# 2016 NURSING PRACTICE

# SGHOLES PROJECTS

VANDERBILT UNIVERSITY



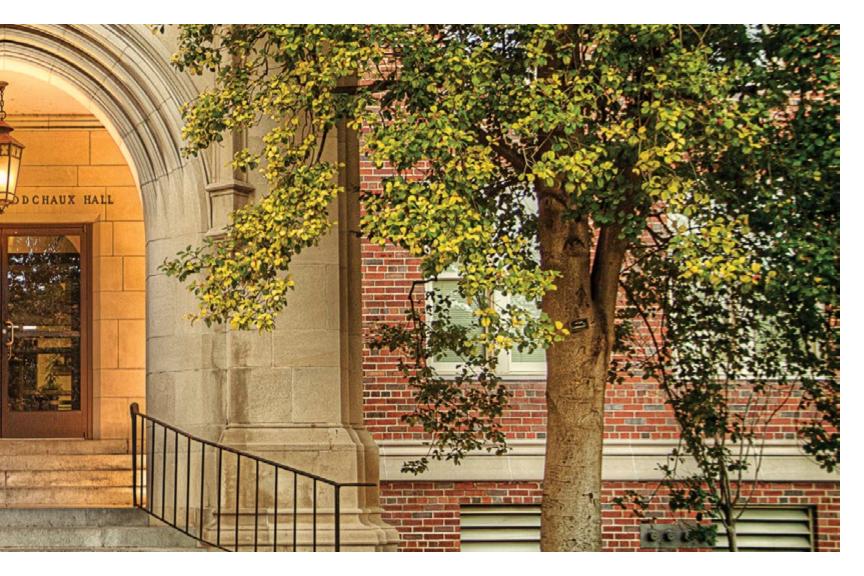
School of Nursing



# 2016

# DOCTOR OF NURSING PRACTICE SCHOLARLY PROJECTS





# **FOREWORD**

Congratulations Doctor of Nursing Practice graduates! You have met the rigorous standards of this program and achieved individual scholarly accomplishments showcased in this booklet.

You chose the Vanderbilt University School of Nursing to learn, transform and apply knowledge in new ways and you have certainly reached those goals. The Institute of Medicine's landmark *Future of Nursing* report calls for significantly more doctorally educated nurses to advance health care and you are prepared to implement that recommendation. You are now well equipped to make meaningful contributions within your own community, your interest area and throughout the world of health care. We are proud of you, and look forward to the difference you will make.

Sincerely,

Linda Norman, DSN, RN, FAAN

Valere Potter Menefee Professor of Nursing Dean, Vanderbilt University School of Nursing



# FROM THE DIRECTOR

The future of nursing is now as our 2016 DNP graduates lead interprofessional teams in creating meaningful innovations. The scholarly projects of the 2016 graduates cross geographical and discipline boundaries in identifying gaps in evidence and practice. Self-described change masters their impact on quality outcomes for patient-centric health care will be recognized across myriad organizations globally.



Jerri allison

Terri Allison, DNP, RN, ACNP-BC, FAANP Associate Professor of Nursing Director, Doctor of Nursing

# **SUSIE ADAMS**

PhD, RN, PMHNP-BC, FAANP Faculty Scholar for Community Engaged Behavioral Health

# SHEREE ALLEN

DNP, APN, CPNP-AC/PC Instructor in Nursing Director, Pediatric Acute Care

# **MELANIE ALLISON**

DNP, RN, ACNP-BC
Assistant Professor of Nursina

# **TERRI ALLISON**

DNP, RN, ACNP-BC, FAANP Associate Professor of Nursing Director, Doctor of Nursing

#### ANGEL ANTHAMATTEN

DNP, ADM, FNP-BC
Assistant Professor of Nursing

# K. MICHELLE ARDISSON

DNP, RN, ACNP-BC

Assistant Professor of Nursing Pre-Specialty Clinical Instructor AG-ACNP Specialty Instructor

