North Carolina Medical Society

*Leadership in Medicine*

KANOF INSTITUTE FOR **PHYSICIAN LEADERSHIP**

# MED TALKS

## OCTOBER 14, 2022

RALEIGH MARRIOTT CRABTREE VALLEY, RALEIGH, NC

# Contents

# Implementing Specific, Achievable, and Relatively Inexpensive Blood Pressure Control Measure in Community-Based Outpatient Clinic

Oluwaseye Alabi, DO, CaqSM

**Abstract**

The overall health of patients in the community could depend on compliance with routine or specific medical examination by the Primary Care Provider. Based on a review of 500 charts among multiple patient aligned care teams in a community-based outpatient setting, we observed that the ability to effectively monitor compliance and overall general health of a particular patient population may be undermined by lack of routine patient follow-up due to inability to maintain a face-to-face contact visit(as a result of a pandemic), cancellations of scheduled appointment, lack of contact with a Primary Care Provider for a period of up to two years, discontinuation of a provider service by a patient, and having multiple primary care providers (due to multiple health insurance).

High blood pressure remains one of the most important modifiable risk factors for cardiovascular events (9); therefore, we focused on mitigating the effects of high blood pressure on lowering cardiovascular risk to monitor the health of patients in a community- based outpatient clinic. The control measures were implemented in a VA outpatient clinic setting.

The breakthrough objective was to decrease the number of outliers. Normally, the data for high blood pressure is populated once a year to assess population with uncontrolled blood pressure. For change, we decided to make data available every biannually for better outcome. However, due to limitation of nursing staff, we prioritized diabetic patients with ischemic heart disease since this population tends to have the highest number of patients with blood pressure above goal of 140/90 mmHg. By narrowing the defocus, we aim to lower mortality among highest risk population. The annual objective is to decrease the ratio of patient population with blood pressure above goal of 140/90 mmHg, compared to previous fiscal year, using multicomponent pathway. Both nursing staff and physicians collaborated to work out the specific pathway for quick identification of the highest risk patients, and to develop appropriate treatment plan. In addition, the pharmacy department created a Clinical Pharmacy Service program that enrolled about ten patients per month, with careful monitoring of the efficacy of the medications prescribed to each patient, available data was used to determine proper medication management. A team-based approach was instituted, without duplication of efforts. A Standard Operating Procedure was used to determine the flow of each step of the process. The flow was worked into normal patient care algorithm for all the service components- to ensure sustainability.

The process also involves a Gemba Walk by the Chief of the Community-Based Outpatient Clinics to determine how the team works together; he is also tasked with providing support to ensure seamless interaction, smooth communication, and feedback. During each meeting with participants/staff, the opinion of each person is encouraged to achieve balance. Monthly review is performed, and actual patient data is presented as metrics.

The endpoint was measured both quantitatively and qualitatively. There is periodic update from every arm of service working together on the multicomponent pathway process. The result will be an improvement in the number of patients with blood pressure above goal of 140/90 mmHg compared to previous month.

In conclusion, multicomponent chronic blood pressure care pathway is a direct evidence of communication, teamwork, effective strategy planning and daily workflow optimization.

## Introduction

The initial setting of the process improvement is one of community-based outpatient clinics: a division of the VA Health Care System in Columbia, South Carolina. The parent clinic being assessed has over 200 staff, and a total of about 11,400 patients in Primary Care arm of the concerned clinic. We have a total of twelve Patient Aligned Care Teams (PACT); each of the teams has an assigned PACT Care Manger (Registered Nurse (RN)), Clinical associate (Licensed Practical Nurse (LPN)), and a Medical Support Assistant. The team Primary Care Physician or Advanced Practice Provider serves as the leader of the PACT. The day-to-day operation of the nursing staff is under the leadership of the charge RN, while the chief medical officer oversees the daily workflow of the physicians and Advanced Practice Providers, as well as the entire primary care clinic. All the teams are supported by Licensed Clinical Social Workers (LCSW), Primary Care Mental Health Integration (PCMHI) team, optometric clinic, podiatry clinic, and tele-dermatology. The tele-dermatology department is staffed by nursing staff who communicates directly with the dermatologist at a central location. The clinic also has readily available x-ray department, pharmacy, Physical Therapy department, Occupational Therapy, and prosthetics department, respectively.

Each department has done excellent work at departmental level in improving management of patient care. However, to improve efficacy of care, we decided to create a unit that focuses on multicomponent pathway to quickly identify outliers based on the overall blood pressure goal, and effectively treat the patients to prevent cardiovascular events. The goal of the clinic was not to use cardiovascular events as metrics for success; however, based on known consequences of not controlling her blood pressure, increase in the number of patients who meet the blood pressure standard became a priority. This method can also be applied in any situation where patients have difficulty with frequent appointments with the appropriate physician or advanced practice provider

## Background

A team-based approach that implements specialized clinics, disease management programs, physician reminders systems, and the use of collaborative effort, coupled with comprehensive system for a well-defined, measurable patient care has been linked to desirable patient outcomes. A successful clinic must employ a process improvement measure that supports patient self-management; it should also ensure that the proposed intervention is well integrated into the daily workflow of the practice to make it easier for the staff to commit, and to encourage community involvement (7). Implementation strategies to effectively capture outliers in blood pressure management is not new to the VA system. Much effort has been implemented to create programs that would effectively use technology and human intervention to improve overall blood pressure control among specific patient populations (1). The use of properly trained staff has been implicated as a tool for success (2).

A collaborative effort as an initiative to improve positive outcome cannot be overestimated. A lot of programs have focused on interaction between their pharmacist and the physicians to determine the most effective management of blood pressure. This also improved compliance when patients' questions are answered from both from a pharmacokinetics and pharmacodynamics perspective (3). Collaborative care group process has also decreased hospitalization and overhead cost (5).

A predictive modeling also showed that blood pressure telemonitoring in a clinical practice is likely to lead to reduced cardiovascular morbidity and mortality in a cost-effective way

(4). Most of the time, this may help reduce frequency of visits to the clinic, making it convenient for the patient to be more compliant. Moreover, the process can be accomplished via nursing visit alone or via home blood pressure monitoring by a Primary Care Provider (10). A very important reason to quickly address outliers is adequate care of vulnerable population. As a result, primary care must work with social services and community organizations to constantly address any unjust structure to improve health (8). Furthermore, a particular data set suggested that systolic blood pressure can be lowered by reducing mental and physical stress (6).

In conclusion, high blood pressure is a major modifiable risk factors for cardiovascular disease (CVD). In addition to being prevalent, it is associated with the strongest evidence for causation (9). Improving the process that addresses the best way to control high blood pressure is a working progress.

## Method

Data Description: A total of thirty statistical metrics were identified with hypertension and assigned to a primary care provider in the local VISTA PCMM program. The metrics identified by Primary Care Report Advisory Committee as those uniquely helpful to the management of hypertensive patients for which an available identified data source is available, i.e., vital signs data, weight data, prescriptions."

**Data Sources:**

**Pharmacy Data:** PBM Lab outpatient file containing prescriptions data extracted from local VISTA.

**Blood Pressure Data & Weight Data:** Corporate Data Warehouse Vitals file extracted from local VISTA

**Primary Care Panel Patients:** Each primary care provider's panel of patients is assembled from extracts from the VISTA Primary Care Management Module of each facility.

**Update Frequency:** Monthly

**Server:** vhaaacdw20.DMPrimaryCare

**Point of Clarification:**

There are no exclusions from the measures of any patient because of age, gender, ethnicity, or co-morbidities or on the basis of a clinic type. These are different from any measures that are assessed by the Office of Quality and Performance where age, gender, ethnicity, co-morbidities, and visits to NEXUS clinics may be additional qualifiers that could exclude or include a patient in the population. The intent of the Primary Care measures is to focus on the patient panel population in general.

**Measures**:

Primary Care Patient is included in Denominator of the following measures if patient is diagnosed as a hypertension patient according to the following:

- One Inpatient Diagnosis and one Outpatient Diagnosis or Two Outpatient Diagnoses discharge date (or census discharge date) is within the 24 month window, or the outpatient visit is within the 24month window. Exclude Telephone, Employee Health, C&P and Collateral stops.
- For outpatient visits the encounter must have a midlevel provider or higher level on the encounter for inclusion in the cohort definition.

**HTN-AVG DCG** – The Average DCG for hypertensive patients on Primary Care panel, averaged at each level of summary. A patient's DCG score is based on his/her demographics (age, gender) and recorded diagnoses from VHA inpatient, outpatient, and fee records over a 12 month period. The methodology groups ICD9 codes into one of 30 aggregate condition categories (ACCs) and weighs these against Medicare costs for similar groupings. A high average DCG score indicates a panel of patients that are complex.

**HTN-Blood Pressure Metrics** – There are seven Blood Pressure Metrics for Hypertensive patients assigned to a Primary Care Provider:

- %HTN-BP Systolic < 120 and Diastolic < 90
- %HTN-BP Systolic >= 120 and < 130 and Diastolic < 90
- %HTN-BP Systolic >= 130 and < 140 and Diastolic < 90
- %HTN-BP Systolic >= 140 and < 150 and Diastolic < 90
- %HTN-BP Systolic >= 150 and < 160 or Diastolic >= 90 and < 100
- %HTN-BP Systolic >= 160 or Diastolic >= 100
- %HTN-Blood Pressure Not Measured

For all of the Blood Pressure Metrics, the following applies:

Blood Pressure value used in metric is last blood pressure recorded in Vitals package in the prior 12 months of the applicable timeframe, with the following exclusions:

» Inpatient Blood Pressures and Blood Pressures taken on the day of a Surgery are excluded from the metric

» Blood Pressures recorded in the following DSS stop codes in the primary position are excluded: 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 130, 131, 149, 150, 151, 152, 153,321, 328, 329, 330, 333, 334,429,421,430,435,602, 603, 604, 605, 606, 607, 608,609, 610, 611, 640, 641, 642, 643, 650, 651, 652,653, 654, 655,656, 658, 670, 674

» Diastolic BP >200 and Systolic BP >300 are excluded from the measurements

**HTN-Weight Metrics** – There are three weight metrics for hypertensive patients assigned to a primary care provider.

- Percent of Patients with BMI between 30-39.9 (Obese)
- Percent of Patients with BMI >= 40 (Extremely Obese)
- Percent of Patients with Weight Recorded in prior 12 months

**HTN-Co-morbidities Metrics** – There are five metrics for hypertensive patients assigned to a primary care provider indicating the percent of hypertensive patients with an additional chronic condition diagnosis. The chronic condition assignment to a patient is by the same methodology as is used for Hypertension.

- %HTN Patients with History of Ischemic Heart Disease
- %HTN Patients with History of Congestive Heart Failure
- %HTN Patients with History of Peripheral Vascular Disease
- %HTN Patients with History of Cerebral Vascular Accident or residual effects of
- %HTN Patients with History of Diabetes Mellitus

**Discussion of Validation**

**Validation Findings:** Validation is accomplished through comparison of data findings from the CDW and the PBM by comparing to three different VISN Data Warehouses. Data has been reviewed from VISN09, VISN16, and VISN18 relative to the associated data sources. Initial findings revealed that the PBM outpatient pharmacy data is complete.

Findings from the warehouses indicated that the data obtained from the CDW is current and accurate and no concerns were uncovered.

Validation of the PCMM patient assignments revealed significant problems with the data and meetings were held with the OI&T staff responsible for writing the VISTA extracts and producing the SAS files. It was identified that records were being missed. Corrections were made to the extract logic and the PCMM Assignment SQL Table now contains only open assignments and those assignments that have been closed."

There will be a retrospective review of data obtained from the database semiannually. Whereas the long-term plan is the extract data for utilization biannually, data will be examined every one to two months for the initial review of the process. Result from each month will be compared to the previous months.

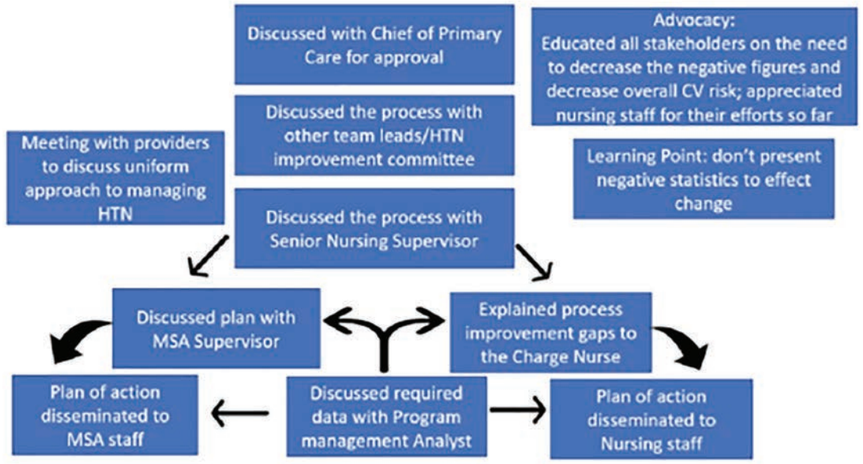
This is a summary of Clinic data from FY2021

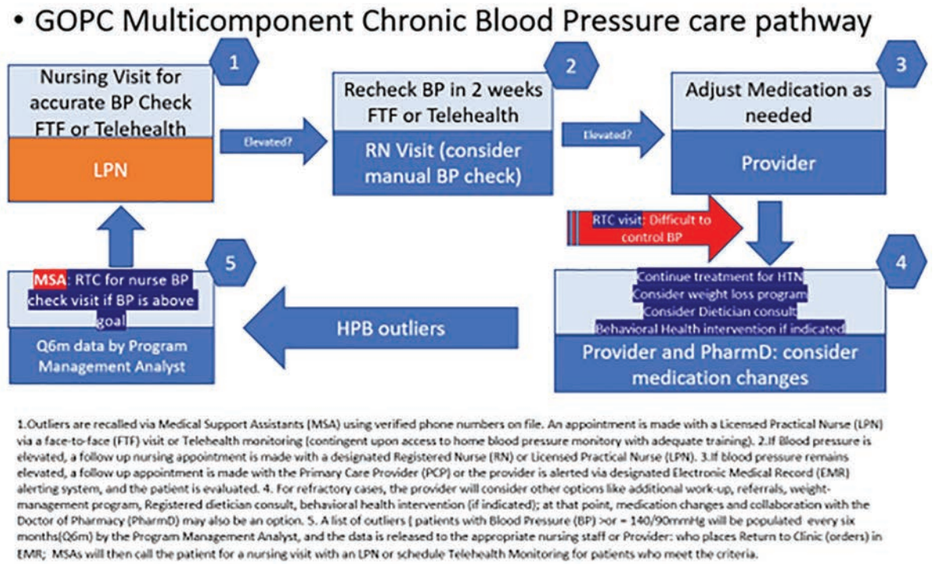
| Metric* | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | CUM | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Panel Patients Assigned*** | 12.4K | 12.5K | 11.2K | 12.4K | 12.4K | 12.5K | 12.5K | 11.5K | 11.4K | 11.4K | 12.4K | 12.5K | | |
| HTN-Panel Patients** | 6.4K | 6.4K | 5.9K | 6.4K | 6.4K | 6.4K | 6.4K | 6K | 5.8K | 5.8K | 6.3K | 6.2K | | |
| % Panel-Hypertensive | 51.7% | 51.7% | 52.8% | 52% | 51.7% | 51.4% | 51.5% | 51.7% | 51.4% | 50.6% | 50.4% | 50.1% | | |
| HTN-Avg NOSOS | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 | | |
| %HTN-BP Systolic <120 and Diastolic <90 | 19.8% | 19.4% | 19.7% | 19.2% | 19% | 18.7% | 18.1% | 17.8% | 18.1% | 18.2% | 18.1% | 18.3% | 18.7% | |
| %HTN-BP Systolic >= 120 and < 130 and Diastolic <90 | 32.9% | 32.9% | 32.9% | 32.9% | 32.2% | 31.3% | 31% | 29.9% | 28.8% | 28.3% | 29% | 29.3% | 31% | |
| %HTN-BP Systolic >= 130 and < 140 and Diastolic <90 | 20% | 20% | 19.5% | 19.8% | 20.5% | 22.7% | 24.1% | 25.7% | 26.6% | 27.2% | 27.5% | 27% | 23.3% | |
| %HTN-BP Systolic >= 140 and < 150 and Diastolic <90 | 10.3% | 10.7% | 10.4% | 11% | 11.2% | 10.5% | 10.3% | 10.1% | 10.2% | 9.9% | 9.8% | 9.9% | 10.4% | |
| %HTN-BP Systolic >= 150 and < 160 or Diastolic >=90 and <100 | 11% | 10.9% | 11.1% | 10.9% | 11.1% | 10.8% | 10.7% | 11% | 10.8% | 11.1% | 10.7% | 10.8% | 10.9% | |
| %HTN-BP Systolic >= 160 or Diastolic >=100 | 5% | 5% | 5.3% | 5.2% | 5.1% | 5% | 4.8% | 4.7% | 4.7% | 4.6% | 4.5% | 4.4% | 4.9% | |
| %HTN-Blood Pressure Not Measured | 1% | 1.1% | 1.1% | 1% | 1% | 1% | 0.9% | 0.9% | 0.8% | 0.8% | 0.4% | 0.3% | 0.9% | |
| %HTN-Obese (BMI 30-39.9) | 23% | 21.5% | 19.6% | 21.2% | 22% | 22.7% | 23.5% | 24.1% | 24.4% | 24.9% | 25.3% | 25.9% | 23.2% | |
| %HTN-Extremely Obese (BMI >=40) | 3.4% | 3.2% | 3.1% | 3.3% | 3.4% | 3.5% | 3.6% | 3.7% | 3.8% | 3.8% | 3.9% | 4% | 3.6% | |
| %HTN-Weight Recorded Annually | 64.1% | 59.7% | 59.5% | 64.7% | 69.1% | 73.3% | 76.7% | 80.1% | 82.3% | 83.7% | 84.9% | 85.5% | 73.5% | |
| %HTN Patients with Hx of IHD | 19.8% | 20% | 20.1% | 20% | 20.1% | 20.2% | 20.3% | 20.8% | 21% | 21.1% | 20.6% | 20.8% | 20.4% | |
| %HTN Patients with Hx of CHF | 4.2% | 4.2% | 4.3% | 4.4% | 4.4% | 4.4% | 4.5% | 4.7% | 4.5% | 4.7% | 4.5% | 4.4% | 4.4% | |

**Design:**

The project was discussed with the leadership. A multicomponent team approach was designed to implement changes to the current process. Currently, the data that guides the designed plan for identifying outliers is only populated once a year. The data will be extracted biannually to improve the process and to capture more outliers. Furthermore, the current process does not stipulate a plan for the nursing staff and the physicians or Advanced Practice Providers to work together on the same project. Therefore, the project brings all stakeholders together to achieve the desirable end-points.

The initial process does not involve direct physician encounter, making it easier for patient to access the right personnel. The patient is immediately routed through the appropriate channels once an abnormality is found.



