rather continue to produce well-equipped, well-rounded medical professionals to help alleviate the burden – in both primary care and medical and surgical subspecialties.

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