# JOSHUA L. BAXTER

CRNA, DNP
Assistant Professor of Nursing

# **ALICE BERNET**

PHD, RN, PMHNP-BC Instructor of Nursing

# LINDA BEUSCHER

PhD, GNP, BC
Assistant Professor of Nursing

# **SHARON E. BRYANT**

DNP, RN, ACNP-BC Assistant Professor of Nursing

# **STEVEN BUSBY**

PhD, FNP-BC
Assistant Professor of Nursing

# **CAROL CALLAWAY-LANE**

DNP, ACNP-BC Clinical Instructor in Nursing

# RAMEELA CHANDRASEKHAR

MA, PhD

Assistant Professor of Biostatistics

# **LEENA CHOI**

PhD

Associate Professor of Biostatistics

# TOM CHRISTENBERY

PhD, RN, CNE

Assistant Professor of Nursing

#### **EYDIE CLOYD**

JD, MSN, PMHNP-BC Instructor in Nursing

#### MICHELLE COLLINS

PhD, CNM

Associate Professor and Specialty Director Nurse-Midwifery Program

# **COLLEEN CONWAY-WELCH**

PhD, CNM, FAAC, FACNM Nancy & Hilliard Travis Professor of Nursing Dean Emerita

#### **COURTNEY J. COOK**

DNP, ACNP-BC
Instructor in Nursing

# **TERRI DAVIS CRUTCHER**

DNP, RN

Assistant Professor of Nursing Assistant Dean, Clinical and Community Partnerships

# MICHAEL CULL

PhD, PMHNP-BC

Assistant Professor of Nursing Director, Education and Dissemination, Office of Quality and Patient Safety

# KAREN C. D'APOLITO

PhD, APRN, NNP-BC, FAAN

Professor of Nursing

Director, Neonatal Nurse Practitioner

Specialty

# **MELISSA DAVIS**

MSN, CNM, FNP

Instructor of Clinical Nursing

# RICHARD A. EPSTEIN

PhD. MPH

Associate Professor of Psychiatry Director, Center of Excellence for Children in State Custody

# SHARON FLEMING

DNP, RN, CPNP-PC, CNS
Instructor in Nursing

# SARAH C. FOGEL

PhD, RN

Associate Professor of Nursing

# MARK E FRISSE

MD, MS, MBA

Professor of Medicine

# MARY JO GILMER

PhD, MBA, RN-BC, FAAN
Professor of Nursing
Professor of Pediatrics,
Monroe Carell Jr Children's Hospital
at Vanderbilt
Co-Director, Pediatric Palliative Care
Research Team

# MELISSA GLASSFORD

DNP, FNP-C

Instructor in Nursing

# **JEFF GORDON**

PhD

Professor of Educational Informatics

#### **VANYA HAMRIN**

DNP, RN, PMHNP, B.C.
Associate Professor of Nursing

#### **KAREN HANDE**

DNP, ANP-BC
Instructor in Nursing

# **QUEEN HENRY-OKAFOR**

PhD, APRN, FNP-BC
Assistant Professor of Nursing

#### JENNIFER G HENSLEY

EDD, CNM, WHNP-BC, LCCE Associate Professor of Nursing

# **ROBIN L. HILLS**

DNP, RN, WHNP-BC, C-MC Assistant Professor of Nursing

# **SHARON HOLLEY**

DNP, CNM, APN

Assistant Professor of Nursing

# **LESLIE HOPKINS**

DNP, APRN-BC, FNP-BC, ANP-C Assistant Professor of Nursing Director, AGPCNP Program

# **CATHY IVORY**

PhD, RN-BC, RNC-OB Assistant Professor of Nursing

# **PAM JONES**

DNP, RN, NEA-BC Associate Professor Senior Associate Dean Clinical and Community Partnerships

# **SHARON KARP**

PhD, RN, CPNP Assistant Professor of Nursing

#### **BETSY B. KENNEDY**

PhD, RN, CNE

Associate Professor of Nursing Director of Faculty Development

# **CHRISTIAN KETEL**

DNP. RN-BC

Instructor in Clinical Nursing

# **JENNIFER KIM**

DNP, GNP-BC, FNAP

Assistant Professor of Nursing AG-PCNP Co-Director, Vanderbilt Hartford Center for Gerontological Nursing Excellence

# **JOAN KING**

PhD, RNC, ACNP, ANP
Professor of Nursing
Director for the Acute Care Nurse
Practitioner Program