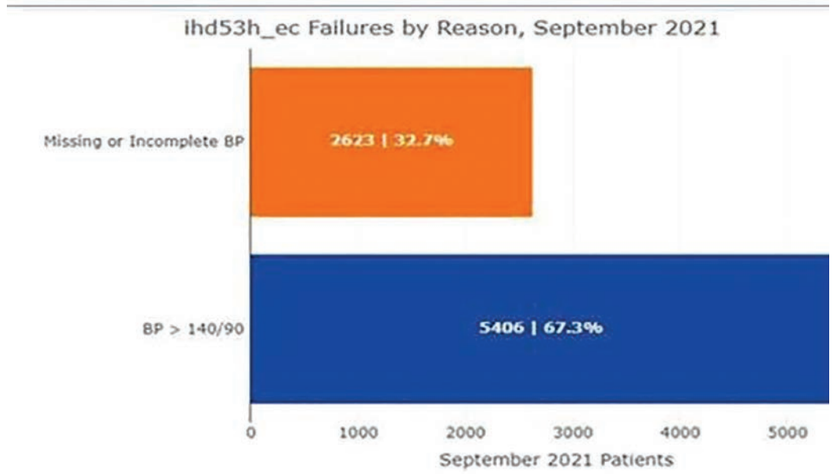

1.Outliers are recalled via Medical Support Assistants (MSA) using verified phone numbers on file. An appointment is made with a Licensed Practical Nurse (LPN) via a face-to-face (FTF) visit or Telehealth monitoring (contingent upon access to home blood pressure monitory with adequate training). 2.If Blood pressure is elevated, a follow up nursing appointment is made with a designated Registered Nurse (RN) or Licensed Practical Nurse (LPN). 3.If blood pressure remains elevated, a follow up appointment is made with the Primary Care Provider (PCP) or the provider is alerted via designated Electronic Medical Record (EMR) alerting system, and the patient is evaluated. 4. For refractory cases, the provider will consider other options like additional work-up, referrals, weight-management program, Registered dietician consult, behavioral health intervention (if indicated); at that point, medication changes and collaboration with the Doctor of Pharmacy (PharmD) may also be an option. 5. A list of outliers ( patients with Blood Pressure (BP) >or = 140/90mmHg will be populated every six months(Q6m) by the Program Management Analyst, and the data is released to the appropriate nursing staff or Provider: who places Return to Clinic (orders) in EMR; MSAs will then call the patient for a nursing visit with an LPN or schedule Telehealth Monitoring for patients who meet the criteria.

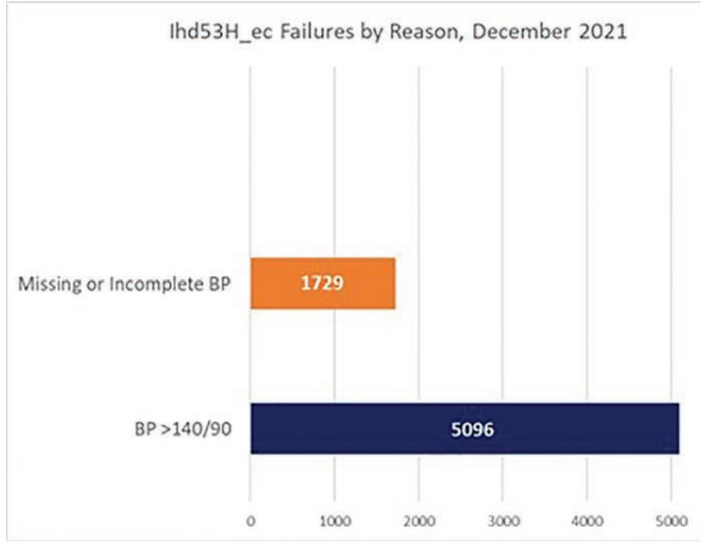


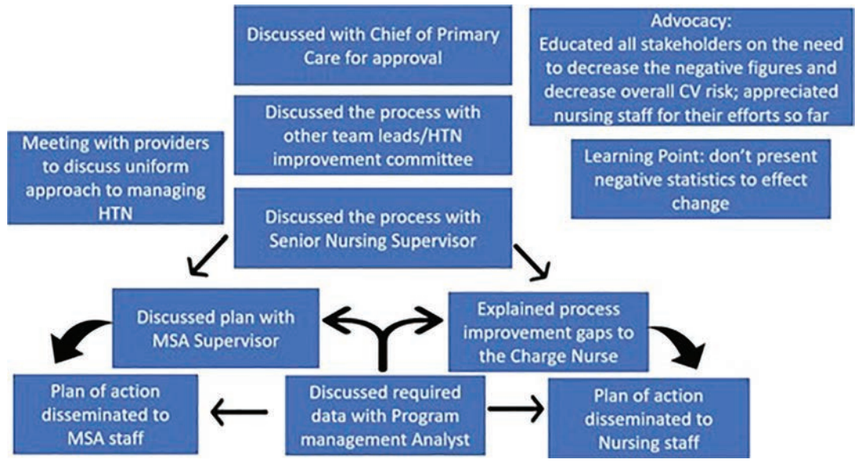
*Strategy:* Plan-do-recheck method.

From the nursing angle, evidence-based education is provided to the PACT nursing staff on proper blood pressure measurement prior to initiation of the improvement process. Furthermore, a mandatory review of the nurse protocols was also ensured, in addition to proper orientation.

Subsequently, a standardized hypertension template for nursing was created within the electronic medical record system to ensure consistency. The nursing staff was also trained on how to quickly identify all the clinical reminders for the purpose of timely response.






**Results**

Initially each PACT did not have a consistent number of patients. However, among all twelve teams, 5 (42%) had increased number of outliers within a month. The total number of outliers compared to previous months over 2 months that were surveyed was similar. All the seven teams with decrease in the number of outliers showed significant reduction in number of patients with blood pressure above goal compared to previous month. Some of the teams with increased number of outliers had recently gained new providers, so more patients without providers were added to their panels.

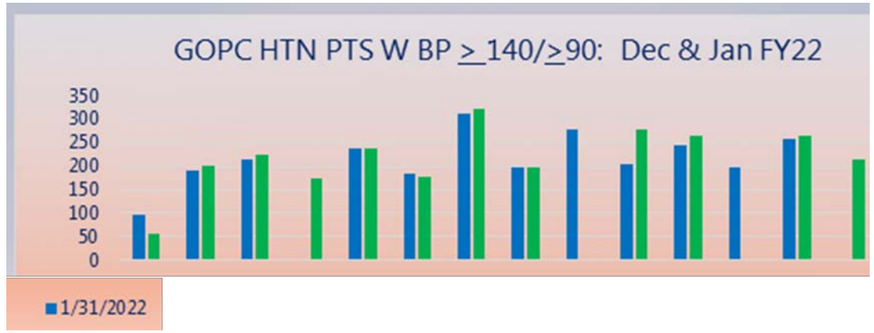
We compared the number of patients who have not met the blood pressure goal for current months to the data from the previous month. In December 2021, a total of 2608 outliers were identified, while in January 2022, total of 2612 and labs were identified.

Initially, we discovered that more patients were captured in the subsequent data. Although, this is not a desired outcome, the initial data suggests that the process is able to capture more outliers. The result was also undermined by the constant reorganization of each PACT fueled by physician loss within the clinic. The obtained data can guide patient care management. The database will be updated based on real-time data in the electronic medical record database.

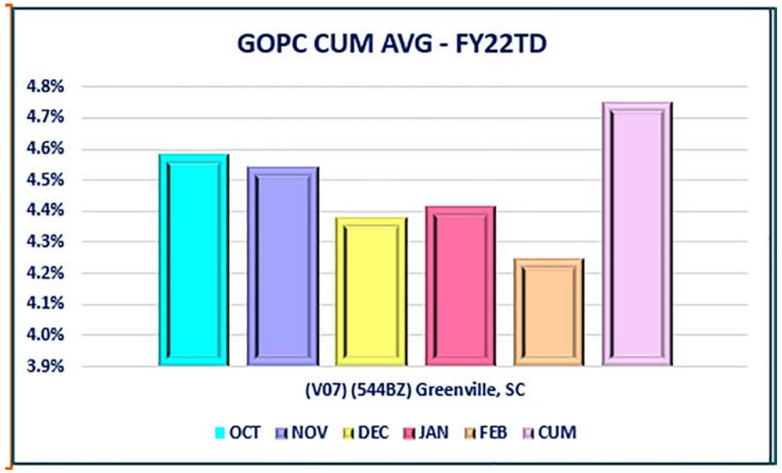
Data from January 2022 (left), December 2021 (right)

| Systolic >= 140 or Diastolic >= 90 January FY22 |
|---|
| # OF PATIENTS |
| 98 |
| 191 |
| 215 |
| 237 |
| 185 |
| 310 |
| 197 |
| 277 |
| 204 |
| 243 |
| 198 |
| 257 |
| 2612 |

| # OF PATIENTS |
|---|
| 56 |
| 200 |
| 225 |
| 173 |
| 236 |
| 178 |
| 320 |
| 198 |
| 279 |
| 264 |
| 264 |
| 215 |
| 2608 |

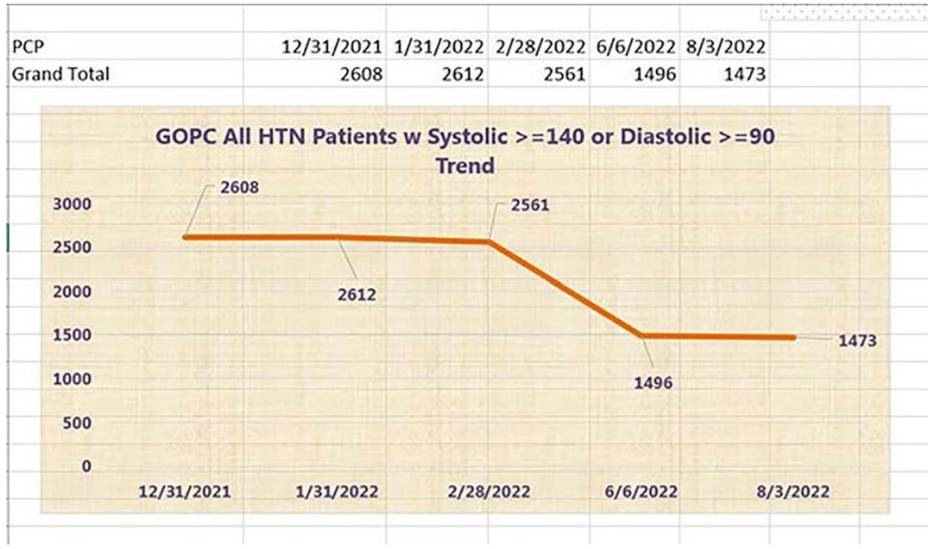



The graph shows a significant reduction in the number of outliers by February of 2022




Average DDG score also improved: likely due to improvement in the process: Average Discounted

| PCP | 12/31/2021 | 1/31/2022 | 2/28/2022 | 6/6/2022 | 8/3/2022 |
|---|---|---|---|---|---|
| Grand Total | 2608 | 2612 | 2561 | 1496 | 1473 |



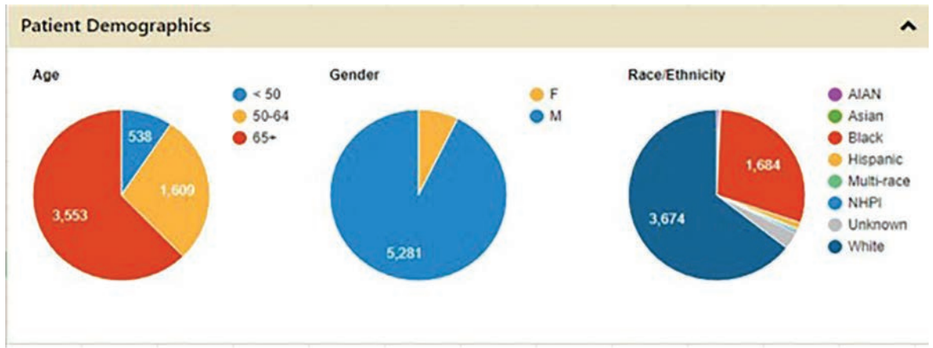
Cumulative Gain (DCG) score for hypertension: The average DCG score for hypertensive patients is based on the patient's demographics (i.e., age and gender), the recorded diagnosis and fee records over 12 months. The methodology groups ICD-9 codes into 1 of 30 aggregate condition categories (ACC) and wears these against Medicare costs for similar groupings. A high average DCG score indicates a panel of patients that are complex.

**Lessons and limitations**

The is a time-bound project, but there is not enough time to study the effect of the changes made to the process. While there is a need to improve the process, some of the staff members were initially dissuaded by negative data. We took lesson from a recent review of 500 charts across different community-based outpatient clinics (CBOCs). Based on the chart review, Diabetic patients with ischemic heart disease did poorly on the blood pressure control measure. As a result, we asked them to start the re-call process with the few patients in high-priority category, and then advance to addressing the other patients as tolerated. This enabled encouraged staff compliance.

The consistency of data may be undermined by patients who chose not to follow up because their blood pressure was re-checked in the Emergency Room or Urgent Care outside of the VA. Those patients have decided not to return to Primary Care clinic for blood pressure follow up. There is also similar experience with patients with dual primary care providers. Other factors include age, gender, and ethnicity. More specifically, there is an uneven male to female ration among the veteran populations (see figure below titled "patient demographics").

In summary, more time is needed to accurately assess the endpoint of the process improvement.




**Conclusion**

The north point of this project is a reduction in the number of patients who remain at risk for cardiovascular event either because of non-compliance or impediments relating to social determinants of health.

So far, data reported has demonstrated ability to capture outliers. Initially, there was an increase in number of patients with blood pressure above goal of 140/90 mmHg.

However, this is expected to decrescendo once intervention phase begins. The overall success will be a decrease the incidence of cardiovascular events among patient population in a community.

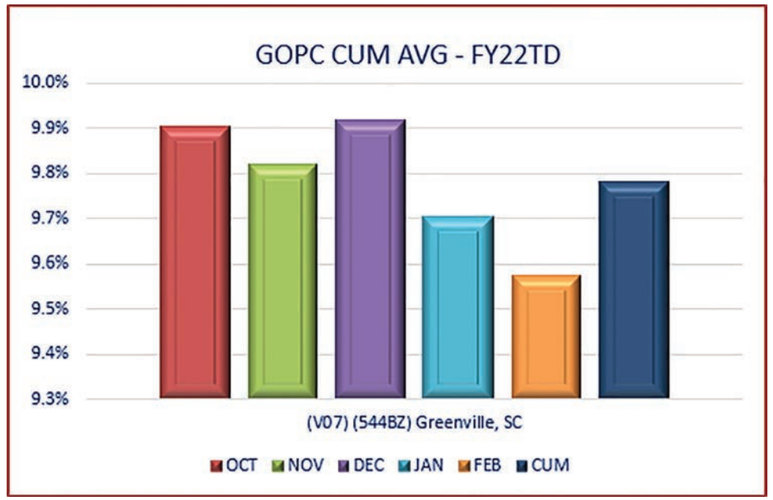
There may be other factors of the pandemic affecting overall patient care. This overall project is meant to decrease cost of healthcare, improve patient reported experience of their care, and improve the overall health of the community. For instance, if hospitalization is decreased, there is a better chance of decreasing healthcare cost per patient (5).



The structure of the project resulted in even workflow; therefore, without need for new computer technology or structural technology, there is a greater chance of sustainability. As a result, the effects of the process improvement can be monitored over time, to ensure sustained improvement in overall patient health. Similar process can be introduced to pharmacies with attached minute clinics, urgent care centers, as well as other community- based clinics.

We advocate the use of electronic database whereby any medical provider can access patients' vital signs for the purpose of continuity of blood pressure monitoring, and for continuity of care. This will also decrease outlier situation. In addition, metrics identified by Primary Care Report Advisory Committee as those uniquely helpful to the management of hypertensive patients for which an available identified data source is available, i.e., vital signs data, weight data, prescriptions, were also identified.

At the wee hour of the project, cost was a factor. However, the return of investment on this project was $1.3M after the first quarter.



**References:**

Shaw, Ryan J et al. "Organizational factors associated with readiness to implement and translate a primary care based telemedicine behavioral program to improve blood pressure control: the HTN-IMPROVE study." Implementation science : IS vol. 8 106. 8 Sep. 2013, doi:10.1186/1748-5908-8-106

Birkett NJ, Abbott D, Campbell NR, Chockalingam A, Dagenais GR, Hogan K. Self- measurement of blood pressure: issues related to the training of patients. Canadian Coalition for High Blood Pressure Prevention and Control. Can J Cardiol. 1995 Nov;11 Suppl H:23H-27H. PMID: 7489540.

Matzke GR, Moczygemba LR, Williams KJ, Czar MJ, Lee WT. Impact of a pharmacist- physician collaborative care model on patient outcomes and health services utilization. Am J Health Syst Pharm. 2018 Jul 15;75(14):1039-1047. doi: 10.2146/ajhp170789. Epub 2018 May 22. PMID: 29789318.

Ionov MV, Zhukova OV, Zvartau NE, Konradi AO. [Blood pressure telemonitoring and remote counseling in uncontrolled hypertension]. Ter Arkh. 2021 Jan 10;93(1):30-40. Russian. doi: 10.26442/00403660.2021.01.200590. PMID: 33720623.

Matzke GR, Moczygemba LR, Williams KJ, Czar MJ, Lee WT. Impact of a pharmacist- physician collaborative care model on patient outcomes and health services utilization. Am J Health Syst Pharm. 2018 Jul 15;75(14):1039-1047. doi: 10.2146/ajhp170789. Epub 2018 May 22. PMID: 29789318.

Trapp M, Trapp EM, Egger JW, Domej W, Schillaci G, Avian A, Rohrer PM, Hörlesberger N, Magometschnigg D, Cervar-Zivkovic M, Komericki P, Velik R, Baulmann

Impact of mental and physical stress on blood pressure and pulse pressure under normobaric versus hypoxic conditions. PLoS One. 2014 May 9;9(5):e89005. doi:

Matson Koffman D, Granade SA, Anwuri VV. Strategies for establishing policy, environmental, and systems-level interventions for managing high blood pressure and high cholesterol in health care settings: a qualitative case study. Prev Chronic Dis. 2008 Jul;5(3):A83. Epub 2008 Jun 15. PMID: 18558033; PMCID: PMC2483567.

Am Board Fam Med. 2018 Mar-Apr;31(2):292-302. doi: 10.3122/jabfm.2018.02.170256. PMID: 29535248.

Fuchs FD, Whelton PK. High Blood Pressure and Cardiovascular Disease. Hypertension. 2020 Feb;75(2):285-292. doi: 10.1161/HYPERTENSIONAHA.119.14240. Epub 2019 Dec 23. PMID: 31865786.

Weinfeld JM, Hart KM, Vargas JD. Home Blood Pressure Monitoring. Am Fam Physician. 2021 Sep 1;104(3):237-243. PMID: 34523884.

VSSC Primary Care Almanac Hypertension Patient Related Reports Last Update: 10/04/2010

Acknowledgements: Ms. Greta Walker, Columbia VAMC Nursing leadership



# Creativity: Another Way to Practice Wellness and Self-Care

Joy Avery

**Introduction**

The COVID-19 pandemic has caused widespread stress and anxiety. This has resulted in a negative impact on health (www.apa.org). Mental health concerns have increased at an alarming rate.

In a 2020 survey by the American Psychological Association (APA), the pandemic was labeled as a significant stressor. (www.apa.org). The long-term activation of the stress response system and the overexposure to cortisol and other stress hormones that follows can disrupt almost all of the body's processes. This puts individuals at increased risk of many health problems, including (www.mayoclinic.org):

- Anxiety
- Depression
- Digestive problems
- Headaches
- Muscle tension and pain
- Heart disease, heart attack, high blood pressure and stroke
- Sleep problems
- Weight gain
- Memory and concentration impairment

Creativity has shown to effectively reduce negative impacts of stress (Daker et al., 2020). It has further been shown that creativity is strongly correlated to wellbeing (Kilroy et al., 2007), which is a vital issue in today's post-pandemic society.