# STEVE KRAU

PhD, RN

Associate Professor of Nursing

# JANA LAUDERDALE

PhD, RN

Associate Professor of Nursing Assistant Dean for Cultural Diversity

# SUSIE (TREASA) LEMING-LEE

DNP, MSN, RN, CPHQ

Assistant Professor of Nursing Health Systems Management

# KANAH MAY LEWALLEN

DNP, RN, AGPCNP-BC Instructor in Nursing

# KATHRYN LINDSTROM

PHD, FNP-BC, ACHPN

Assistant Professor of Nursing Palliative Care Focus Coordinator

# **RENE LOVE**

DNP, PMHCS-BC, NAP Assistant Professor of Nursing

# MELANIE LUTENBACHER

PhD, MSN, FAAN

Associate Professor of Nursing with tenure Associate Professor of Medicine (secondary) – General Pediatrics

# **DONNA McARTHUR**

PHD, FNP-BC, FAANP Professor of Nursing DNP Program Director, 2008-2012

# **MELISSA MCPHEETERS**

PhD, MPH

Research Associate Professor of Health Policy

Director, Vanderbilt Evidence-based Practice Center

Director, Epidemiology Track, Master's in Public Health

Institute for Medicine and Public Health

# **ELIZABETH R. MOORE**

PhD, RN, IBCLC

Associate Professor of Nursing

# **GINNY MOORE**

DNP, WHNP-BC

Assistant Professor of Nursing Director WHNP Program

# **BRITTANY NELSON**

DNP, RN, CPNP

Assistant Professor of Nursing

# LINDA NORMAN

DSN, RN, FAAN

Valere Potter Menefee Professor of Nursing Dean

# **MELISSA OTT**

DNP, RN, PMHNP-BC, FNP-BC

Adjunct for VUSN, PMHNP program

# **ABBY PARISH**

DNP, MSN, RN, APN-BC
Assistant Professor of Nursing

# JULIA PHILLIPPI

PHD, CNM, FACNM

Assistant Professor in Nursing

# **BONNIE PILON**

DSN, RN, BC, FAAN

Professor of Nursing, Health Systems Management Senior Associate Dean for Clinical and

# **CARRIE PLUMMER**

Community Partnerships

PhD, ANP-BC

Instructor in Nursing Adult Gerontological Primary Care Nurse Practitioner Program

# **GERI C. REEVES**

APRN, PhD, FNP-BC
Assistant Professor of Nursing

# MAVIS N SCHORN

PhD, CNM, FACNM
Assistant Dean for Academics
Director, Nurse-Midwifery
Associate Professor

# PATTI SCOTT

DNP, APN, NNP-BC, C-NPT Assistant Professor Neonatal Nurse Practitioner Program and DNP Program

# SANDRA SEIDEL

DNP, RN, PMHNP-BC
Associate in Psychiatry

# PATRICIA P. SENGSTACK

DNP, RN-BC, CPHIMS

Chief Nursing Informatics Officer

#### **MEGAN SHIFRIN**

DNP, RN, ACNP-BC

Instructor, AGACNP program

# **HEIDI J. SILVER**

PhD, RD, LDN

Research Associate Professor of Medicine Director, Vanderbilt Nutrition and Diet Assessment Core

#### **MEGAN SIMMONS**

DNP, RN, PMHNP-BC
Instructor in Nursing

# K. MELISSA SMITH

DNP, ANP-BC

Instructor in Nursing

# **CLARE THOMSON-SMITH**

MSN, RN, JD, FAANP

Assistant Dean for Faculty Practice Director, Center for Advanced Practice Nursing and Allied Health

# R. JASON THURMAN

MD, FAAEM, CPPS
Chief Medical Officer

#### TRISH TRANGENSTEIN

PhD, RN-BC

Specialty Director, Nurse Informatics Program Professor, Nursing Informatics

# **DAWN VANDERHOEF**

PhD, DNP, PMHNP/CS-BC
Assistant Professor of Nursing

# **RICK WATTERS**

PhD, RN

Clinical Associate Professor of Nursing

# PAMELA WAYNICK-ROGERS

DNP, APRN-BC
Instructor of Nursing

# DR. JOHN WEATHERWAX

LT COL, USAF, NC Adjunct Faculty Primary Care Flight/Flight Commander

# **BETSY WEINER**

PhD, RN-BC, FACMI, FAAN

Senior Associate Dean for Informatics Centennial Independence Foundation Professor of Nursing Professor of Biomedical Informatics

# **BRIAN WIDMAR**

PhD, RN, ACNP-BC, ACNPC, CCRN Assistant Professor of Nursing & Anesthesiology, Critical Care Division Coordinator, AG-ACNP Intensivist Subspecialty

# JENNIFER WILBECK

DNP, APRN-BC, CEN

Associate Professor of Nursing FNP/ACNP-ED Program Coordinator

# **CHRISTOPHER "TY" WILLIAMS**

DNP, RN, ACNP-BC, FNP-BC
Instructor in Nursing

# TERRY WITHERINGTON

DNP. CPNP

Director of the Pediatric Nurse Practitioner Primary Care Program

#### **KELLY A. WOLGAST**

DNP, MSS, RN, FACHE Colonel, U.S. Army (Ret) Assistant Professor

# **COURTNEY J. YOUNG**

DNP, MPH, FNP-BC Assistant Professor of Nursing

#### CAROL ZIEGLER

DNP, NP-C, MS, RD
Assistant Professor of Nursing
Family Nurse Practitioner Program
Global Health Initiatives



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LAURA E. AYERS DNP, MSN, FNP-BC FAMILY NURSE PRACTITIONER

# Medication Non-Adherence in the Adult African American Male with Hypertension

# Purpose

The purpose of this scholarly project was to identify determinants of medication nonadherence in the African American adult male with the singular diagnosis of hypertension in the outpatient setting.

# Methodology

A descriptive, nonexperimental project design was utilized to identify determinants of medication nonadherence in a group of self-identified African American adult males with a singular diagnosis of hypertension. A convenience sample of sixty (n=60) participants who were patients of an outpatient internal medicine office participated in this scholarly project. Participants completed the Morisky Medication Adherence Scale-8 (MMAS-8) survey tool with an internal consistency, Cronbach's alpha, of 0.83 to determine their level of medication adherence. Three additional questions addressing causes of medication non-adherence were asked in addition to the MMAS-8. Data analysis utilized descriptive statistics to analyze the results of the MMAS-8 Questionnaire.

# Results

The MMAS-8 Questionnaire proved to be an effective tool in determining medication nonadherence, revealing a high degree of non-adherence (n=60) with 75% to 98% of the respondents reporting some degree of nonadherence with their antihypertensive medications. The determinants compiled failed to identify any new or differing determinants from those currently present in the literature: forgetfulness, inconvenience, and side effects. Demographic data results revealed participants were primarily age 55 years and older (n = 34. 56.7%), married (n = 40, 66.7%), possessed an education level from 8th to 12th grade (n = 34, 56.7%) and retired from employment (n = 39. 65.0%).

# Implications for Practice

Nonadherence to antihypertensive medication regimens remains a significant problem in the African American adult male population. Consequently, it is necessary for health care providers to identify and understand determinants of medication nonadherence to effectively manage hypertension in adult African American male patients resulting in the reduction of comorbid illnesses and increased mortality.

# Establishing a Standardized Heart Failure Patient Education Program

# Purpose

To determine the impact of an individualized heart failure (HF) patient education program on improved outcomes and self-care knowledge for HF patients. HF prognosis is poor despite pharmacological therapy. There is increasing emphasis on non-pharmacological therapy to improve outcomes and self-care knowledge.

# Methodology

A quality improvement study was conducted on a sample of 30 class I-III HF patients applying a one-on-one teaching session with a nurse educator. The efficacy of the education materials was determined using a pre and post HF education inventory.

# Results

Results indicate the positive impact of a oneon-one nurse HF education program taught by a nurse educator. Patients' knowledge in the post-education inventory improved by 1.9 points (p<0.001) as demonstrated in a paired one-tail t-test.

# Implications for Practice

A one-on-one HF education program delivered by a nurse educator demonstrated improved patient self-care knowledge on diet, activity, weight monitoring, when to call the doctor, follow up appointment, and medications as well as consistency of care, with future implications for research including analyzing improved clinical outcomes.