Creativity (www. oxfordlearnersdictionaires.com) is defined as the use of the imagination or original ideas, especially in the production of an artistic work. Wellness (www. oxfordlearnersdictionaires.com) is defined as the state of being in good health, especially as an actively pursued goal. Self-Care (www. oxfordlearnersdictionaires.com) is defined as the practice of taking an active role in protecting one's own wellbeing and happiness, during periods of stress. Combined, these three things can have a powerful and lasting impact on both physical and mental health.

Creativity for wellness is not a new concept. It is used by many organizations that promote employee health and wellbeing. Wellbeing in the workplace can promote a positive attitude about and raise the level of employee engagement because they feel the company cares about their environment, work-life balance, and mental health.

Creative expression can be a healthy way to cope with life stressors (www.phasassociation.org). Creativity does not have to require specialized skills, making it possible for anyone to practice it.

Cristol (2021) suggests, “Dopamine plays a role in how we feel pleasure.” Creativity usually takes concentration and can lead to the feeling of a natural high.

Being creative can reduce stress and anxiety, increase positive emotions, decrease depressive symptoms, reduce distress, and negative emotions, boost the immune system, increase self-esteem and feelings of accomplishment, improve concentration, and focus, and increase happiness (Benayon, 2017).

Creativity can be expressed in many ways: through music, writing, drawing, painting, sculpting, gardening, and even something as simple of coloring.

A 2010 review on the benefits of creativity concluded that creative expression has a powerful impact on health and wellbeing (Stuckey & Nobel).

The purpose of the Creativity: Another Way to Practice Wellness and Self-Care project was to explore the relationship between creativity and wellness. The goal for this project was to highlight the ease of incorporating simple creative activities into the daily routine to reduce stress and promote better health.

This project is relevant to clinicians in both a private practice and hospital setting, particularly after a stressor like COVID.

The project took a hands-on approach, giving participants the opportunity to experience, firsthand, the benefits of being creative.

The project relied on participants being motivated enough to engage themselves in the provided activities. According to a Positive Psychology article, “motivation is a pathway to change our way of thinking, feeling, and behaving” (Souders, 2019).

**Method:**

Eighteen participants were included in the project. The ages of participants ranged from 45 to 62 and was a diverse group of males (10%) and females (90%). Several pre-selected creative activities were sent to participants, including Creativity for Wellness Word Search Puzzle, Whimsical Butterfly Coloring Page, Prompted Poem: A Blue Cat Sitting on a Lily Pad, Dotted Freehand Draw. Participants were expected to complete these tasks weekly over a period of four weeks.

The list of creative activities provided to participants were based on personal experience performing these activities to reduce stress. Simple, easy-to-complete tasks were initially given to demonstrate the ease of incorporating such activities into daily life.

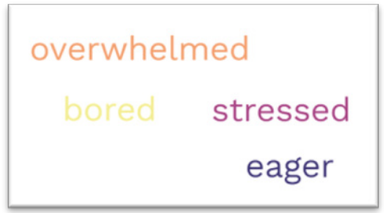
Participants completed tasks individually.

Participants logged their state-of-being before, during, and after completing each task. After the month-long assessment, each participant received a survey that questioned the effectiveness of using creativity as a means of wellness (see Appendix A).

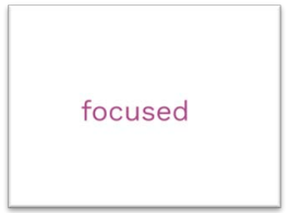


**Results:**

When asked questions submitted with activity, how do you feel before completing this activity, participants responded with comments such as: overwhelmed, bored, stressed, and eager.




Participants where asked, while completing this activity, were you focused only on it or did your thoughts drift to something else. 100% of the participants responded with focused.




When asked, how do you feel after completing this activity, participants overwhelming offered positive responses such as: revived, great, refreshed, happy motivated, successful.


Participants responded that each activity motivated them to complete the task and improved their mood during and hours after.

An interesting result recorded in one activity, Prompted Poem, was how eager some participants were to share their poems and the excitement they displayed when talking about completing this activity.

Participation remained good up until the last two tasks. Several things could have contributed the lack of participation in these activities, a personal dislike for the activity, time constraints, or a decrease in motivation. Activities one and two yielded the highest completion rate at 100 percent. Activity three yielded an 85 percent completion rate. Activity four yielded an 85 percent completion.

**Discussion:**

The analysis of this project supports the research surrounding the impact of creativity on wellbeing and that being creative is a viable way of practicing wellness and self-care. Participants reported an increase in positive emotions and reduction in stress after completing the activities.

The positive affirmation derived from the results suggests that using creative activities can be a useful tool. Some of the comments were:

"I felt successful in actually completing a project."
"Helped in starting another project with better attitude."

In the word search activity, some participants reported enjoying the task more because of the positive words:

"Changed my mood for the better because of the positive words"

The successes of the project included participants committing to discovering new ways to practice wellness, discovering how easy it can be to proactively pursue wellness through simple tasks, introduction of new ways to reduce stress and anxiety, positive feedback from project participants.

The main challenge of the project was recruiting more people to participate.

I tapped into several leadership skills while completing this project. Communication was important for relying exactly what needed to be down with each activity. Creativity was used when deciding which activities would stimulate and bore participants. Motivation was used when encouraging participates to complete tasks in a timely manner. Decision making was used when deciding what activities would be provided. Organization was used when keeping a record of what activities were used and the results of each. Problem-solving and collaboration helped when interacting with participants.

**Conclusion:**

Beyond the results of this project, I learned that individuals are open and eager to explore wellbeing practices, but not always in conventional ways.

Based on my study, I found that finding ways to reduce stress, practice wellness and self-care doesn't have to be tedious or time consuming.

The NCMS has made wellness and resilience a top priority. I'm confident that an initiative that highlights creativity as wellness will be widely accepted.

Health Systems have an opportunity to encourage wellbeing through creativity. Systems can offer initiatives through recognition and rewards program to get employees interested/excited and actively encourage employees to try something new (painting, music, drawing), offer activities during meetings, creative a specific wellness day.

The main takeaways from this project are that creativity doesn't have to be expensive or time consuming, and that creativity is an efficient way to reduce stress and anxiety. Being creative can further improve concentration, motor skills, and boost self-esteem.

Considering the findings from this study, for future work, it is reasonable to suggest it is of vital importance that companies take a closer look at the connection between creativity and wellbeing.



Not only does being creative promote better health—resulting in happier employees and a more reliable workforce—but implementing creativity within an organization can promote engagement amongst employees, strengthening relationships.

**References**

Benayon, C. (2017). How Creativity Improves Mental Health and Wellness, https://www.huffpost.com/archive/ca/entry/how-creativity-improves-mental-health-and-wellness_a_23016111

Cristol, H. (2021). What Is Dopamine? https://www.webmd.com/mental-health/what-is-dopami

Chronic stress puts your health at risk, https://www.mayoclinic.org/healthy-lifestyle/stress-management/in-depth/stress/art-20046037

Daker, R. J., Cortes, R. A., Lyons, I. M., & Green, A. E. (2020). Creativity anxiety: Evidence for anxiety that is specific to creative thinking, from STEM to the arts. Journal of experimental psychology. General, 149(1), 42–57. https://doi.org/10.1037/xge0000630

Kilroy, A., Garner, C.W., Parkinson, C., Kagan, C., & Senior, P. (2007). Towards transformation: exploring the impact of culture, creativity and the arts of health and wellbeing. Oxford Dictionary: https://www.oxfordlearnersdictionaries.com/us/definition/english/creative_1

Oxford Dictionary: https://www.oxfordlearnersdictionaries.com/definition/english/wellness?q=wellness

Oxford Dictionary: https://www.oxfordlearnersdictionaries.com/us/definition/english/self-care?q=Self-Care

Pulmonary Hypertension Association: https://phassociation.org/patients/living-with-ph/teens/teen-issues/creative-expression-as-a-coping-tool/

Souders, B. (2019). The Vital Importance and Benefits of Motivation. https://positivepsychology.com/benefits-motivation/Stuckey, H. L., & Nobel, J. (2010). The connection between art, healing, and public health: a review of current literature. American journal of public health, 100(2), 254–263. https://doi.org/10.2105/AJPH.2008.15649

Stuckey, H. L., & Nobel, J. (2010). The connection between art, healing, and public health: a review of current literature. American journal of public health, 100(2), 254–263. https://doi.org/10.2105/AJPH.2008.156497

Stress in America™ 2020: A National Mental Health Crisis, https://www.apa.org/news/press/releases/stress/2020/report-october

**APPENDIX: Survey Questions**

- Did completing these activities affect your mood? If so, how?
- How did you feel before the activities?
- How did you during activities?
- How did you feel after activities?
- Did these activities help you to relax?
- While completing these activities, were you focused only on it or did your thoughts drift to something else.
- Do you plan to incorporate creatives into your daily life?
- Do you currently practice any form of wellness?
- Do you plan to incorporate wellness activities into your daily routine?
- Overall, do you feel these activities were beneficial?

# The Trauma-Informed Pelvic Exam: Providing patient-centered care to facilitate a positive healthcare experience and better patient outcomes

Caitlin Heredia, MPAS, PA-C

## Introduction

The pelvic exam is one of the most dreaded examinations that exists in the outpatient healthcare setting. In addition to the vulnerability a pelvic exam requires from the average patient and discomfort they may endure, a number of people experience a higher level of anxiety about pelvic exams because of a history of sexual trauma. A history of sexual trauma may deter a person from seeking treatment for gynecological concerns or obtaining preventive care such as cervical cancer screening (Farley, Golding & Minkoff, 2002), which could lead to higher incidences of advanced cancer at presentation. When a person does present for gynecological care, they may decline a provider's recommendation for pelvic exam or endure it with fear and stress, thereby increasing the risk for retraumatization. Alternatively, studies suggest that people who have experienced sexual violence may experience more health problems than those who have not, including gynecologic, mental health, and other physical problems (Sharkansky, 2017). Failure to consider the potential impact of sexual trauma on a patient's health could not only limit comprehensive care but also undermine the patient-provider trust relationship.

According to CDC data, it is estimated that one in five women have been sexually assaulted (Tjaden & Thoennes, 1998), although it is believed that this data may not account for the true incidence of sexual assault or abuse cases due to lack of victim reporting (Nesterak, 2020). Those who have experienced sexual trauma, as well as those who have not, may be more likely to seek care for gynecologic concerns when medical providers are sensitive to their needs and emotional concerns.

People from all socioeconomic statuses experience sexual trauma, but those who are in lower socioeconomic statuses may be more at risk than those of middle and higher socioeconomic groups (Briggs & Hawkins, 1996). In addition to barriers such as potentially lacking resources to attend appointments due to transportation, cost, and childcare concerns, failing to acknowledge patients' individual needs for pelvic exams may further the healthcare disparities seen in lower socioeconomic groups and minorities.

Although it is especially important to consider those who have experienced sexual trauma when approaching a patient presenting for a gynecologic visit, the average person who does not have a history of sexual trauma will benefit from careful attention to language, positioning, and creating awareness around patient autonomy during the visit. It is recommended that providers use a trauma-informed approach when performing a pelvic exam on all patients. Ravi and Little in an AAFP article suggest that trauma-informed care should be considered a "universal precaution" to ensure patients receive quality and comprehensive care without increasing the likelihood of causing new trauma (Ravi & Little, 2017).

This project seeks to identify ways to create a better patient experience regarding pelvic examinations by educating medical providers about performing pelvic exams using a trauma-informed perspective with the goal of improving health outcomes and fostering a healthy patient-provider relationship. The project is particularly relevant in the university population, not because sexual assault or abuse happen solely within this age group, but because sexual trauma has often occurred in recent years for these individuals. Many patients are also presenting for their first

pelvic exams. The project contained a training-based approach to improving medical provider awareness and education about trauma-informed pelvic exams in this practice.

**Methods**

The primary setting of this project is in a university-based health center, where patients commonly range from age 17 to middle-age, but the average patient age is 21 years-old. The training portion of the project consisted of a 30-minute session that discussed trauma-informed pelvic exam strategies, many of which will be discussed below. Approval for the training was granted by the practice administration. The training included a compilation of evidence-based recommendations and tools from several trusted sources including American College of Gynecology (ACOG) and the Reproductive Health Access Project. The PowerPoint presentation for the training can be found attached to this paper. Providers involved in the practice were asked to complete a survey before the session and then four weeks after the training to help identify if they retained skills learned during the training.

A trauma-informed approach to pelvic exams uses multiple strategies. The methods of the training session included various topics. The main focuses are affirming the patient being in control and the expert of their body, educating the patient about the exam and keeping them informed throughout, listening to the patient through words and body language, and using non- triggering language and positioning during the exam. Numerous factors may inhibit the medical provider from providing trauma-informed gynecologic care including time limitations, lack of awareness of triggering language or behaviors, or misunderstanding of patient needs.

It can be argued that every patient, whether a history of sexual trauma is present or not, should be approached from a trauma-informed perspective. The training emphasized the importance of setting the stage during the gynecologic visit by meeting the patient initially with their clothing on, sitting down to speak with them, going over the pelvic exam process, and asking if they have any concerns about the process. The patient should be informed that they are in control of the pelvic exam and may pause or discontinue the exam at any time if needed and should be asked what may help make the process more comfortable for them. During the pelvic exam, the medical provider should avoid using triggering language, for example, replacing "bed" with "exam table." The patient may be offered to use the frog-leg position instead of feet in the heel rests (www.reproductiveaccess.org). Many patients prefer the provider to discuss the steps of the procedure with them or even talk about unrelated things like their family or hobbies.

To help inform the training session, a survey was also conducted of people who have had at least one pelvic examination. This survey was collected from individuals in the community and not patients who receive care in the practice. The goal was to survey at least 50 people. A request was made for patients in the clinic to be surveyed, but this was not approved by the practice administration.

**Results**

A survey was administered to the medical providers prior to the trauma-informed pelvic exam training. The purpose was to gain a baseline understanding of the providers' approach to pelvic exams and their awareness of trauma-informed gynecologic care. The survey was administered again to the providers four weeks after the training session to evaluate any practice changes. Nine providers took the pre-training survey, and thirteen providers took the post-training survey. A total of fourteen providers attended the trauma-informed pelvic exam training session.

Out of the thirteen providers who responded to the post-training survey, the majority (61.5%) reported they did not receive education on providing trauma-informed pelvic exams during their medical training. Only three individuals (23%) reported they had received dedicated training; two individuals reported they were "unsure".



It was noted that there was overall not a significant difference in the pre-training and post-training survey results to determine if there was positive change from the training, but there were helpful insights from the survey. For the pre-training survey, 7 of 9 providers (77.8%) reported "most of the time" or "always" informing the patient about their ability to stop the exam at any time versus 10 of 13 providers (76.9%) in the post-training survey. Providers were asked if they ask patients about a history of sexual trauma or concerns about the pelvic exam prior to beginning. In the pre-training survey group, one provider reported they "always" ask, five ask "most of the time," 3 ask "sometimes", and zero ask "never". This is compared to the post-training survey group, where the answers were two "always" ask, six ask "most of the time, four ask "sometimes," and one asks "never." The providers were also asked if they meet with the patient in the room before the patient undresses. In the post-survey group, ten out of thirteen providers (76.9%) reported "always" meeting with the clothed patient prior to the exam as compared to six out of nine providers (66.7%) in the post-survey group.

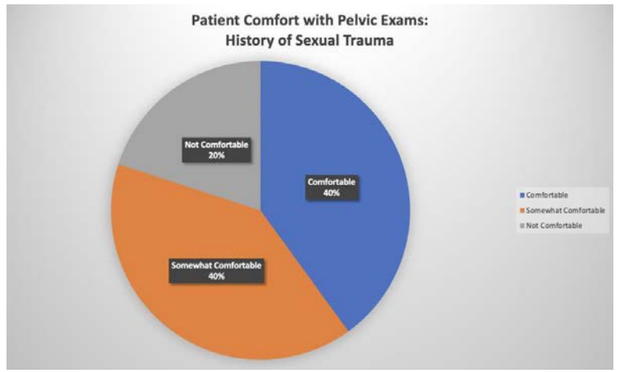



Figure 1

In the community participant survey group, a total of 56 people were surveyed. The most common age range was 31-40, with 33 people making up this group. Fifteen of those surveyed were between ages 21-30. Eleven out of 56 survey participants (19.6%) reported having a history of sexual trauma, most of them (90.1%) reporting having experienced sexual trauma more than 6 years ago. Among the group who had not experienced sexual trauma, the most common answer about comfort level with having a pelvic exam was "somewhat comfortable" (when given the choices comfortable, somewhat comfortable, and not comfortable). Among the group who had experienced sexual trauma, the most common answer was also "somewhat comfortable."

Therefore, 53.3% of those without a history of sexual trauma are "somewhat comfortable" compared to 40% of those with a history of sexual trauma. The fewest number reported being "not comfortable" with a pelvic exam, 13.3% of the no past trauma group and 20% of the past trauma group. (Figure 1 and 2) Out of the 56 survey participants, 47 (83.9%) stated their provider had not asked them if they had a history of sexual trauma or any concerns about the pelvic exam before starting. The most common answer for why a pelvic examination was perceived as a negative experience was because there was pain during the exam (44.6%) (Figure 3), and the most common positive aspect of an exam was having a friendly and reassuring provider (37.5%), followed closely by "medical provider showing genuine concern" (23.2%) and "medical provider explained the exam process" (23.2%). (Figure 4)

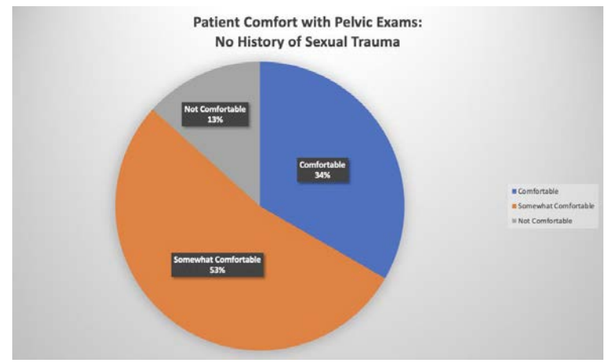



Figure 2

Furthering the goal of providers having conversations with patients about gynecologic health and preventive care, the project leader coordinated with the IT department in the clinic to add

button to the electronic health record (EHR) so providers could efficiently indicate in their note when they encouraged a patient to return for their cervical cancer screening. Providers were informed about the new addition to the EHR and were asked to use the button any time they educated a patient on cervical cancer screening and recommended them to have Pap testing. This addition helped serve as a reminder for providers to discuss preventive care at related or unrelated office visits and helped to streamline administration's ability to easily access quality improvement efforts which are benchmarks for accreditation for the practice.