# STEPHANIE BOYD

DNP, MSN, RN HEALTH SYSTEMS MANAGEMENT



# STACEY Browning DNP, MSN, RN

HEALTH SYSTEMS MANAGEMENT

# The MUSIC Pilot: Music Use Soothing Intensive Care

# Purpose

The primary objective of this pilot study was to reduce the incidence of delirium among mechanically ventilated (MV) patients who received nurse-directed, patient-specific, prescribed doses of therapeutic music in the Medical Intensive Care Unit (MICU).

# Methodology

The mid-range theory used to guide this study was the person-centred nursing framework. Patients were enrolled and randomized to either the therapeutic music group or normal care (control) group. Two metrics were collected and measured including the Richmond Agitation Sedation Scale (RASS) and Confusion and Agitation Method (CAM-ICU) scores. RASS scores were captured for each patient as ordinal data with scores ranging from -5 to +4. CAM scores were continuous measurements of the percent of time the patients in each group were CAM + which would indicate the presence of ICU delirium.

# Results

Due to the small sample size (n=6), no statistical significance could be assigned to the data. The RASS data suggested that the MUSIC group (n=3) spent more time calm to agitated (1.3±1.2(5)) while the control group (n=3) appeared to fluctuate between sedated (2.7±1.7(4)) and agitated (1±0.8(2)). The MUSIC group (n=3) experienced less frequency and/or duration of ICU delirium (33%) than the control group (n=3) did (67%) according to the data collected.

# Implications for Practice

Given as a nursing intervention, prescribed doses of patient-specific, therapeutic music is not only cost-effective, but does not require additional training, education, and resources. Early recognition of delirium, combined with prompt therapeutic treatment, has potential to improve clinical outcomes, reduce costs associated with complications of delirium, and decrease healthcare resource consumption. Advanced practice nurses (APN) are strategically positioned to bridge gaps in literature by synthesizing and integrating existing research to operationalize evidencebased tools and interventions that correctly diagnose and treat delirium, while also providing support and education to patient and families.

# Evaluation of a Scheduled Hospital Discharge Program

# Purpose

The purpose of this DNP project was to evaluate a scheduled discharge program and determine whether the program improved patient flow, increased patient satisfaction, and promoted safety and quality during the hospital discharge process. The program was developed to facilitate communication and foster preparedness for patients, family, and members of the healthcare team about the anticipated day of discharge and the discharge plan of care.

# Methodology

A through review of the literature was performed to analyze current evidence supporting patient safety and satisfaction by improving patient flow and the hospital discharge process. The Institute for Healthcare Improvement's Model for Improvement and Kotter's Eight Steps for Leading Change guided the evaluation. A pre and post program comparative analysis of the outcome measures was conducted to determine the effectiveness of the program.

# Results

Measures included in the analysis were discharge time of day, discharge order time to departure time, and patient and staff satisfaction. The analysis showed minimal impact on the time of day that patients left the hospital; however, staff and patient satisfaction scores demonstrated an upward trend. Lessons learned beyond the data analysis included leadership for change and change management challenges.

# Implications for Practice

Quality improvement efforts continue to focus on strategies to improve patient flow to reduce hospital overcrowding. The Scheduled Hospital Discharge Program aimed to accomplish this with focus on the hospital discharge process. This program was evidence-based and offered recommendations to improve patient flow through timely and effective inter-professional communication and collaboration, earlier discharge planning, and by balancing the workload associated with discharges throughout the day. Anticipatory planning as patients transition from the hospital to the next level of care can reduce avoidable, last minute delays leading to decreased cost of care, length of stay, and avoidable hospital readmissions related to inefficient discharge planning.



# PAMELA BRUCE

DNP, MSN, RN HEALTH SYSTEMS MANAGEMENT



# ELIZABETH BURKE

DNP, PMHNP PSYCHIATRIC-MENTAL HEALTH NURSE PRACTITIONER

# Implementation of Pharmacogenetic Testing in a Community Mental Health Center

# Purpose

Psychiatry has traditionally used trial and error prescribing. Pharmacogenetic testing (PGT) may expedite identifying medications with maximal efficacy and minimal side effects by recognizing individual variability in genetics as a key component of drug response. The purpose of the project was to implement PGT services in an outpatient mental health center to facilitate prescribing psychotropic medications for treatment refractory depression in adults and assess provider perception of implementation.