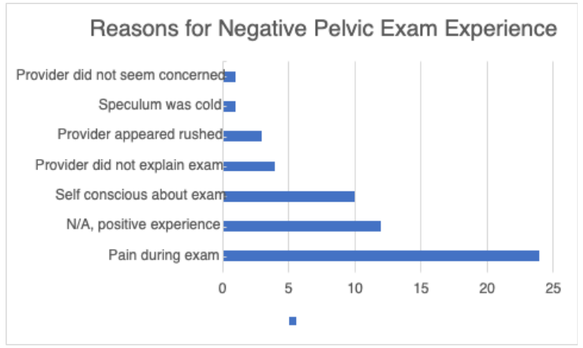



Figure 3

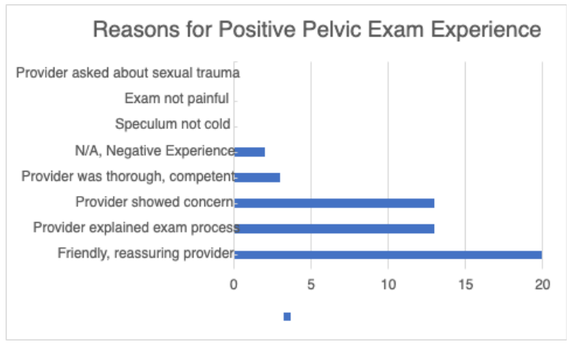



Figure 4

## Discussion

The provider pre- and post-training surveys were administered for the purpose of identifying opportunities for growth and outcomes after the training was provided. Since only nine providers took the pre-training survey and thirteen took the post-training survey, there was a negative impact on data continuity. The sample size was also small. It was noted that overall, this group of providers was fairly knowledgeable on the methods of trauma-informed care at baseline. The university does implement general trauma-informed care training periodically, which likely increases provider awareness of patients' special needs for gynecologic care. Limitations of the provider survey include that some of the providers who attended the training did not complete the survey before or after and some people who did not attend the training session completed the initial survey. Because the surveys were anonymous, there was no way to remove the entries that did not have a pre- or post-training match. A copy of the training slides was distributed to the providers for review, but no other formal follow-up was done. It is possible that the post-survey follow-up period was not an ideal period to allow for more long-term provider practice changes. Verbal feedback from providers who participated in the training was very positive.

The provider survey highlighted a few areas where there is room for improved trauma- informed gynecologic care skills, especially when overlayed by the results from the community patient survey. While the patient survey did not include patients that these providers work with, there were some findings that can likely be generalized to all gynecologic patients. For instance, patients appear to appreciate when providers show genuine concern. While a majority of providers asked their patients about concerns about the pelvic exam, there were a few who only sometimes or never asked. This information suggests that patients benefit and may feel more comfortable when a provider initiates conversation about a patient's emotional wellbeing in addition to the physical aspect.

The community pelvic exam survey was helpful in creating a critical window into the patient perspective in the creation of the training. It provided a framework for what may be beneficial to focus on when educating providers. While the original focus of the project and training was to help identify and differentiate patients who have experienced sexual trauma to provide a more comfortable experience for them, this survey highlighted the fact that many people who have not experienced sexual trauma also have similar anxious feelings about pelvic exams. This helped illuminate the need to treat all patients being seen for pelvic exams with a universal trauma-informed approach. Since many of those who reported a history of sexual trauma stated it occurred more than six years ago, it would be helpful to survey a larger population to identify how more recent sexual trauma may affect patients' comfort with pelvic exams. Additionally, a surprising number of survey participants were not asked by their provider if they had concerns prior to beginning the exam. The provider training encouraged providers to ask patients about any hesitations, ask for permission to begin the exam, and let the patient know they are in control of the exam. Providers were also strongly encouraged to discuss the pelvic exam process with the patient before and during the exam unless the patient requested that they are not. Additional research and training could be done to improve patients' physical comfort during the exam, as a majority reported having a negative prior pelvic exam experience due to pain during the exam. Limitations of the community survey included a small number of participants and a relatively non-diverse group of individuals. The information gathered from the survey remained insightful and informative for the provider training.

There was an additional positive outcome from the training session. After the training session, a discussion developed around increasing patient autonomy even in non-gynecologic care. After considering the importance of giving patients the opportunity to remain clothed at the beginning of the provider visit, it was decided that patients should be given the choice to remain clothed initially before other visit types that might eventually need a patient to remove their pants and change into orthopedic shorts, remove their shoes, or unwrap bandages. Additionally, it was determined that the medical assistant or nurse triaging the patient would invite them to sit either on the exam table or the patient chair for their comfort.

One original goal of the project was to involve university patients in the process to gauge any current gaps in care and improvements made after training. A survey was created to help determine correlations between history of sexual trauma and pelvic exam experience as well as patient satisfaction with the individual pelvic exam experiences. The goal was also to help tailor the training to the needs and wishes of the patient population the trained providers serve. The practice administration declined to approve a survey sent to students on the topic of pelvic examinations. In the future, a patient survey could serve to continue encouraging provider self-reflection and growth.

Another original arm of the project was to provide educational sessions for students. The intentions were to encourage conversations around the topic of pelvic examinations to lessen fears and unknowns as well as educate students about the benefits and purposes of pelvic examinations while demonstrating the trauma-informed approach that the practice employs. The educational sessions would be scheduled with various university groups including athletic teams, graduate and professional students, minority, and cultural groups, and LGBTIQA+ groups.

Although the curriculum was created and there was initial enthusiasm for and approval of these sessions from the student wellness administration, plans were not able to be solidified for this project's completion. Future implementation of student education programs that focus on trauma-informed gynecologic care could play a vital role in helping students feel safe and motivated to seek evaluation for their health needs.

While the project outcomes were not entirely as expected, the process provided methods for various learning opportunities. New perspectives were appreciated for patient experiences regarding pelvic exams and a group of medical providers' understanding of trauma-informed gynecologic care. Although the data from the pre- and post-training surveys was difficult to interpret, there was very positive feedback from the group, and there are ongoing discussions to provide more comprehensive trauma-informed care. The project's original focus was to improve patient education around cervical cancer screening. There were a couple of reasons that the

project diverted to a more trauma-informed care focus, one being that there was limited support and infrastructure for providing patient education sessions. Additionally, engagement with patients in the office made it clear that making patients more comfortable in the exam room needed to be prioritized. This was not an originally planned shift, but there were positive outcomes and room for building upon this project.

Coordination and instruction of various groups within the practice was also an opportunity for leadership. This project involved administration, medical providers, Student Wellness, Communications, and Information Technology (IT). Being well-organized was vital in outreach to the groups with the appropriate timing and in the right order. Relationships have been maintained in part to help grow the project eventually so that it may involve students, other clinical staff members, and educational videos for the practice website and social media.

Successful leadership requires the leader to at times stand firm in a plan or conviction, and other times the leader must face adversity or lack of support with flexibility and ingenuity. With this project, both types of skills were required, in the sense that despite persistence, support was not gained from a key group that would allow the education of students. Therefore, a new approach was formulated from creativity and a sense for the need to "go upstream." This was accomplished by training medical providers first after researching what is known about the gynecologic experiences and preferences of people who have experienced sexual trauma and making actionable changes to the practice. The shift in project focus was, in part, a necessity due to a closed door but led to an opportunity to listen to the real concerns of the patients. There were a few patients who made timely comments about histories of sexual trauma and concerns about pelvic exams. Taking the time to listen rather than simply charging forward with a plan that may not have mattered as much to the people who are under the practice's care led to positive outcomes and opportunities for future endeavors in making trauma-informed care a mainstay for this practice.

## Conclusion

Because a history of any form of trauma is correlated with decreased use of medical care but also an increase in health problems (Sharkansky, 2007), it is even more important for healthcare providers to take a patient-centered approach and foster an empathetic and open setting for patients to feel comfortable and meet their healthcare needs. This project accomplished the goal of increasing provider awareness and competence in providing trauma-informed pelvic exams. The training cohort was small, but the goal is to expand the reach and provide the trauma-informed pelvic exam training session to additional providers. Groups of interest include family practice, emergency medicine, and OBGYN providers. The training could also be tailored to provide education to nurses and medical assistants who often assist during pelvic examinations.

Lobbying for more intentional trauma-informed care education within medical training programs would also be helpful given the large number of providers who reported in the survey that their medical training did not explicitly cover trauma-informed pelvic exam methods. It is important that everyone in the room be knowledgeable about trauma-informed gynecologic care to ensure the patient feels safe. Eventually, the training session could be video recorded and distributed more widely.

As previously mentioned, future endeavors to expand on this project and improve trauma-informed gynecologic care would include educating a broader variety of healthcare workers as well as patients. Education could focus on the importance of seeking preventive and problem-based gynecologic care, how to identify providers whom patients with fears about pelvic exams can feel comfortable, and empowering patients to take ownership of their health and bodily autonomy. School-based programs and education in minority groups may be ideal places to begin.



Ongoing work is needed to reduce the frequency of sexual assault and sexual abuse in communities and worldwide. In the meantime, it is vital for medical providers to gain awareness of the challenges past sexual violence victims experience when navigating the healthcare space. Learning how to properly care for these individuals will improve quality of care. It is important to prevent sexual trauma from being another barrier to patients obtaining comprehensive healthcare. Not only are patients' emotional well-being at stake; identifying and properly treating the pot entially long-lasting physical effects of sexual trauma can lead to a healthier population. It is important to recognize that all patients, even those without sexual trauma, should be treated with consideration for their past experiences, sensitivity to their emotional needs, and respect for them as humans and individuals. A provider who holds space to open conversation and listens to a patient, especially through a trauma-informed lens, may allow a patient who shows initial resistance to medical care to finally create a pathway for trust.

## References

Briggs F, Hawkins RMF. Low socio-economic status children are disadvantaged in the provision of school-based Child Protection Programmes. OUP Academic. https://academic.oup.com/bjsw/article/26/5/667/1695281?login=true. Published October 1, 1996. Accessed June 9, 2022.

Farley M, Golding J, Minkoff J. Is a history of trauma associated with a reduced likelihood of cervical screening? The Journal of family practice 51(10):827-31. PubMed. https://www.researchgate.net/publication/11062929_Is_a_history_of_trauma_associated_with_a_reduced_likelihood_of_cervical_cancer_screening. Published November 2002. Accessed June 9, 2022.

Nesterak E. What the origins of the "1 in 5" statistic teaches us about sexual assault policy. Behavioral Scientist. https://behavioralscientist.org/what-the-origins-of-the-1-in-5-statistic-teaches-us-about-sexual-assault-policy/. Published February 26, 2020. Accessed August 28, 2022.

Ravi A, Little V. Providing trauma-informed care. American Family Physician. https://www.aafp.org/pubs/afp/issues/2017/0515/p655.html. Published May 15, 2017. Accessed August 28, 2022.

Sharkansky E. Sexual trauma: Information for women's medical providers. https://www.ptsd.va.gov/professional/treat/type/sexual_trauma_women.asp. Published January 31, 2007. Accessed June 9, 2022.

Tjaden P, Thoennes N. Prevalence, incidence, and consequences of violence against women: Findings from the National Violence Against Women Survey. PsycEXTRA Dataset. 1998. doi:10.1037/e330452004-001. Accessed June 9, 2022.

Trauma-informed pelvic exam - contraceptive Pearl. Reproductive Health Access Project. https://www.reproductiveaccess.org/resource/trauma-informed-pelvic- exams/#:~:text=For%20patients%20with%20a%20history,patient%20is%20clothed%20a nd%20seated). Published February 10, 2015. Accessed August 28, 2022.

# Improving Employed Physician Recruitment and Retention: A Preventative Approach

Michaux Kilpatrick, MD

## Introduction

Most U.S. physicians are now employed by hospitals or corporate entities. With this growing trend away from independent practices, there has been an increase in reported physician job-related burnout. Coincidentally, as physician burnout has increased, physician suicide has also risen. Several studies argue for the benefits of an employed physician agreement, citing controlling healthcare costs and improving care quality (Burns and Muller, 2008). In contrast, others argue that the employed physician model results in a lack of professional autonomy, work overload, breakdown of community, and conflicting values in the workplace (Maslach and Leiter, 1997).

Most physicians expect employment opportunities to offer a workplace environment that is supportive with reasonable work requests, that provides adequate space and staff for patient care, that allows autonomy over medical decision making, and that provides fair market-based compensation for the work performed. Conversely, employers will often dictate physicians to see more patients in less time and push providers to perform an increased number of procedures to support departmental budgets, both of which detrimentally impact patient care. In addition, employed compensation models often include withholding earned compensation unless variable "quality, education, or stewardship metrics" are met. In certain healthcare systems, these metrics may not even be directly under the physician's control. For example, some systems tie compensation to Clinic metrics such as blood pressure monitoring or completion of healthcare screening forms which are typically performed by a Clinic's Certified Medical Assistant and not directly by the physician.

One of the outcomes of employed physician burnout is departure from the workforce. Many economists credit the COVID-19 Pandemic in November 2021 for marking the nation's highest resignation rate in 20 years. As it pertains to the physician workforce, several publications have reported a growing trend in physician resignation. A recent AMA article cited 20% of physicians surveyed indicated they will likely leave their current practice within 2 years, and 33% will likely reduce their current work hours over the next 12 months (Henry, 2022). This increased physician turnover comes with a hefty price tag to healthcare organizations. Recruitment and replacement of a physician typically costs hundreds of thousands if not millions of dollars, resulting in a significant financial burden to the institution, and thereby perpetuating those factors which may be contributing to physician turnover in the first place.

Another outcome of employed physician burnout is increased quality of care issues. In fact, the Federation of State Medical Boards (FSMB) considers physician burnout to be a patient safety issue. The FSMB encourages State medical boards to approach physician wellness and burnout from a non-punitive perspective, recommending in their April 2018 "Workgroup on Physician Wellness and Burnout" that State medical boards avoid public disclosure of any information about a physician's mental health during licensing processes and offer "safe haven" non-reporting options to physicians who are under treatment and in good standing with a recognized physician health program (PHP) or other appropriate care provider.  To that end, the North Carolina Medical Board (NCMB) has recently created its own Wellness and Burnout Workgroup. The Workgroup, currently chaired by Damian McHugh, MD, is under the direction of the NCMB Outreach Committee.

The purpose of this project is to create a resource for employed physicians to utilize during their job search, in an effort to identify an ideal employer-employee match. It can also be used to help evaluate the merits of their current job environment. In the future, this created resource can be evaluated in its ability to reduce physician turnover, reduce patient/physician complaints, reduce absenteeism, and increase productivity.

**Method**

I engaged the NCMB Outreach Committee in direct conversation regarding their Wellness and Burnout Workgroup (WBW) efforts, born out of the 2016 North Carolina Consortium for Physician Resilience and Retention (the "Consortium"), of which the NCMB was a member. The Outreach Committee intends to provide physicians and physician assistants across our state with evidence based resources, programs, and strategies to help improve healthcare team performance, foster health system integrity and fiscal stability, and protect the public. I will attend the bi-monthly meetings of the Outreach Committee and avail myself to the invited guest speakers and experts in the field of burnout.

As a member of the NCMB Policy Committee, along with fellow committee members, we will create a NCMB Position Statement surrounding Licensee Employment. This statement will provide guidelines and direction to employed physicians licensed by the NCMB. The position statement will address physician employment agreements with a focus on typical contract clauses such as covenants not to compete, compensation models, and termination without cause. By engaging with NCMB in-house counsel, the legal aspects of the employed physician model as it pertains to public safety will be explored. The Licensee Employment position statement could then be used as a medical legal toolkit relevant to the physician employee. This document should encourage physicians to seek their own legal counsel before signing employment agreements and can help influence conversations between the physician and the employer.

I will join the Novant Health Medical Group (NHMG) Physician and Advanced Practice Provider Engagement Council. This council is currently led by Navin Bhojwani, MD, Senior Vice President, Physician Network Novant Health. Burnout is the opposite of engagement, and this council has committed to obtaining input and guidance on what Novant can do as a healthcare system to improve the engagement of their physician employees. The Council will meet monthly via Zoom providing opportunities for bi-directional communications concerning NHMG retention and burnout mitigation strategies. I would hope to be able to share the resources/information gathered during this project as a means of reducing my own organization's physician turnover and help fulfill the NHMG mission and vision: Mission – "Novant Health exists to improve the health of our communities, one person at a time."

Vision – "We, the Novant Health team, will deliver the most remarkable patient experience, in every dimension, every time."

**Results**

During the timeframe for this project, the NCMB Outreach Committee met five times (Nov 2021, Jan 2022, March 2022, May 2022, July 2022) . The minutes from these meetings can be found on the NCMB website and are documented below:

At the **Nov 2021** meeting a proposed "NCMB Wellness Statement" was adopted. The statement reads:

***"Thriving, healthy medical professionals are those best suited to provide high quality patient care. In that spirit, NCMB encourages any licensee who is experiencing health problems — including burnout, mental health or substance use disorders, physical or cognitive challenges- to seek appropriate care and professional support. It is NCMB's position that licensees should take their own health and wellbeing as seriously as they do the health and wellbeing of their patients."***

At this meeting, the NCMB also adopted the term "provider in distress" to refer to clinicians who are experiencing some level of burnout. Representatives from the NC Professionals Health Program were present and identified as having areas of shared interest and being a resource for future collaborations.

The **Jan 2022** meeting highlighted the President's Message by Dr. Rusher found in the Dec 2021-Jan 2022 Forum newsletter. In his message, Dr. Rusher stated NCMB's enduring interest in positively impacting clinician wellness and identifying clinician burnout as a patient safety issue, since it is so well documented that clinicians experiencing burnout are more likely to make preventable medical errors. The Committee discussed plans to invite wellness officers and others working on clinician burnout and resilience at the health system level, with a goal of gaining insight into efforts being made at NC major health systems and academic medical centers. The idea of creating a presentation that outlines NCMB's interest in clinician burnout that could be delivered to hospital and health system Medical Executive Committees (MEC) was raised.

In **March 2022**, Dr. Samantha Meltzer-Brody, Chair of the Dept of Psychiatry at UNC Chapel Hill, and a noted expert in clinician wellness, presented on the UNC Health Care system's enterprise-wide efforts to address issues with wellness in its clinicians. Dr. Meltzer-Brody emphasized that it is critical to evolve the language we use when speaking about what has been traditionally referred to as clinician burnout to reflect terms that medical professionals believe more accurately describes their experiences. She indicated that terms such as moral injury, trauma, and even post-traumatic stress disorder (PTSD) are preferred terms because they convey the seriousness of the problem while avoiding any suggestion that the clinician experiencing issues is lacking or deficient in any way. Dr. Meltzer-Brody outlined UNC Health Care's approach, which focuses on addressing stigma, normalizing seeking help, providing access to resources and direct care, including therapy, and ensuring that services are affordable. The Committee discussed whether NCMB could play a role in convening a statewide meeting where health systems and other stakeholders could share best practices and strategies to address systemic drivers that increase stresses on clinicians.

**May 2022**- Dr. Jonathan Bae, Associate Chief Medical Officer, Patient Safety & Clinical Quality for the Duke Health System shared information about how Duke has addressed clinician wellness in its workforce. Dr. Bae gave a brief comprehensive report of efforts to date. Dr. Bae noted that, while some resources developed are available only to Duke Health employees, others are publicly posted for general use. One such resource is a 10-week Well-Being Webinar series that is designed to help medical professional bounce back from COVID-19 related professional burnout.

**July 2022**- Burnout and stress in medicine expert, Dr. Cormac O'Donovan from Atrium Wake Forest Baptist Health, and Dr. Art Hengerer, who is the Federation of State Medical Board representative to the National Academy of Medicine's Collaborative on Clinician Wellness and Resilience, both presented. Dr. O'Donovan presented his perspective on systems solutions to promote healthcare team resilience and wellness. Dr. Hengerer presented an update on the Collaborative's work. A notable quote from Dr. Hengerer's talk reads "Wellness is disruptive to the system"…"The flight may have been delayed, but you are still the pilot," a reminder to clinicians that they do still have the ability to impact meaningful change in their workplaces.

Over the last few months, the NCMB Policy Committee has begun work on a position statement focused on how the Board could best advise and educate its licensees about the Board's expectations regarding patient care when a provider is employed by a healthcare system. Creating the position statement was necessary considering recent complaints to the Board. For example,

there have been recent complaints where a team member failure or system failure resulted in the complaint to the Board about the physician. These incidences prompted discussions regarding who ultimately bears responsibility when issues arise within a medical practice that has minimized the physician's ability to control decisions.

Research for the statement included review of the AMA "Principles for Physician Employment H-225.990". This document includes six sections:

1. **Addressing Conflicts of Interest**- highlights how financial incentives to over- or under-treat patients can create conflicts.
2. **Advocacy for Patients and the Profession**- specifies that physicians should not be encumbered to advocate for their patients.
3. **Contracting**- highlights specific clauses in physician employment contracts which are to be avoided.
4. **Hospital Medical Staff Relations**- concludes employed physicians should be members of the medical staff and employers should seek the input of the medical staff prior to implementing exclusive employment contracts.
5. **Peer Review and Performance Evaluations**- places an emphasis on due process protections, emphasizes the need for regular written performance evaluations, and promotes the ability of an employed physician to maintain their hospital medical staff membership or clinical privileges if terminated without cause.
6. **Payment Agreements**- stresses transparency in billing and sharing data on the actual payment amount allocated to the professional fee component of the total payment, which is important given physicians are often held responsible for assuring that bills issued for services they provide are accurate.

In addition to the AMA document, the Policy Committee also reviewed Dr. Cheryl Walker-McGill's (former NCMB President) article found in the Aug 2015 Forum, "Who is Responsible for Quality of Care in an Era of Diminished Provider Autonomy". Even then, Dr. Walker-McGill pointed out that frequently Board review of Disciplinary cases suggested some factor outside of the licensees control played a significant role in the case. She, however, appropriately concluded that the Board licenses and regulates individuals, and the disciplinary process is designed to hold individuals responsible. Ergo, we felt it necessary for the position statement to include pitfalls relating to a provider's responsibility when they are employed by a healthcare entity. The position statement is currently in draft form and not yet publicly available. Excerpts from the draft NCMB position statement titled, "Licensee Employment Position Statement" are included below:

***"The Board recognizes that the practice of medicine continues to shift from licensees practicing in personally owned practices toward licensees practicing while subject to employment and other contractual relationships with hospitals, group practices, and other health systems. The medical practice of the employed licensee creates unique challenges to maintaining professionalism in the practice of medicine.***

***In order for licensees to avoid putting themselves in professional situations that may expose them to sanctions by the Board, the Board recommends licensees consider the following when entering a new work environment:***

- ***Understand the organizational structure and ownership of the practice or healthcare system.***
- ***Employment agreements are legal documents. Licensees should seek their own legal counsel before signing them.***
- ***Be familiar with written and unwritten policies for healthcare delivery within the practice or healthcare system.***



- ***Consider whether the practice or healthcare system conforms to the standard of acceptable and prevailing medical practice and the ethics of the medical profession and that it reflects your personal standards.***
- ***Recognize that your obligation to provide care that conforms to the standard of acceptable and prevailing medical practice, or the ethics of the medical profession, may require you to leave a situation that does not allow you to provide such care.***
- ***Recognize that your position in an organization that removes you from direct patient care, such as a supervisor, medical director, Vice President of medical affairs, etc., does not remove you from professional ethical obligations. Decisions you make related to patient care and the supervision, management, and termination of Board licensees may also expose you to sanctions by the Board.***
- ***Patient welfare must take priority in any situation where the interests of licensees' and employers' conflict.***

***In order to provide further guidance to licensees, the Board adopts and endorses AMA's Principles for Physician Employment H-225.950. While these principals are directed at physicians, the Board directs all licensees of the Board to review these principals and consider them when entering into an employment relationship with a medical practice or healthcare system."***

The position statement then outlines the language of the AMA H-225.950 document with a few excerpts and additions. A notable addition to the Contracting section of the document is:

- ***Physicians are discouraged from entering into agreements that restrict the physician's right to practice medicine for a specified period or time or in a specified area upon termination of employment. These restrictions directly impact access to care.***
- ***Physician employment agreements should contain dispute resolution provisions. If the parties desire an alternative to going to court, such as arbitration, the contract should specify the manner in which disputes will be resolved.***

The Novant Health Medical Group Physician and APP Engagement Council met four times during the timeframe of this project (Feb 2022, March 2022, April 2022, Aug 2022). Prior to the Feb 2022 kickoff meeting, a burnout assessment survey was distributed to Novant Health Medical Group Physicians/APPs (clinicians), and Practice Administrators/Managers (non-clinicians). Survey results are found in Figure 1a, Figure 1b.

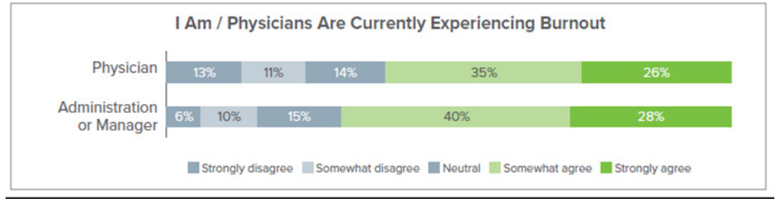



Figure 1a

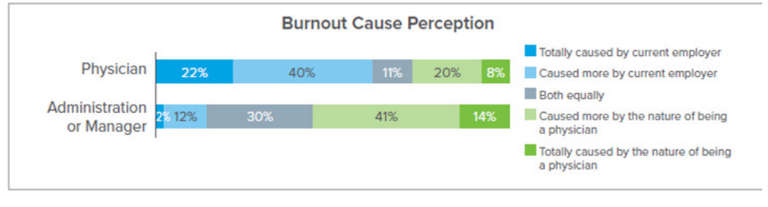



Figure 1b

Suggested ways to reduce administrative burdens were subsequently submitted by Lead Clinicians and Clinic Administrators and are listed below in the order that resonated the most with them:

1. Reducing administrative burden by optimizing physician/APP use of our electronic health record
2. Continuing to be a provider-led organization with strong physician/APP-administrative partnerships
3. Incorporating care models that include more support personnel to lighten the burden on physicians/APPs
4. Providing more flexible schedules to ensure more opportunities for time off
5. Evolving compensation to acknowledge the hard work and dedication of our physicians/APPs in providing remarkable patient care
6. Offering programs that promote well-being and help address work-life balance
7. More purposeful recognition of the efforts and contributions of our physicians/APPs
8. Providing professional growth/ leadership development opportunities
9. Evolving employment and retirement benefits to meet the needs of our physicians/APPs
10. Providing opportunities for bi-directional communication
11. Ensuring provider autonomy

The Engagement Council has continued to brainstorm organizational strategies. Some examples include recognizing the burden Epic EHR In-basket inquiries place on providers. Charging for MyChart patient advice requests has been proposed in the context of understanding the criteria for billing (Figure 2, Figure 3). The Council has also explored technological opportunities, such as the use of virtual scribes and employing an Epic Dimensions optimization team. Compensation strategies such as providing financial education for providers, exploring the concept of shared


Figure 2

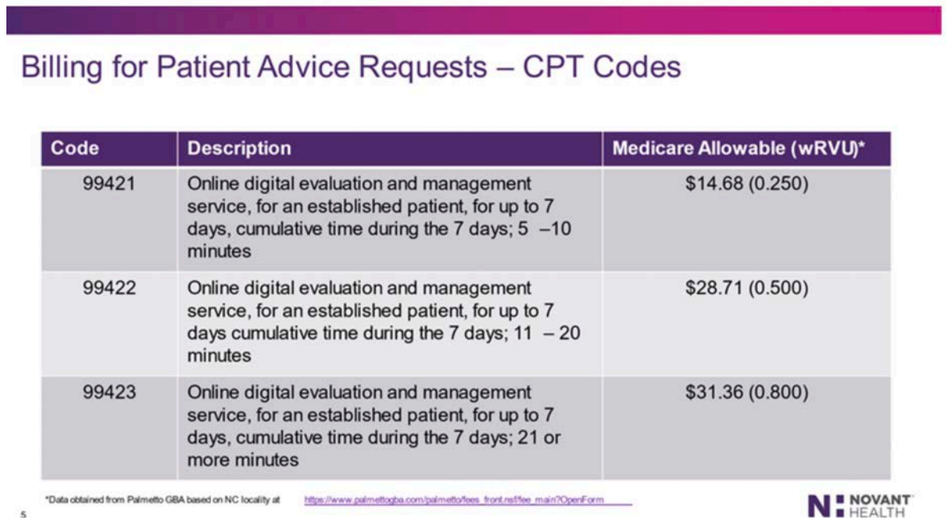



Figure 3

savings, prioritizing value over volume, and optimizing benefit packages have also been explored.

## Discussion

Burnout directly impacts the ability to recruit and retain employed physicians and is considered a patient safety issue by regulators. Mitigating the causes of burnout is a complex problem, which requires cooperation and collaboration from multiple entities that do not historically work together. Physician regulators such as the NC Medical Board and the Federation of State Medical Boards have a vested interest in protecting the public and preventing medical errors. Physician advocacy organizations such as the AMA are vested in physician well-being, and major health care systems have an economic interest to deliver fiscally responsible healthcare. While the above results reveal that all these entities (NCMB, FSMB, AMA, Atrium Wake Forest Baptist Health, Duke University Medical Center, Novant Health Medical Group, UNC-Chapel Hill) are actively strategizing ways to alleviate burnout, my observation is that they are all working in silos. While getting these entities to collaborate is an uphill battle, it is not impossible as demonstrated by the 2016 Consortium. Indeed, much of the recent burnout prevention work by the NCMB's Outreach Committee was rooted in the Board's participation in the Consortium. The Leadership College's module titled "Influence" highlights how one might impact ongoing collaborations amongst these organizations. Clearly there is enthusiasm and buy-in from all sides to reach a solution, so if these entities trust that all involved are working towards a common goal, then ongoing collaboration is achievable.

The ongoing efforts by the NCMB to create a Position Statement that addresses physician employment is an opportunity to guide conversation between physicians and their potential or current employers. Most physicians do not receive any formal training as it pertains to analyzing employment opportunities, recognizing what a fair contract entails, and understanding that they have the ability to negotiate contracts. Recognizing the pitfalls of being an employee, and therefore not having full autonomy over all clinical decision making, emphasizes the need for physicians to understand their unique professional environment. Specifically, whether employed or not, patients still see their physician as the "Captain of the ship" and regulators still hold employed physicians as being ultimately responsible for patient outcomes, despite not having absolute authority. From a legal (malpractice) and regulatory (implications on their license to practice) perspective, it is

incumbent on the employed physician to understand their employment obligations. While this part of the project is work in progress, the final Position Statement will serve as a reference to be used when entering any new employment situation or renegotiating a contract up for renewal. As a reminder, all NCMB Position Statements are open for public comment prior to being finalized.

Results from this project also demonstrate that there are distinctly opposing views as to the cause of burnout depending upon whether you are a clinician or an administrator. In the Novant survey, while nearly 62% of the clinicians surveyed responded that their employer contributed to burnout, only 14% of administrators perceived the employer as the reason for burnout. In contrast 55% of administrators perceived the cause of burnout was innate to being a physician, a perception shared by only 28% of clinicians. This dichotomy in thought creates an opportunity for learning on the part of both physicians and administrators. Coming together on an organizational level to create strategies that allow physicians to "work at the top of their license" (medical problem-solving, building patient relationships, etc.) while minimizing their involvement in important but more menial tasks (completing screening forms, performing MyChart requests, completing prescription renewals) is an achievable starting point.

**Conclusions**

The goal of this project was to create a resource for employed physicians to use when seeking employment opportunities. The completed version of the NCMB Position Statement on the employed licensee will be a resource; however, as work continued this project, I realized that multiple resources are necessary that do not fall under the purview of the Medical Board. For example, understanding employee contract obligations is crucial. Physician advocacy groups such as the NC Medical Society may consider compiling a directory of medical legal experts across the State with whom physicians could consult. I also learned from my research on this project that there are physician-owned companies, such as Resolve (resolve.com) that specialize in contract analysis, performing tailored review of contracts, maintaining up to date physician salary data (including MGMA physician compensation data), analyzing benefit packages, and performing contract negotiations as a paid service to employed physicians. Similarly, the efforts of Dr. Damian McHugh, Chair of the NCMB Outreach Committee, were a major contributor to this project. Dr. McHugh made me aware of insurance companies such as Curi (www.curi.com), which has several physician well-being platforms.

As President-Elect of the North Carolina Medical Board, I intend to continue the work begun during this project. The Mission & Mandate of the NCMB reads, *"There is established the North Carolina Medical Board to regulate the practice of medicine and surgery for the benefit and protection of the people of North Carolina."- N.C. Gen. Stat. 90- 2(a)*. While the NCMB is not a physician advocacy organization, the prevailing consensus is that when physicians are taking care of their own physical and mental health, they are better able to care for their patients. I believe that when the Mission states, *"protection of the people,"* one must consider that physicians are people too. There are approximately 44,000 physicians licensed in the state of NC. A recent report suggests that 10% of physicians surveyed have considered or attempted suicide (extrapolate nearly 4,000 physicians across our state) (Medscape, 2022). This growing number of suicides amongst physicians is a public health crisis. Thus, I hope to make physician wellness and minimizing burnout a key part of my President's platform. I foresee being able to utilize media resources such as the MedBoard Matters Podcast to disseminate information obtained from this ongoing work.



**References**

Lawton Robert Burns and Ralph W Muller (2008), "Hospital-Physician Collaboration: Landscape of Economic Integration and Impact on Clinical Integration", Millbank Q. Sep: 86(3): 375-434.

Maslach, C., Jackson, S.E., & Leiter, M.P. (1997), Maslach Burnout Inventory: 3rd edition. In C.P Zalaquett & R. J. Wood (Eds.), *Evaluating Stress: A blook of resources* (pp. 191-218).

Tanya Albert Henry (2022), "Medicine's Great Resignation? 1 in 5 doctors Plan Exit in 2 Years", American Medical Association, Jan 18, 2022, URL: https://www.ama-assn.org/practice-management/physician-health/medicine-s-great-resignation-1-5-doctors-plan-exit-2-years.

Federation of State Medical Boards (2018), "Physician Wellness and Burnout: *Report and Recommendations of the Workgroup on Physician Wellness and Burnout*, URL: www.fsmb.org/siteassets/advocacy/policies/policy-on-wellness-and-burnout.pdf.

Batya Swift Yasgur (2022), "A Tragedy of the Profession: Medscape Physician Suicide Report 2022", URL: https://www.medscape.com/slideshow/2022-physician-suicide-report-6014970.

# Rethinking our Approach to Leaving Against Medical Advice in the Surgical Population: Re-enforcing the Patient-Surgeon Partnership

Anna Malysz Oyola, DO

**Abstract**

Patients leaving against medical advice (AMA) is linked to provider dissatisfaction, readmissions, and increased patient mortality. This retrospective, single center study examined the incidence of patients leaving AMA from the trauma and general surgery services over a one-year period and performed a chart review of the most common reasons for doing so. Moreover, the surgeon population at the same institution was surveyed regarding their approach to patients who leave AMA. The results will be used to guide further surgeon education with the hope of improving the patient-surgeon relationship and reducing subsequent AMA departures, as well as standardizing a discharge plan to reduce readmission for those patients who decide to leave AMA despite adequate counseling.

**Introduction**

Patients who leave against medical advice (AMA) account for nearly 2% of hospital discharges and studies have shown increased readmission (20-40%) and mortality (10%) rates for these patients leading to increased cost, poor health outcomes, and provider dissatisfaction. What is more concerning is that the incidence of patients leaving AMA is increasing—from 264,000 patients in 1997, to 368,000 in 2007, to nearly 500,000 in 2011 (Matus, 2012).

In the surgical population, it has been studied that certain risk factors contribute to leaving AMA, many of which parallel those present in the medical population, including younger age, male sex, lower socioeconomic status, substance abuse, and mental health disorders (Kraut, 2013). In the trauma population, African American race and stab injury mechanism serve as additional unique risk factors for leaving AMA.

Finally, there is no standard definition of AMA discharges, contributing to stigma and reduced access to care for these patients (Holmes, 2020). Other terms used interchangeably to convey that a patient has left the hospital prematurely without the consent of the treating physician or prior to completing recommended treatment include “elopement,” “escape,” “abscondment,” all of which may more specifically intend to say that the patient has left without the knowledge of physician or staff (Al Ayed, 2009). Similarly, it has been shown that physicians’ skewed understanding or limited insight into the implications of leaving AMA may contribute to patient mistrust and incidence of this discharge pattern.

This study seeks to identify the patients who left AMA in 2021 following admission by Novant Health New Hanover General Surgery group and their reported reason for doing so. This data would be utilized to: 1) identify modifiable factors and address the most common reasons for leaving AMA in order to decrease its incidence, 2) to offer physician education on patient implications of leaving AMA and facilitating its prevention, and 3) to pilot standardized documentation and implementation of a safe alternative discharge plan including medications/follow up for patients cared for by physicians in the General Surgery Residency Program at Novant Health New Hanover Regional Medical Center (NHNHRMC) that leave against medical advice. The purpose is to determine whether incidence of leaving AMA, re-admission and mortality rates can be reduced with these interventions. This study is based on a review in the American Journal of Medicine titled Against Medical Advice Discharge: A narrative review and recommendations for a systemic approach.

**Methods**

Patient data gathering

The QLik application was retrospectively surveyed to identify surgical and trauma patients who were discharged in 2021 under the code “left against medical advice/discontinued care”. This population was further filtered by those patients who were specifically admitted to the surgical services under the Novant Health New Hanover General Surgery group, which comprised eleven surgical attendings of the Novant

Health New Hanover General Surgery Residency Program. Other data collected with this report included patient demographics (sex, age, race, tobacco use, alcohol use, employment status), medical record number, admission diagnosis, and time to readmission. Mortality was unable to be captured due to limitations of the application in this particular search. Inclusion criteria encompass patients of all ages and sexes admitted to the trauma and general surgery services during the above period. Excluded subjects will be patients who may have left AMA but were admitted to private surgical services or attendings outside the Novant Health New Hanover General Surgery group.

The medical record number was used to perform a chart review to obtain information regarding why a patient left AMA. This information was paraphrased and added to the existing report. The responses were grouped into nine categories: location, dissatisfaction, violence, not documented, substance abuse, different treatment goal, personal, wait time, and unclear. Location encompasses any patient who chose to leave and readmit themselves at a hospital closer to home. Dissatisfaction included unsatisfactory pain control or perception of inadequate care. Patients classified to the "violence" category were those who displayed verbal or physical outbursts or refused to comply with hospital policies. Where there was no documentation of an explanation for why a patient left AMA, the category "not documented" was assigned. Patients who commented on needing to resume substance use as their reason for leaving were assigned to the "substance abuse" category. Those whose pre-emptive discharge was influenced by disagreement with treatment recommendations were assigned to the "different treatment goals" category. This included patients who refused to abstain from oral intake for an indicated procedure, those who had had cost or insurance concerns that weighed heavily on their treatment decisions, those who chose to recover at home, and those who disagreed with post-acute placement. The "personal" designation was applied to patients who left AMA for personal reasons, including caring for a dependent or animal, attending another appointment, fear of losing belongings (homeless population), or the need to return to work. Patients who left AMA due to impatience regarding time to speak to a physician or be discharged were classified into the "wait" category. Finally, anyone who had charted documentation for leaving AMA but no apparent reason for doing so was categorized as "unclear."