# Methodology

The Quality Implementation Framework guided implementation in four phases over a six-week implementation evaluation period. Over the course of the project, implementation efforts focused on selecting a laboratory, coordinating laboratory logistics, conducting a provider training, determining patients eligible for testing, and analyzing provider perceptions pre- and post-implementation. The Evidence-Based Practice Attitude Scale including Genome Informed Interventions (EBPAS-GII) assessed provider openness, appeal, and divergence.

# Results

Prior to PGT training, 100% of providers had heard of PGT, but none had conducted a test. Fourteen providers received training on PGT and were able to offer PGTs to patients. Six weeks after training, analysis of the process was conducted. After patient eligibility criteria were applied, six of fourteen providers (43%) had patients appropriate for screening and two of the six eligible providers (33%) ordered tests. A total of 24 patients received testing during the implementation period.

# **Implications for Practice**

Implementation of PGT requires collaboration and planning among internal and external entities. Facilities face unique challenges during implementation and the speed of implementation can vary based on patient, provider, and organizational characteristics. Thorough planning and flexibility in the process are necessary to facilitate smooth implementation of pharmacogenetic testing in a clinical setting.

# Developing Competency Guidelines for Ultrasound-Guided Peripheral Intravenous and Radial Arterial Line Catheterization for Anesthesia Providers

# Purpose

Peripheral intravenous access and radial arterial line placement are procedures commonly performed by anesthesia providers, however, circumstances can make obtaining access extraordinarily difficult or technically challenging. Providers who routinely perform vascular access procedures should be adequately educated in ultrasound-guided techniques. The purpose of this project was to develop competency guidelines for ultrasound guided peripheral vascular access. Various agencies have authored guidelines, however, the amount of education and training required to be competent in the skill remained unclear.

# Methodology

In order to develop competency guidelines specific to a moderately sized anesthesia department in a tertiary care hospital, didactic training was provided along with a pre-education and post-education survey to determine baseline familiarity and to help target specific learning needs.

# Results

Implementation of a educational model improved perceived skill ability, however, more than half the providers who attempted to use the US to achieve peripheral vascular access after the module were not successful.

# Implications for Practice

This highlighted and supported the importance of formal competency guidelines. Accordingly, guidelines were developed for this anesthesia department based on survey results and existing guidelines. The primary focus of these guidelines were on hands-on skills.



# KRISTINE CALDWELL

DNP, MSN, CRNA
CERTIFIED REGISTERED
NURSE ANESTHETIST



# TRACY CHEW-MCBREARTY DNP, CNM, RN

NURSE-MIDWIFERY

# Educating Nurses on the Benefits of Maternal-Newborn Skin-to-Skin Contact After Birth

# Purpose

To educate the nurses on the labor and delivery unit at Blanchfield Army Community Hospital on the benefits of maternal-newborn skin-to-skin contact after birth.

# Methodology

Pre-test, educational intervention, post-test.

# Results

Wilcoxon signed ranks test was performed to determine if this intervention increased participants' knowledge regarding the benefits of skin-to-skin contact after birth. Results indicated the intervention was effective in increasing nurses' knowledge of the benefits of skin-to-skin contact after birth.

# Implications for Practice

With the increase in knowledge of these benefits, the nurses are more likely to implement this intervention. The results of this project will be used to revise the unit's skin-to-skin contact protocol.

# Measuring Adherence to Cervical Cancer Screening Guidelines: A Quality Improvement Initiative

# Purpose

The purpose of this quality improvement initiative was to measure adherence to cervical cancer screening guidelines in a hormone therapy clinic and determine whether unnecessary medical testing was occurring in this practice.

# Methodology

A retrospective chart review of 40 randomly selected charts was conducted in a hormone therapy clinic. Selection criteria for reviewed charts included: postmenopausal females with hormone therapy initiated between January 1, 2013 to January 1, 2015; no known prior history of cancer, HPV, or abnormal pap test results; and 30-65 years of age. A data collection tool was utilized to collect the necessary data from the charts, then the collected data was compared to cervical cancer screening guidelines to determine whether the guidelines were met or unmet. The lowa Model served as the conceptual framework for this quality improvement initiative supplying a strategic process in which to implement evidence into practice.

# Results

Thirty-five percent of the reviewed charts met current cervical cancer screening guidelines, while 65 percent of the reviewed charts failed to meet guidelines. These results indicate that the clinic was substandard in following cervical cancer screening guidelines and unnecessary medical testing occurred during this practice.