Surgeon survey and education

Surgeons at NHNHRMC were surveyed (Appendix 1) regarding their current practices for patients who leave AMA. These results will be thematically analyzed to guide potential intervention strategies. Questions pertained to respondent's demographics, time in practice, and personal experience with patient's leaving AMA: including incidence, response, and follow up arrangements for said patients.

Implementation of safe discharge/follow up strategies

The surgeon survey  results and top reasons for why patients chose to leave AMA were used to identify potential relationships between provider treatment and patient actions. Once identified, surgeon education will ensue by way of a presentation to expose shortcomings in current practices and elucidate more effective techniques for mitigating future AMA discharges.

## Results

Demographics

Of the patients who left AMA in 2021, majority were Caucasian (62.5%) males (69.6%) admitted with traumatic injuries (64.3%), and most commonly suffered blunt thoracic trauma (11%). Majority of the subjects were active users of tobacco, alcohol, or recreational drugs (80.4%).

Trauma patients accounted for 60% of the population who left AMA in the study, with blunt thoracic trauma accounting for the most common admission diagnosis (11%). This was followed in equal parts by intracranial hemorrhage (9%), obstruction (9%), blunt abdominal trauma (9%), and soft tissue abscess (9%). Penetrating abdominal trauma was the admission diagnosis accounting for 7% of the patients who left AMA, then followed by extremity fractures (5%), concussions (5%), and nonspecific abdominal pain (5%) in equal parts. Four percent of the population who left AMA was admitted with vertebral fractures. The remaining 27% of the population was grouped into the "other" category accounting for various miscellaneous diagnoses met by only one patient each.



Reasons for leaving AMA

The most frequently documented explanation for leaving AMA was for "personal" reasons (14.3%), as described above, followed by "different goals" (12.6%). Approximately half of the responses were equally split between the following categories: "violence" (12.5%), "substance abuse" (12.5%), "wait" (12.5%), and "unclear" (12.5%). 5.45% of the AMA population was dissatisfied with the care they were receiving, and only 3.6% left due to location. Undocumented reasons accounted for 8.9% of the AMA population.

Patient readmission

Between January and June of 2021 there have been approximately 300 adult AMA discharges at NHRMC, which carry a 30% readmission rate (Lipinski, 2022). Fifteen percent of these discharges were specifically surgical patients who left AMA, with a 30-day readmission rate of 12%. Our results in the surgical population show a comparable readmission rate of 14%. Majority of these patients were Caucasian (71%) males (71%), mean age 47 years, admitted with traumatic injuries (71%). The reasons for leaving AMA among those that were re-admitted were most commonly "substance abuse" (28.6%) and "unclear" (28.6%) among the above specified categories.

Surgeon survey results

Twenty surgeons participated in the survey. Majority of the survey participants were males (65%) between the ages of 31-40 with less than 5 years of experience. Twenty-five percent of the responders were between the ages of 20-30 and another 25% were between the ages of 41-60. The remaining 50% of the responders beyond the 0-5 years of practice bracket spanned a broad range from 6 to 20 or more years in practice. Most responders reported that they experience patients leaving AMA 1-2 times every 3 months (30%), followed by 1-2 times every 2 months (25%), 1-2 times every 6 months (25%), 1-2 times per year (10%), and 1-2 times per week (10%). When notified that a patient is leaving AMA, 45% of responding surgeons will ask the nurse for the reason patient wishes to leave, 35% will speak with the patient in person, 10% will speak with the patient over the phone, and 5% will tell the nurse to proceed with AMA paperwork without further questions. The remaining 5% used some combination of the above responses. Forty-five percent of the responding surgeons stated that when engaging in conversation with a patient who wishes to leave AMA, they inform the patient that complete financial responsibility for the hospital stay may befall them. All responding surgeons were able to change some of their patient's minds when engaging in conversation regarding leaving AMA. In their experience, the most common reason for patients leaving AMA is poor health insight or understanding of their medical condition, followed by patients being belligerent or under the influence of drugs or alcohol. Sixty-five percent of the respondents provided follow-up information and, of that group, 46% also provided necessary medication. Twenty percent of surgeons provided no follow up or medications to patients who left AMA.

## Discussion

Definition of AMA

Physicians can only act on situations of which they are aware, which is why the term "leaving AMA," where the patient had notified medical staff of their intent to leave, distinguished itself from those like elopement, absconding, and escape, where no opportunity for intervention exists. Holmes et al (2021) propose a clear definition of leaving AMA, which includes all of the following four criteria: 1) triggered by the request or insistence of the patient, 2) occurs before the medically indicated work-up, treatment, procedure, or discharge planning has been completed, 3) The workup, treatment, procedure, or discharge planning cannot be safely performed on an outpatient basis or is highly unlikely to happen in the outpatient setting, and 4) the patient has decision-making capacity. By strictly adhering to this definition of "AMA" clearly documenting discussions and addressing the modifiable factors contributing to patients leaving AMA, the goal is to potentially decrease the number of AMA discharges, thereby decreasing the financial burden on both, the patient and hospital system.

Patient data interpretation

Interestingly, the demographic data on our AMA population differs from that cited previously by Kraut et al (2013). While the majority of our AMA population were males below the age of forty, majority was Caucasian, not African American. Additionally, blunt trauma, not stab wound, accounted for the majority of traumatic

mechanisms among those who left AMA. It can be deduced that some of these factors may be influenced by the regional population and socioeconomic differences where 62% of the county is comprised of Caucasian white-collar workers with mean earnings of $60,215 (NCSE.org/demographics). Consistent with data provided by Kraut et al (2013), were the factors of substance abuse, as this was the top cited reason for why patient's chose to leave prior to discharge.

Survey data interpretation

The survey data captured a broad range of practicing surgeons, with the majority being residents, whose input is invaluable, as they account for the majority of the hospitalized patient-provider interactions and would be the first to be notified regarding a patient leaving AMA. Additional commentary elucidated that while ideally, every notification would be met with a face-to-face encounter to address the patient's concerns, factors such as time of day, staffing, or indisposition due to operative or clinic time precluded this possibility, leading to the alternative selections. Most concerning was the data point that nearly half of respondents communicated the false notion that patients leaving AMA would be responsible for their hospital bill. While a seemingly convincing obligation tactic to encourage the patient to see their hospitalization through, it is a misconception shared by practicing physicians and trainees alike that further threatens the patient-physician relationship. A study performed by the University of Chicago examining 10-year data of 526 patients who left AMA found that only eighteen patients had their coverage initially denied secondary to issues with the bill itself, not the patient's behavior or premature hospital departure (Matus, 2012). The remainder of patients who left AMA suffered no additional financial grievance and had their hospital bill covered as per commercial insurance, Medicare, or Medicaid agreement.

Limitations

Readmission rate could not capture those readmissions that occurred at other hospitals. Unfortunately, this is a common occurrence for the trauma patient who leaves AMA.

Additionally, the limited number of subjects precluded any study of significance. This was an anticipated factor, accounting for primarily descriptive data within the study.
While skillful communication and negotiation strategies are helpful, they may not be effective when communicating with an intoxicated patient, as is frequently the case. In these situations, the patient does not have capacity to understand their medical condition, or the risks associated with leaving AMA, and is at risk for not only further harming themselves, but potentially others as well. When presented with an intoxicated and violent patient, it is recommended to involve hospital police for the safety of staff, and keep the patient appropriately medicated until a fruitful conversation can be held when sober.

Future direction

Given these findings, I am planning an oral presentation that will be provided to surgical attending and resident physicians regarding the above findings. In addition, I will be creating an electronic medical record documentation template to standardize processes to be taken when a patient wishes to leave AMA and create a departmental discharge protocol for patients who wish to leave AMA, with appropriate follow up arrangements and medication prescriptions. that provides point of care information to surgical providers and encourages accurate documentation of reasons for leaving AMA as well as best practices to reduce the risk of adverse outcomes. The impact of these interventions will be studied in 12 months at which point the Qlik application with again be surveyed and descriptive data will be compared to that which was obtained in this study. The hope is that the education provided to surgeons and the protocol implementations will not only enhance communication with surgical and trauma patients and decrease rates of AMA departures from the hospital but will also provide a standardized and safe plan for those patients who nonetheless wish to leave AMA.



**References**

Al Ayed I. What Makes Patients Leave Against Medical Advice? J of Taibah Univ Med Sciences. 2009;4(1):16-22. doi.org/10.1016/S1658-3612(09)70077-0.

Holmes EG, Cooley BS, Fleisch SB, Rosenstein DL. Against Medical Advice Discharge: A Narrative Review and Recommendations for a Systematic Approach. Am J Med. 2021;134(6):721-726. doi:

Kraut A, Fransoo R, Olafson K, Ramsey CD, Yogendran M, Garland A. A population-based analysis of leaving the hospital against medical advice: incidence and associated variables. BMC Health Serv Res. 2013;13:415. Published 2013 Oct 14. doi:10.1186/1472-6963-13-415

North Carolina's Southeast. Demographics | North Carolina's Southeasthttps://www.ncse.org/demographics.php. Accessed September 28, 2022.

Olufajo OA, Metcalfe D, Yorkgitis BK, Cooper A, Askari, R, Havens JM, Brat GA, Haider AH, Salim A. Whatever happens to trauma patients who leave against medical advice? The American Journal of Surgery. 2016;211(4):677-683. doi.org/10.1016/j.amjsurg.2015.11.016.

Schaefer GR, Matus H, Schumann JH, et al. Financial responsibility of hospitalized patients who left against medical advice: medical urban legend?. *J Gen Intern Med*. 2012;27(7):825-830. doi:10.1007/s11606-012-1984-x

**Appendix 1**

1. I am a …
    a. Female
    b. Male

2. Please indicate your age range
    a. 20-30 years old
    b. 31-40 years old
    c. 41-50 years old
    d. 51-60 years old
    e. 61-70 years old
    f. 71+ years old

3. How many years have you been in practice?
    a. 0-5
    b. 5-10
    c. 10-20
    d. 20+

4. How frequently are you presented with a patient who wishes to leave AMA?
    a. Once a week
    b. One to two times a month
    c. One to two times in a 3 month period
    d. One to two times in a 6 month period
    e. One to two times a year
    f. I have never had a patient leave AMA

5. When notified that your patient wishes to leave AMA, how do you typically respond?
    a. Ask the nurse why the patient wishes to leave
    b. Tell the nurse to proceed with AMA paperwork
    c. Speak with patient over the phone
    d. Speak with the patient in person
    e. Other (please specify)

6. If engaging in conversation with a patient who is wishing to leave AMA, what percentage of the time do you inform the patient that if they leave, they may be financially responsible for their hospital bill?
    a. Always
    b. Almost always
    c. 50% of the times
    d. Almost never
    e. Never

7. Of the patients with whom you have engaged in conversation prior to leaving AMA, how many have changed their mind?
    a. All of them
    b. Some of them
    c. None of them

8. Of the patients with whom you have engaged in conversation prior to leaving AMA, what strategies have you found to be the most effective? (*Free response*)

9. What have you found to be the most common reasons for patients wishing to leave AMA? If you have not experienced a patient leaving AMA, what are your perceived top reasons for why a patient may do so? Please rank from most to least common.
    a. Under the influence/combative
    b. Prolonged wait time in ED
    c. Dissatisfied with provider
    d. Dissatisfied with auxiliary care (nursing, imaging technicians, phlebotomists, etc.)
    e. Work responsibilities
    f. Caretaker responsibilities
    g. Poor health insight/comprehension of medical condition and/or severity
    h. Other (please specify)

10. How do you manage follow up for patients who leave AMA. Please mark all that apply.
    a. I do not provide anything and do not follow up
    b. I provide office contact information
    c. I provide necessary medications
    d. I set up their follow up appointment prior to their departure
    e. I have my office call them in the days following their departure
    f. I personally call the patient in the days following their departure
    g. Other (please specify)

# Transitioning from a Trainee to an Attending: The role of mentorship, personal traits, practices, and leadership style

Tambetta Ojong, MD

**Introduction**

Mentorship is a key factor in promoting and maintaining fulfillment in medical practice (Darves, 2018). Most physicians who end up in a practice they enjoy especially in leadership roles can point out to some helpful assistance they received along the way from key mentors (Darves, 2018). Mentors can be instrumental in conveying explicit academic knowledge about the "hidden curriculum" of professionalism, ethics, values, and the art of medicine not learned from text. In many cases mentors also provide emotional support and encouragement (Henry-Noel et al., 2019). Mentorship relationship benefits mentors as well through greater productivity, career satisfaction, and personal gratification. Some of the common characteristics of effective mentors include altruism, active listening, wealth of experience, being accessible, provide career guidance and networking, as well as counseling (Straus et al., 2013). All of us tend to learn from our experiences and especially our mistakes. This hindsight becomes our insight and can be passed on to become someone's foresight. Dr Savithri Ratnapalan (in Riley, 2014) suggest mentorship provides an opportunity for self-reflection.

Most physicians who make their way into satisfying careers practice in a specialty they enjoy and especially those who also end up in leadership roles are usually quick to point out to their younger colleagues that they received some help, perhaps even a whole lot of assistance along the way (Riley, 2014). Despite the many perceived benefits of mentorship, the majority of faculty and junior attendings report they do not have a mentor (Riley, 2014).

Transitions are part of our everyday life from being single to getting married, from being a couple to becoming parents or from graduating from school and starting our first job. As physicians we spend a significant amount of time in school and then residency to gain skills and competence and clinical acumen. However, there is not much discussion and guidance around going from a trainee to becoming a full fledge attending and what character traits, leadership style, disciplines, grittiness, or practices one needs to possess/develop to become a competent independent practitioner while providing effective supervision to advance practitioners and avoiding burnout. I intend to interview junior and senior attendings and their advanced level practitioner and look at common traits, practices that are formative during ones' early years as an attending. This will culminate into a survival guide for new attendings and manifest into an opportunity for mentorship through the North Carolina Medical Society for attendings within year 1-5 of practice.

**Methods**

My project centers on live interviews from three junior attendings, four senior attendings working in the primary care fields of Family Medicine, Internal Medicine, Pediatrics, Obstetrics and Gynecology and interviewing 3 APPs. I sought to explore the traits/practices that are helpful, and which need to mature through that transition period. I then compared the content of each interview and see if there are emerging traits, disciplines or practices that could serve as outlines and tools put forth for both new first year attendings and the practices looking to hire them so greater support and successful transition can be ensured during that first year of practice.

I went through a list of twenty prepared questions with each junior and senior attending and had three separate questions for their APPs. I recorded each live interview and then reviewed the content of each conversation. My hope was to identify the process (emergent traits, practices, disciplines) and common themes that makeup a clinical competent practitioner that provides supervision to APP as they mature through the first year and expend a survival guide for new attendings as well as create a network for mentorship through the North Carolina Medical Society for attendings within year 1-5 of practice.

**Results**

In analyzing the qualitative nature of the interviews some common themes emerged and quotes from the live interviews along with the results are listed below

**THEME 1: Support/Influence**

"He would let me know gently when I made a mistake" Dr W

All physicians saw the importance of mentorship in their development and growth as attending it allowed them to feel confident to know there was a more senior person to confirm a clinical decision making or guide them towards an answer.

In shaping them as an attending some of the memorable experiences ranged from being able to mentor a medical student into one's specialty, to gaining the trust of patients while developing confidence as a clinician, to realizing that your colleagues have your back and can help you walk through the most difficult cases to developing resilience in the midst of a pandemic and realizing that post training you have been adequately prepared to practice independently.

**THEME 2: Relationships**

"I tried not to get involved with gossips or issues within themselves but care about who they were as people and ask about their children while sharing some of who I was" Dr L

Instant chemistry with support staff or fostering this relationship was essential to an attending's professional development. Seventy percent of the physicians had instant chemistry with their support staff and of those that did not were able to quickly develop it over time by caring about the families and life of the individuals they work alongside while sharing some aspects of their own lives and fostering teamwork.

**THEME 3: Belonging/Community**

"I was part of AAFP, medical society and NCAFP and they really helped with leadership development and networking as well as billing and coding." Dr T

Being part of a professional network during ones' career was another important trait that fostered collegial support and provided resources.

"I encountered challenges with flexibility in scheduling especially when staff were out and eventually that created conflict." Dr W

The culture of the practice aligning with one's own work ethics determined retention of the physician in that particular organization. All the physicians were aware of the culture of their practice and for the 42% who found that it did not align with their own work ethics felt that it was related to changes in management and scheduling issues where they felt that they did not have an influence or voice.

**THEME 4: Learning**

"I wanted to say current and updated and promote the specialty of family medicine to potential future colleagues." Dr T, Dr W

Teaching medical students and residents greatly contributed to attending development as a clinician and ensured that they stayed up to date with standard of care. Eighty-five percent instructed medical students and or residents and said that it helped them ensure they knew the why behind their clinical decision making.

**THEME 5: Balance**

"When we went out with my children, they would sit on the bench facing the public so I would not get involved with medical conversations with patients outside of the clinic in the small town we lived in and that helped me build a framework for boundaries." Dr W



"I wished I had understood what wellbeing means and early on be intentional about it because it takes a long time to undo certain mentality and behaviors. Why not think of it as life work instead of work life balance." Dr L

The number one outlet for all physicians during that first year was mindfulness and some of the other important outlets included, fishing, relationships outside of medicine, exercising and community such as church, friends, and colleagues

"I did not realize that my desire to have presteem in basket ad trying to have everything under control and taken care of meant more and more compromise of time and sleep and rest." Dr L
Most physicians' frustration came from staying late to answer inboxes post clinic work hours which would keep them from family and their communities

**THEME 6: Formative Assessment/Work Ethics**

"The traits I would use to describe my collaborating attending would be knowledgeable, approachable, thorough compassionate present. There is no air about him, he does not make you feel stupid" APP

The emerging traits of successful attending echoed by their APP included knowledgeable, compassionate, approachable, and present.

"Sometimes putting people in positions to fail is not fair. You cannot say someone is bad if you put them in a position for something they are not trained or supposed to do." Dr A
Most of the physicians feel that their APPs needed presence and protection from abuse of a workload they were not trained to do as well as clinical guidance and reassurance.

**THEME 7: Community/Reflection**

"I pray God don't give me more than I can handle—it helps keep me calm and figure a way to deal with any situation and I try to do the same when speaking to my patient's faith base to keep them calm." Dr A

Not only was mindfulness an outlet but 85% found that practicing mindfulness of various form was helpful for being present in a patient encounter and facilitated the various challenges of the day and of those who did not they definitely wished they had incorporated it in their practice.

All physicians found that being able to confide in a boss, colleagues or family was very refreshing and helpful even if simply to provide a listening ear or reassurance about a management decision.

"One advice I wished I had received was to not be afraid to speak up and ask questions especially if you are not comfortable with what is happening in the day-to-day operations of the clinic." Dr T

The most important aspect of medicine attendings wish they had more preparedness for was administration. Since a lot of them are hard worker and have done so throughout their training but now as an attending they need to learn to balance self-care and setting boundaries in their practice to be more present for patients and family and friends.

**Discussion**

Becoming an attending requires discipline and a lot of dedication and demanding work, knowledge, compassion and being present. Mentorship is quintessential in the development of the junior attending. The seven themes that emerged for the successful formative development of the junior attending included: Support/influence, Relationships, Belonging/Community, Learning, Balance, Work Ethics and Reflection.

In the midst of those common themes some of the take aways were developing chemistry with support staff, joining and participating in a professional organization, ensuring that the culture of the practice aligns with

your work ethics to ensure job satisfaction, paying it forward by teaching future colleagues, which allows one to stay current and up to date, practicing mindfulness which in turn ensured presence during encounters with patients.

Regarding dealing with some of the frustration of medicine all felt that the support of colleagues or prior senior attendings and family was refreshing and helpful.

Lastly the valuable lessons learned for those supervising advanced level practitioners was providing presence and protection from a workload they did not receive training for.

**Conclusion**

Medicine is a noble profession and attracts a lot of hard workers who have done so throughout their training but now as attending need to learn to balance self-care and setting boundaries in their practice to be more present for patients and family and friends. I believe that a combination of mentorship, professional network, communities, relationship, and a survival guide during that first year as an attending would ensure greater retention of physicians and greater work satisfaction as one transitions from a trainee to an attending.

**References**


Darves, B. (2018). Physician Mentorship. Why it's important and how to find and sustain relationships. NEJM, NEJM Career Center.

Henry-Noel et. Mentorship in Medicine and Other Health professions. J cancer Educa. 2019 Aug: 34 (4) : 629-637

Straus Sharon et. Characteristics of Successful and Failed Mentoring Relationships: A qualitative Study Across two Academic Centers. Aca Med. 2013 January: 88(1): 82-89

Riley Margaret. Mentorship in an Academic Department of Family Medicine. Brief Reports Family Medicine. November-December 2014 vol 46, No10




# Analyzing Licensure Requirements in a State with Large Underserved Rural Populations


Sandhya Thomas-Montilus, MD


**Introduction**

To analyze the reason for and change the existing policy on the qualification for admittance to a medical or surgical residency in North Carolina (NC), which is currently based on a maximum number of three attempts per part of the USMLE (United States Medical Licensing Examination) that a medical school graduate can make, before they are deemed ineligible for admission.

In the rules and regulations governing the North Carolina Medical Board (NCMB), it states that:

**(a) 21 NCAC 32B .1303 APPLICATION FOR PHYSICIAN LICENSE**

(2) if applying on the basis of the USMLE, submit:

i. a transcript from the FSMB showing a score on USMLE Step 1, both portions of Step 2 (clinical knowledge and clinical skills) and Step 3; and

ii. proof that the applicant has passed each step within three attempts. However, the Board shall waive the three-attempt requirement if the applicant has been certified or recertified by an ABMS, CCFP, FRCP, FRCS, AOA, American Board of Oral Maxillofacial Surgery ("ABOMS") approved specialty board within the past 10 years;

This policy is not uniformly adopted by all fifty states. While all fifty states have pockets of rural areas with access to care issues, the challenges that patients face with access to basic medical care in large areas of NC is well-known to practitioners and legislative bodies alike. NC is a largely rural state and many of its one hundred counties are almost completely rural. NC does not have adequate numbers of physicians per county, to serve all of its citizens well. This project was designed to look closely at this policy and examine its effect on access to medically trained providers at the highest levels of education (MD/DO), to understand the reason for the existence of this rule and to determine if this rule needed to continue to exist, given the complex medical needs of the patients, the large numbers of graduate medical students who remain unplaced in a residency program and the larger number of masters level physician extenders that are being hired, in an attempt to meet the need, unfilled by physicians, given the current and estimated future shortage.

Neighboring states such as South Carolina and Virginia, for example, similar in demographics to North Carolina, with large swathes of rural areas, do not have the same policy regarding acceptance to residency programs. South Carolina has a "4 attempt" rule for each part of the USMLE, while Virginia has no limits on any part of the USMLE.

**Introduction**

The NCMB changed its policy in 2011 to the "3 attempt" rule as the only qualification for medical or surgical residency in the state.

The previous rule prior to 2011 was as follows:

No more than six attempts for each Step/Component.

'Frequency' of sitting is limited. (No more than three attempts within a 12-month period)

Fourth and subsequent attempts: must be at least 12 months after first attempt at that Step/Component and at least 6 months after last attempt at that Step/Component.

The USMLE limits the total number of times an examinee can take the same Step or Step Component. An examinee is ineligible to take a Step/ Step Component if the examinee has made 6 or more prior attempts to pass that step or step component, including incomplete attempts.

Below are the state-by-state requirements for residency programs in the fifty states, Washington D.C and Puerto Rico. Each state has its own policy on what is acceptable for admission to residency (Table 1).

| | STATE | USMLE I | USMLE II | USMLE III | COMLEX |
|---|---|---|---|---|---|
| 1 | ALABAMA | 10 ATTEMPTS IN TOTAL | | | NO LIMITS |
| 2 | ALASKA | 2 | 2 | 2 | SAME AS USMLE |
| 3 | ARIZONA | NO LIMITS ON ANY STEP | | | NO INFO ON FSMB WEBSITE |
| 4 | ARKANSAS | 3 | 3 | 3 | SAME AS USMLE |
| 5 | CALIFORNIA | NO LIMIT | NO LIMIT | 4 | NO LIMITS |
| 6 | COLORADO | NO LIMIT ON ANY STEP | | | NO INFO ON FSMB WEBSITE |
| 7 | CONNECTICUT | NO LIMIT ON ANY STEP | | | NO LIMITS |
| 8 | DELAWARE | 6 | 6 | 6 | NO INFO ON FSMB WEBSITE |
| 9 | WASHINGTON DC | NO LIMIT | NO LIMIT | 3 | NO LIMITS |
| 10 | FLORIDA | NO LIMIT ON ANY STEP | | | NO INFO ON FSMB WEBSITE |
| 11 | GEORGIA | 3 | 3 | 3 | NO LIMITS |
| 12 | HAWAII | NO LIMIT ON ANY STEP | | | NO LIMITS |
| 13 | IDAHO | 2 | 2 | 2 | NO LIMITS |
| 14 | ILLINOIS | 5 ATTEMPTS AT ALL COMBINED | | | 5 ATTEMPTS AT ALL COMBINED |
| 15 | INDIANA | 3 | 3 | 3 | 5/STEP |
| 16 | IOWA | 6 | 6 | 3 | SAME AS USMLE |
| 17 | KANSAS | NO LIMIT | NO LIMIT | 3 | NL/NL/3 |
| 18 | KENTUCKY | 4 | 4 | 4 | 4/STEP |
| 19 | LOUISIANA | NO LIMIT | 4 | 4 | SAME AS USMLE |
| 20 | MAINE | NO LIMIT | NO LIMIT | 3 | 3/STEP |
| 21 | MARYLAND | NO LIMIT ON ANY STEP | | | NO LIMITS |
| 22 | MASSACHUSETTS | NO LIMIT | NO LIMIT | 3 | SAME AS USMLE |
| 23 | MICHIGAN | 3 | 3 | 3 | 6/STEP |
| 24 | MINNESOTA | 3 | 3 | 3 | SAME AS USMLE |
| 25 | MISSISSIPPI | 3 | 3 | 3 | NO LIMITS |
| 26 | MISSOURI | NO LIMIT | NO LIMIT | 3 | 3/STEP |
| 27 | MONTANA | NO LIMIT | NO LIMIT | 5 | NO LIMITS |
| 28 | NEBRASKA | 4 | 4 | 4 | SAME AS USMLE |
| 29 | NEVADA | 9 ATTEMPTS AT ALL COMBINED | | | NO LIMITS |
| 30 | NEW HAMPSHIRE | 3 | 3 | 3 | SAME AS USMLE |
| 31 | NEW JERSEY | NO LIMIT | NO LIMIT | 5 | NO INFO ON FSMB WEBSITE |
| 32 | NEW MEXICO | 6 | 6 | 6 | NO LIMITS |
| 33 | NEW YORK | NO LIMIT ON ANY STEP | | | NO LIMITS |
| 34 | NORTH CAROLINA | 3 | 3 | 3 | SAME AS USMLE |
| 35 | NORTH DAKOTA | 3 | 3 | 3 | SAME AS USMLE |
| 36 | OHIO | 5 | 5 | 5 | SAME AS USMLE |
| 37 | OKLAHOMA | 3 | 3 | 3 | NO LIMITS |
| 38 | OREGON | NO LIMIT | NO LIMIT | 3 | SAME AS USMLE |
| 39 | PENNSYLVANIA | 4 | 4 | 4 | NO LIMITS |
| 40 | PUERTO RICO | NO LIMIT ON ANY STEP | | | NO LIMITS |
| 41 | RHODE ISLAND | 3 | 3 | 3 | SAME AS USMLE |
| 42 | SOUTH CAROLINA | 4 | 4 | 4 | SAME AS USMLE |
| 43 | SOUTH DAKOTA | 3 | 3 | 3 | SAME AS USMLE |
| 44 | TENNESSEE | 3 | 3 | 3 | SAME AS USMLE |
| 45 | TEXAS | 3 | 3 | 3 | SAME AS USMLE |
| 46 | UTAH | NO LIMIT | NO LIMIT | 3 | 3/STEP |
| 47 | VERMONT | NO LIMIT | NO LIMIT | 3 | NO INFO ON FSMB WEBSITE |
| 48 | VIRGINIA | NO LIMIT | NO LIMIT | NO LIMIT | NO INFO ON FSMB WEBSITE |
| 49 | WASHINGTON | NO LIMIT | NO LIMIT | 3 | 3/STEP |
| 50 | WEST VIRGINIA | 6 | 6 | 6 | NO LIMITS |
| 51 | WISCONSIN | 3 | 3 | 3 | SAME AS USMLE |
| 52 | WYOMING | 7 ATTEMPTS ON ALL COMBINED | | | SAME AS USMLE |
| 53 | | | | | |
| 54 | | | | | |

Table 1



The tables above are constructed by this author from data compiled from the FSMB [1].

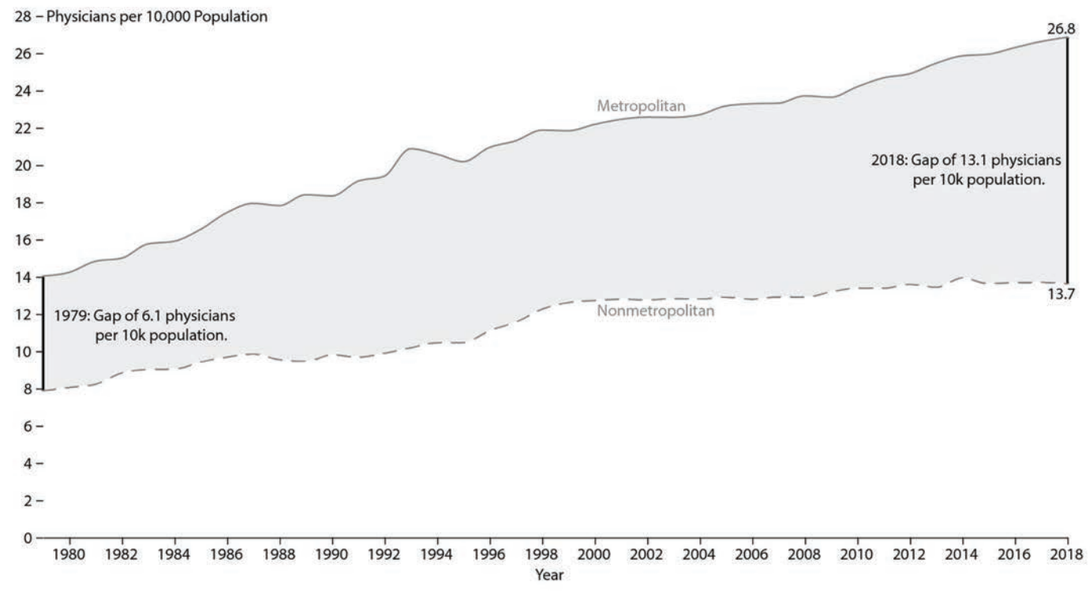
(See Appendix 1 for cumulative pass rates on USMLE and pass rate for US students and International students).

Graduates from many medical schools across the state and country are caught in a situation where if they fail to pass any one part of the USMLE after three attempts, they remain in limbo, if they decide they want to stay in NC. These graduates are not able to work in any clinical care setting as providers of any kind.

According to Sheps Health Workforce NC, which analyzed data from 1979-2018, looking at the number of physicians per 10,000 population, for metropolitan and non-metropolitan counties, it showed that there existed a gap of 6.1 physicians per 10K population in 1979 and that grew to a gap of 13.1 physicians per 10K population in 2018. The analysis showed that:

- The number of physicians in NC has grown over time, outpacing population growth.
- The main concern is not the overall number of physicians in North Carolina, but the distribution of physicians in the state. Most of the growth in physicians per capita has occurred in urban counties.
- In rural (non-metropolitan) counties, growth in physicians per capita has been slow. Access-to-care issues remain concerning in many rural and underserved places [2].

Physicians per 10,000 Population for Metropolitan and Nonmetropolitan Counties, North Carolina, 1979 - 2018

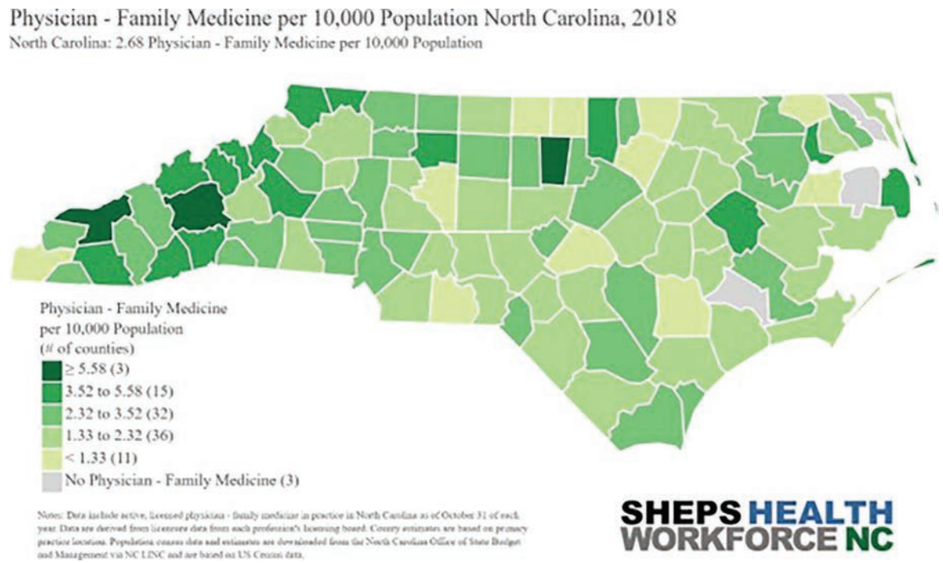



Notes: Data include active, licensed physicians in practice in North Carolina as of October 31 of each year who are not residents-in-training and are not employed by the Federal government. Physician data are derived from the North Carolina Medical Board. County estimates are based on primary practice location. Population census data and estimates are downloaded from the North Carolina Office of State Budget and Management via NC LINC and are based on US Census data.

SHEPS HEALTH WORKFORCE NC

Some counties are considered medical deserts and have no physicians while others (non-metropolitan areas) have less than adequate numbers of physicians, with access-to-care issues. Currently, two percent of the one hundred counties in NC (Gates & Camden) meet the definition of "medical deserts."

- Access to primary care is necessary to improving the health outcomes of communities. With the recent spread of the novel coronavirus in North Carolina, primary care is critical as an entry-point to further care.
- Many rural areas of North Carolina lack adequate access to primary care providers. The disparities in access between rural and metropolitan areas have continued to grow despite an overall increase of physicians in NC.
- Of NCIOM's target ratio of 1 primary care provider to every 1,500 people, currently, 60% of NC's 100 counties meet the NCIOM's target. Seven counties were substantially below target: Anson, Northampton, Franklin, Warren, Gates, Tyrrell and Camden. Camden has a population of just over 10,000, and no primary care providers.
- Our definition of primary care clinician includes physicians, nurse practitioners (NPs), physician assistants (PAs) and certified nurse midwives (CNMs) [3].




Whilst the physician residency requirements in North Carolina are quite stringent, the state continues to proliferate family nurse practitioners and physician assistants (who are not required to do a residency), at a rapid pace, in an attempt to meet the need. Interestingly, there are more states with less stringent requirements for graduates from Osteopathic schools for the COMLEX exams, as seen in the tables above. The reason for this is unclear.

To understand the reason for the licensure requirement, it is important to understand whether the number of times a graduate medical student sits for the USMLE is a predictor of their knowledge and competence during residency and post-residency. In addition, it is also important to understand if it can be a predictor of how many lawsuits or Medical Board complaints received against a license in the course of their career. Finally exploring whether proliferating non-physician extenders of care (at the expense of graduate medical students in limbo) is a good enough solution to provide adequate medical care to populations that often have untreated chronic conditions and complex co-morbidities, would help further shed light on the impact of the licensing requirements in NC.

It is important, for the purposes of this project, to point out the differences in training of the four types of medical providers that are licensed to practice in North Carolina. These include



physicians (who are comprised of Doctors of Medicine and Doctors of Osteopathy), Physician Assistants and Nurse Practitioners.

The difference between MDs and DOs includes a focus on holistic health and prevention for DOs, in addition to the conventional training in medicine. In holistic health, all parts of a person, including their mind, body, and emotions, are considered during the treatment. DOs further use a system of physical manipulations and adjustments to diagnose and treat people [4].

MDs and DOs must complete a 4-year undergraduate degree, obtain a high GPA in the pre- med curriculum, (between 3.6 and 4.0), pass the MCAT exam with competitive marks, complete four years of a rigorous medical school curriculum, pass the USMLE with competitive scores, then specialize in a field of medicine during residency, (typically 3-5 years), and may pursue additional sub-specialty training during fellowships (typically 1-3 years), prior to licensure, in order to practice medicine anywhere in the USA. The length of post-graduate training for PAs and NPs is shorter than for physicians. PAs must complete a 4-year undergraduate degree, obtain a GPA of 3.0-3.5 and then complete a generalist medical education at PA school (2 years, including 1500 clinical hours) and then go directly into practice.

Nurse Practitioners have many different education pathways such as doing an Associate degree in Nursing and then bridging to a Master's degree with 1-2 years to complete the Bachelor's degree course work. Otherwise, RNs with a BS degree in Nursing can apply for the Master's degree directly. In either case, the GPA required is 3.0-3.5 and a Master's degree is 2 years and includes a minimum of 500 clinical hours.

Below is a table that shows the composition of medical providers in the State [5].