# **Implications for Practice**

The key impact on practice arising from this initiative focuses on the need to continually appraise and reevaluate practice to ensure that EBP is being implemented and to decrease unnecessary medical testing. In addition, this initiative emphasizes and demonstrates the value in following a conceptual framework to initiate a quality improvement process. Ideally, this initiative will create awareness within this practice and others regarding the need for quality improvement interventions and guide others through the process.



ALLISON
DAVIS

DNP, APRN, FNP-BC
FAMILY NURSE PRACTITIONER



SARAH ANN Davis

DNP, AGACNP-BC, FNP-BC

ADULT-GERONTOLOGY

ACUTE CARE NURSE

PRACTITIONER - INTENSIVIST

# Job Satisfaction Among Advanced Practice Providers in an Academic Medical Center

# Purpose

To assess intrinsic and extrinsic factors of advanced practice providers' (APPs) job satisfaction in an academic medical center (AMC) and secondarily to provide data regarding these factors to guide development of professional advancement of APPs within AMCs.

# Methodology

The Misener Nurse Practitioner Job Satisfaction Scale (MNPJSS) and demographic survey were distributed to all critical care APPs within a large urban AMC using a nonprobability convenience sample and cross-sectional design. Sample size = 59, response rate = 64%. MNPJSS is a 44 item, questionnaire utilizing a six-point Likert scale; responses range from "very satisfied" to "very dissatisfied." Assessment of APP's satisfaction included: intra-practice partnership/collegiality, challenge/autonomy, professional/social/community interactions, professional growth, time, and benefits. Sub-factors were analyzed to determine what provided the greatest and least satisfaction.

# Results

Job autonomy, challenge and professional growth opportunities were rated "minimal satisfaction"

to "dissatisfaction", respectively. The sub-factors time, and professional/social, and community interactions scored "minimally satisfied"; benefits provided "satisfaction." Findings were consistent across multiple demographics: age, gender, degree preparation, years of experience, current practice setting, and experience at the institution. Sample size was not large enough to power for statistical significance and results cannot be generalized.

# Implications for practice

Knowledge of satisfaction scores provides foundational evidence for creation and implementation of an advancement process for APPs Unfortunately, there is little consensus on how the advancement pathways should be structured, causing large variation in expectations and outcomes. A comprehensive understanding of factors affecting job satisfaction among APPs is essential to ensure retention. Future research would include investigation about APP satisfaction in other AMCs, community practices, and the private sector; utilizing the known satisfiers to guide the development of advancement processes of APPs. Implications for practice include: baseline knowledge of satisfaction (job motivators) and specific areas that employers could address to improve or maintain satisfaction.

# Implementing a Protocol to Improve Cardio-metabolic Monitoring Rates in Persons with a Severe Mental Illness Prescribed Atypical Antipsychotic Medication

# Purpose

The purpose of this scholarly project was to design and implement a protocol to improve cardio-metabolic monitoring rates in persons with a severe mental illness (SMI) treated at a Federally Qualified Health Center (FQHC) located in California. The goal of the project was to improve cardio-metabolic monitoring rates among persons with a SMI on atypical antipsychotics (AA) in order to improve the quality of care.

# Methodology

This quality improvement project utilized a modified version a monitoring protocol to improve cardio-metabolic monitoring rates among persons with a SMI on AAs. Cardio-metabolic indicators monitored included serum glucose, fasting lipids, weight, body mass index and blood pressure. The theory of quality improvement by Avedis Donabedian was used to guide this project.

# Results

The implementation of the cardio-metabolic monitoring protocol increased the cardio-metabolic monitoring rate for SMI patients prescribed AA medication. Analysis of the data demonstrated an improvement in three of the five cardio-metabolic monitoring rates including lipids from 49% to 64%, glycohemoglobin or glucose from 71% to 77% and blood pressure from 98% to 99%. Additionally, monitoring rates for two indicators weight and body mass index were maintained at their pre implementation rates.

# Implications for Practice

The results of this scholarly project indicate that advanced practice psychiatric nurse practitioners effectively utilized evidence from the literature to implement a protocol to increase guideline adherence within a behavioral health department of a FQHC. Although this project setting was an outpatient FQHC, it is possible that this protocol can be used in other settings as well as larger organizations. Evidence based practice should be used to guide change in a way that improves the quality of care provided to persons with a SMI.