**TABLE 1.**
**Demographic, Education, and Primary Care Specialty Characteristics of Nurse Practitioners, Physician Assistants, and Physicians in North Carolina, 2017**

| | Nurse Practitioners | | | Physician Assistants | | | Physicians | | |
|---|---|---|---|---|---|---|---|---|---|
| | NC | Rural | Urban | NC | Rural | Urban | NC | Rural | Urban |
| Total (Rate per 10k Population) | 6,644 (6.47) | 1,015 (4.59) | 5,629 (6.98) | 6,026 (5.87) | 896 (4.05) | 5,130 (6.36) | 24,432 (23.78) | 3,072 (13.90) | 21,360 (26.49) |
| Female (%) | 6,194 (93.2%) | 933 (91.9%) | 5,261 (93.5%) | 3,925 (65.1%) | 540 (60.3%) | 3,385 (66.0%) | 8,424 (34.5%) | 864 (28.1%) | 7,560 (35.4%) |
| Average Age (SD) | 45.6 (11.2) | 47.3 (11.1) | 45.3 (11.2) | 40.8 (11.7) | 43.1 (12.5) | 40.4 (11.5) | 49.0 (11.9) | 52.7 (12.0) | 48.5 (11.8) |
| Underrepresented Minority (%) | 855 (12.9%) | 126 (12.4%) | 729 (13.0%) | 512 (8.5%) | 77 (8.6%) | 435 (8.5%) | 2,779 (11.4%) | 430 (14.0%) | 2,349 (11.0%) |
| Professional Education in NC (%) | 3,842 (57.8%) | 576 (56.7%) | 3,265 (58.0%) | 2,476 (41.1%) | 349 (39.0%) | 2,127 (41.5%) | 5,644 (23.1%) | 675 (22.0%) | 4,969 (23.3%) |
| Primary Care (Rate per 10k Population) | 3,366 (3.28) | 624 (2.82) | 2,742 (3.40) | 1,637 (1.59) | 381 (1.72) | 1,256 (1.56) | 7,164 (6.97) | 1,151 (5.21) | 6,013 (7.46) |

Notes. 7 NPs (0.11%) and 1 PA (0.02%) were missing data on sex. 41 NPs (0.63%), 376 PAs (6.24%), and 980 (4.01%) physicians were missing data on race. 550 PAs (9.13%) were missing data on PA school location.
Sources. North Carolina Board of Nursing; North Carolina Medical Board; North Carolina Office of State Budget and Management.

## Methods

Information was gathered for analysis through a survey, (see Appendix 1), sent to senior members of the NCMB and residency directors in the state. The survey was sent to three senior staff members of the NCMB, and to three residency directors. A total of four responses were received, three from the NCMB and one from the Residency director of an AHEC program, for a response rate of 67%. In addition, a literature review was conducted of the published data from other sources including University of North Carolina's Cecil G. Sheps Center for Health Services Research, Sheps Health Workforce NC, *The North Carolina Medical Journal*, *North Carolina Health News* and News 3's *Investigative Journalism News* article.

## Results

The FSMB does not have data to show whether multiple USMLE attempts makes one a "good" or "bad" physician, as measured by Medical Board complaints, malpractice lawsuits, dissatisfaction of patients, measures of competency or knowledge. NCMB did not use those criteria when changing the rule to "three attempts" for each part of the USMLE. What was used was the fact that the passing rate for the USMLE did not change much after three attempts and hence, the policy was adopted.

## Discussion

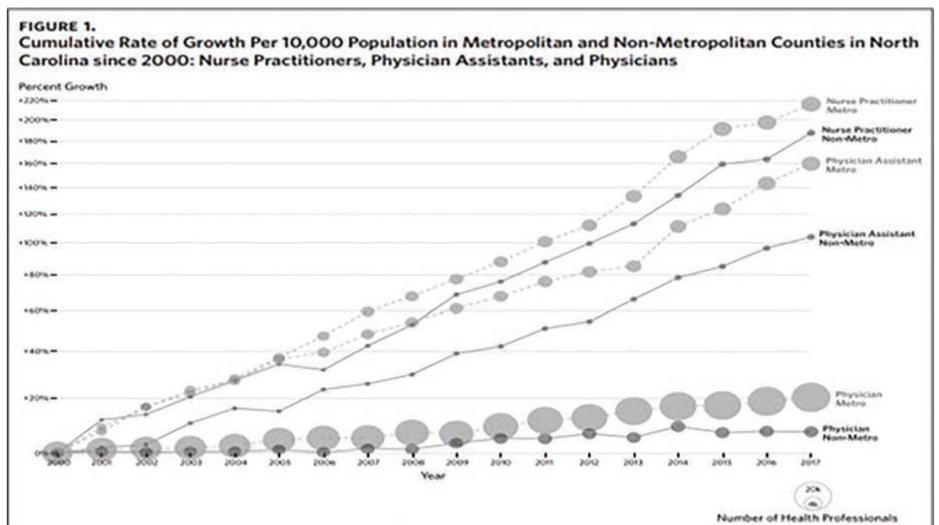
By virtue of educational requirements and length of training as mentioned above, graduate medical students have more in-depth knowledge of the physiology of the human body and a better understanding of the pathophysiology of disease conditions than the graduate PA or the graduate NP, allowing them more tools to handle the complexities of many diseases.

Since 2000, the growth of north carolina's nurse practitioners (nps) and physician assistants (pa) has outpaced that of physicians.

- The total number of NPs and PAs in North Carolina is less than the number of physicians, but new NPs and PAs are entering NC's workforce faster than physicians are.
- Between 2000 and 2017, the NP workforce grew most rapidly, increasing by 216% in non-rural counties and by 187% in rural counties.
- After 2014, the gap in workforce growth between non-rural and rural counties widened for both physicians and PAs [6].

In 2000, North Carolina's NP and PA workforces combined were 22% the size of the state's physician workforce. In 2017, the combined workforces were roughly half the size of the state's physician workforce; in rural counties, they were 62% the size of the state's physician workforce [7].

**FIGURE 1.**
**Cumulative Rate of Growth Per 10,000 Population in Metropolitan and Non-Metropolitan Counties in North Carolina since 2000: Nurse Practitioners, Physician Assistants, and Physicians**

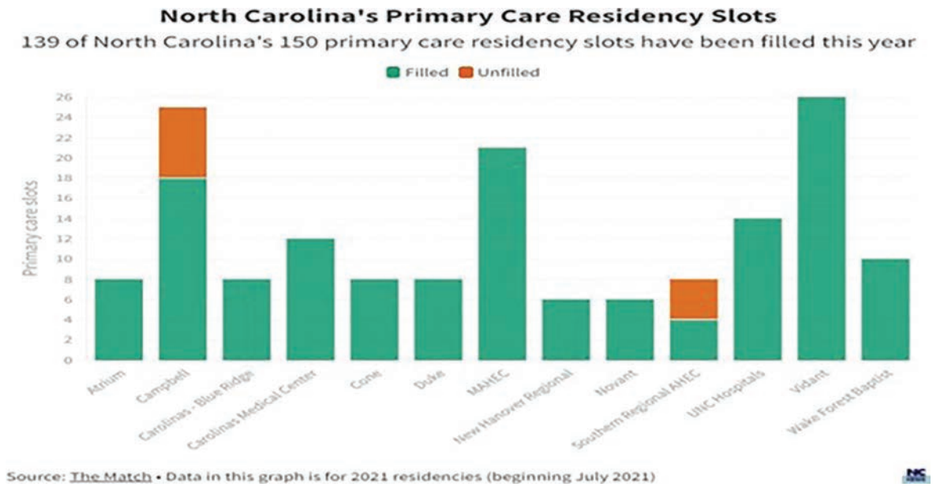



Source: Data are derived from the NC Board of Nursing and the NC Medical Board and include active, licensed NPs, PAs, and physicians in North Carolina as of October 31, 2017. Residents-in-training and federally employed physicians were excluded. NC population census data and estimates were downloaded via Log Into North Carolina (https://www.osbm.nc.gov/facts-figures/linc), a data retrieval tool maintained by the NC Office of State Budget and Management.

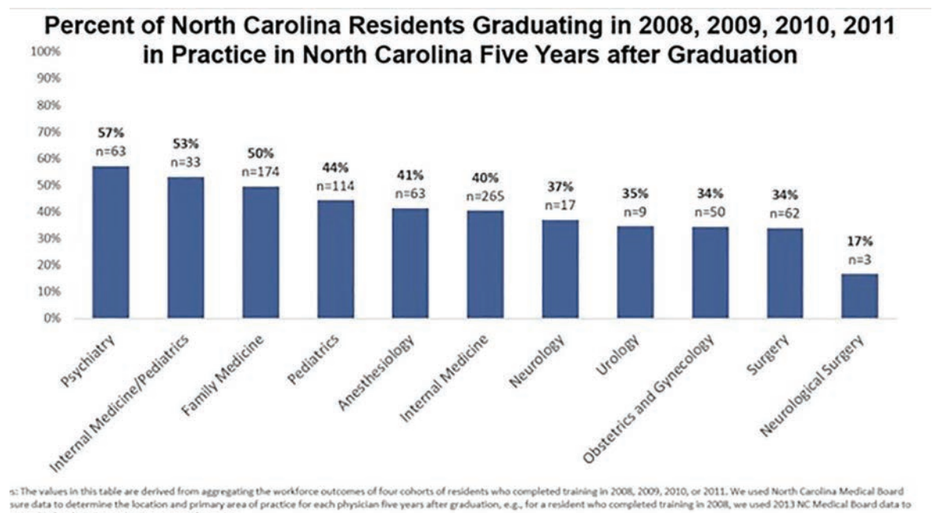


It would appear that a highly trained resource in the form of a graduate medical student is not being utilized to the benefit of the citizens of North Carolina. The Match 2021 data showed that only 139 of the 150 primary care residency slots were filled in North Carolina. Eleven of those seats could have been filled with graduate medical students who were otherwise deemed ineligible for residencies due to the current policy of the NCMB.

Despite a crushing need for primary care practitioners, few of the 550 newly graduated physicians in North Carolina, now residents — roughly 1 in 4 — will train in family medicine in medical centers around North Carolina [8].




There is also a problem with retention of North Carolina residents in the state, post-completion of residency, as depicted in the graph below.




s: The values in this table are derived from aggregating the workforce outcomes of four cohorts of residents who completed training in 2008, 2009, 2010, or 2011. We used North Carolina Medical Board sure data to determine the location and primary area of practice for each physician five years after graduation, e.g., for a resident who completed training in 2008, we used 2013 NC Medical Board data to rmine his/her location and primary area of practice.

The report concludes that GME programs in the state are not providing the workforce needed to meet population health needs. Of graduates who completed training between 2008-2011, 43% remained in NC and only 3% were in practice in rural North Carolina [9].

**National Data**

If the above issues were not bad enough, the U.S. faces a projected shortage of between 37,800 and 124,000 physicians within 12 years, according to The Complexities of Physician Supply and Demand: Projections From 2019 to 2034, a report released by the Association of American Medical Colleges (AAMC), in April of 2022. That shortage includes shortfalls of 17,800 to 48,000 primary care physicians and 21,000 to 77,100 specialists. The report's data were gathered before the COVID-19 pandemic, which exacerbated challenges to the nation's health care system [10].

With respect to Surgical Specialties: Based on current trends, the supply of surgeons is not projected to change substantially over the next 15 years and might decline as future attrition offsets or exceeds the number of newly trained surgeons. Demand continues to grow, with projected demand exceeding projected supply under all scenarios modeled. The projected shortage for 2034 is between 15,800 and 30,200 surgeons, which is a slightly larger range than the 17,100 to 28,700 surgeon shortage for 2033 in our 2020 report [11]. Yet each year thousands of graduates emerge from medical schools with a virtually useless MD or DO; without residency experience, they do not qualify for licensure in any state. Senator Robert Menendez, Democrat of New Jersey, introduced the Resident Physician Shortage Reduction Act in 2019 to increase the number of Medicare-supported residency positions available for eligible medical school graduates by 3,000 per year over a period of five years, but it has not received a vote. In late December, Congress passed a legislative package creating 1,000 new Medicare-supported residency positions over the next five years. Dr. Adaira Landry, an emergency physician in Boston, said of all the young doctors she had mentored, those who went unmatched were the most challenging to assist: "They want to be part of our health care system," she said. "But they have this boulder blocking them." [12]

Interestingly, the FSMB listed 24 states in 2011 with a "three attempt" rule and currently, that list is down to 15 states.

While interviews and scores are a huge part of the selection process, graduate students are seldom given a chance to interview even if seats go unmatched because the "3 attempt" rule would appear to be unbreakable. Boards do not typically grant exceptions even if there are extenuating circumstances that affected the student's scores on any part of the exam and the number of attempts made before passing the exam. All residency candidates are interviewed prior to being granted a position (another chance to test proficiency, if there are doubts) but typically these are not designed to test proficiency but rather, simply getting to know the candidate. Residency Directors prefer to have each of their seats filled as it benefits their residency program financially. Federal government funded Graduate Medical Education in 2015 up to $12.5 billion. Furthermore, there are huge shortages of physicians predicted in the next ten years.

**Conclusion**

If the NCMB does not take a leadership role in removing the obstacles to residency entry, to meet the health care needs of the citizens of the state, many patients may not have a physician to take care of their complex medical conditions. Their need would be addressed by a far less qualified resource by virtue of training, the advanced practice providers, who are less equipped to independently handle the problems of a burgeoning population of elderly patients. An official petition was submitted to the NCMB earlier this year, by this concerned physician, to request that the stipulation of a maximum of three attempts at any part of the USMLE be removed from the existing policy (and return to the previous policy).

It was reported that the petition would be presented to the committee that handles such requests, with a determination to remove the stipulation, after data are collected on some of the metrics as mentioned above. However, this may prove to be a very lengthy process if data is collected in a prospective manner.

A retrospective study might be a more efficient way to gather the data with a self-reported questionnaire added to licensing renewal applications, to determine if change in the policy is a wise decision.

The submitted petition may be read in full, in the appendix.

Should the NCMB decide to remove the stipulation, (even on a trial basis) it would allow these graduate medical students the opportunity to enroll in residency positions and residency directors to track their performance through three years of residency and the NCMB to follow them for a period of 3 years post-residency. Various metrics as mentioned in this project and in the petition itself, could be used to create a good prospective study and yield conclusions that may ultimately allow the NCMB to maintain its previous policy, thereby providing more primary care physicians to citizens in desperate need in many areas of the state.

**APPENDIX I**

USMLE Step 1

| Number of Attempts | Total Group N Test | Total Group Pass Rate | Total Group Cumulative Pass Rate |
|---|---|---|---|
| 1 | 362861 | 86.8 | 78.92 |
| 2 | 26060 | 51.9 | 82.32 |
| 3 | 7262 | 44.6 | 83.13 |
| 4 | 2010 | 36.2 | 83.31 |
| 5 | 630 | 30.5 | 83.36 |
| 6 | 203 | 30.5 | 83.37 |

USMLE Step 2 CK

| Number of Attempts | Total Group N Test | Total Group Pass Rate | Total Group Cumulative Pass Rate |
|---|---|---|---|
| 1 | 324162 | 91.0 | 84.47 |
| 2 | 18305 | 61.4 | 87.69 |
| 3 | 4750 | 52.4 | 88.40 |
| 4 | 1414 | 40.2 | 88.57 |
| 5 | 437 | 38.7 | 88.62 |
| 6 | 127 | 31.5 | 88.63 |

USMLE Step 2 CS

| Number of Attempts | Total Group N Test | Total Group Pass Rate | Total Group Cumulative Pass Rate |
|---|---|---|---|
| 1 | 309969 | 89.3 | 81.59 |
| 2 | 23983 | 75.4 | 86.92 |
| 3 | 4043 | 63.6 | 87.67 |
| 4 | 954 | 54.2 | 87.83 |
| 5 | 268 | 38.4 | 87.86 |
| 6 | 97 | 38.1 | 87.87 |

USMLE Step 3

| Number of Attempts | Total Group N Test | Total Group Pass Rate | Total Group Cumulative Pass Rate |
|---|---|---|---|
| 1 | 271340 | 92.6 | 85.33 |
| 2 | 16816 | 67.4 | 89.18 |
| 3 | 4432 | 61.3 | 90.11 |
| 4 | 1290 | 55.8 | 90.35 |
| 5 | 386 | 44.8 | 90.41 |
| 6 | 123 | 47.2 | 90.43 |

## APPENDIX 2

### QUESTIONNAIRE USED TO DETERMINE THE BASIS FOR THE USMLE "3 ATTEMPT" RULE IN NORTH CAROLINA (with answers provided in red)

1. When was this rule adopted by the NCMB and was it based on data collected on performance of residents nationwide or statewide? October 1st, 2011
2. Why did some states in the FSMB adopt this rule and others not? State's preference
3. How did the NCMB feel about restricting graduate medical students from being placed in residency, knowing that NC has inadequate numbers of physicians in many counties, including 2 counties that are termed medical deserts? No answer provided
4. Has NCMB got any data to prove (from Residency directors or other sources) that the quality of physician is lesser, if they attempted the USMLE 4 times versus 3 times, 3 times versus 2 times, 2 times versus 1 time? No data available
5. What are the metrics used to determine the quality, if the data exists, as articulated in question #3? Is it patient satisfaction or lawsuits against the physician for malpractice or is it hospital privileges revocation? Is it substandard quality of care issues whilst in residency or post-residency? No data available
6. Have residency directors in NC or NCMB got data on quality of performance of graduate medical students in residency programs (and post-residency) in states where the rule does not exist? No
7. Can the NCMB temporarily reverse the rule, to meet the need for physicians in NC and then prospectively follow the performance of these physicians for a period of 2-3 years post-residency, in attempt to collect performance data? To be determined by committee
8. If the performance of these graduate residents is deemed acceptable (as compared to those who passed USMLE on 3 attempts or lesser), will residency directors be accepting of the NCMB removing the rule permanently? To be determined
9. Do residency directors in NC feel that the USMLE has any bearing on performance of graduate students in any residency program in the State? Informally, No



**REFERENCES:**


Federation of State Medical Boards https://www.fsmb.org/step-3/state-licensure/

Spero, J, Galloway, E. https://nchealthworkforce.unc.edu/blog/physician_growth_metro/

Galloway, E, Spero, J, Wilson, H. https://nchealthworkforce.unc.edu/interactive/supply/

Brennan, D. https://www.webmd.com/a-to-z-guides/difference-between-md-and-do

Spero, J, Galloway, E. Running the Numbers. The rapid expansion of PAs and NPs in NC. NCMJ. 2019; 80(3): 186-190 https://www.ncmedicaljournal.com/content/ncm/80/3/186.full.pdf

Spero, J, Galloway, E. https://nchealthworkforce.unc.edu/blog/growth-of-nps-pas/

Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. North Carolina Health Professional Supply Data: Registered Nurses per 10,000 Population by County, North Carolina, 2017. North Carolina Health Professions Data System website. https://nchealthworkforce.unc.edu/supply/

Engel-Smith, L. https://www.northcarolinahealthnews.org/2021/06/11/tackling-ncs-rural-health-care-provider-shortage-one-residency-slot-at-a-time/

Fraher, E, Spero, J, Galloway, E, Terry, J. The Cecil G. Sheps Center for Health Services Research. 2018; The Workforce Outcomes of Physicians Completing Residency Programs in North Carolina. https://www.shepscenter.unc.edu/workforce_product/workforce-outcomes-nc-physician-residency-graduates/

Association of Schools Advancing Health Professions Report on Physician Shortages, https://www.asahp.org/asahp-newswire/2021/6/14/report-on-physician-shortages

Association on American Medical Colleges; The Complexities of Physician Supply and Demand: Projections From 2019 to 2034 https://www.aamc.org/media/54681/download

https://www.nytimes.com/2021/02/19/health/medical-school-residency-doctors.html

North Carolina Medical Society

*Leadership in Medicine*

KANOF INSTITUTE FOR **PHYSICIAN LEADERSHIP**

222 N. Person Street, Raleigh, NC 27601 | Phn: (919) 833-3836 / (800) 722-1350
Web: www.ncmedsoc.org/kipl