# VERONICA DEATRICK

DNP, MSN, PMHNP
PSYCHICATRIC-MENTAL HEALTH
NURSE PRACTITIONER



MISTY EVANS

DNP, APRN, CPNP-AC
PEDIATRIC NURSE PRACTITIONER
- ACUTE CARE

# Results of an International Collaboration: Implementing Antibacterial Prophylaxis in a Pediatric Hematopoietic Stem Cell Transplant Program

# Purpose

The purpose of this scholarly project was to reduce the incidence of bacterial infections in pediatric patients undergoing hematopoietic stem cell transplant (HSCT) at King Hussein Cancer Center in Amman, Jordan.

# Methodology

An extensive literature review indicated that bacterial prophylaxis may significantly reduce the incidence of bacterial infections for HSCT recipients. We implemented cefepime prophylaxis in pediatric patients receiving HSCT at KHCC starting April 2014. We evaluated the incidence of bacterial infections 2 years prior and 1 year following the implementation of antibacterial prophylaxis.

# Results

A total of 174 patients were included in the study, 108 in the pre-intervention group and 66 who received cefepime prophylaxis. A total of 19 (17.6%) patients in the pre-intervention group experienced at least one bacterial infection during transplant; while a total of 3 (4.5%) experienced 3 infections in the prophylaxis group. The odds of developing bacterial infection during pre-engraftment was significantly lower

in patients who were treated with antibacterial prophylaxis compared to those who were not treated with prophylaxis (p = 0.037). In multivariate analysis adjusting for disease, type of transplant, conditioning regimen and age, antibacterial prophylaxis was the only variable associated with significant decrease in bacterial infections (HR=0.28: 95% CI:0.08 to 0.99; p=0.048). At day 40 post-transplant the probability of bacterial infection free survival was 95.1% (95% CI: 89.9 to 100) for those who received prophylaxis compared to 81.5 % (95% CI: 74.1 to 89.6) for those who did not receive prophylaxis. The length of stay was significantly shorter in patients who were treated with antibacterial prophylaxis 30.3 days versus 37.7 days (p=0.002).

# Implications for Practice

Antibacterial prophylaxis can significantly decrease the incidence of bacterial infections during the neutropenic phase and significantly reduce the length of stay following hematopoietic stem cell transplant in children.

# Using the Patient-Centered Medical Home Recognition Criteria to Measure Access to Primary Care

# Purpose

The purpose of this project was to understand the correlation between successful implementation of the National Committee for Quality Assurance's (NCQA) recognized definition of advanced access in a primary care practice and its impact on practice transformation and improved quality outcomes.

# Methodology

This quality improvement initiative focused on evaluating and improving patient's access to team based care by conducting a baseline assessment using the Primary Care Development Corporation *PCMH Self-Assessment Tool*, devising an improvement plan to successfully meet at least 50% of the defined factors based on the findings from the baseline assessment, and reassessing the practice's overall readiness in implementing the criteria for patient-centered access as defined by NCQA. Avedis Donabedian's quality improvement theory provided a guide for developing, testing, and implementing changes for increased probability of meeting the NCQA standard.

# Results

Best practices suggests that providing patients with same-day appointments for both routine

and urgent care decreases the likelihood of patients seeking care in the emergency room and increases quality outcomes by providing continuity of care. Four of six factors (75%) were achieved in accordance with the NCQA's Standard 1 Element A. The initiative created processes for implementing advanced access to care strategies. The practice was successful in creating supplemental appointment slots for advanced scheduling, decreasing wait times for appointments, and identifying new improvement processes necessary to meet the remaining standards for full recognition.

# Implications for Practice

Improving access to team-based care by adhering to evidence-based standards is the beginning of practice efficiency. These interventions are considered the footprints to ensuring compliance with national standards but cannot guarantee practice transformation. Providing clarity and guidance of team-based standards to improve access to care is the cornerstone for the value-based care model. Practice transformation can only occur when teams understand and can correlate the process and strategies that are needed in order to effect change.



# CHANTAL J. FREMONT

DNP, MSN HEALTHCARE LEADERSHIP



# GORDON LEE GILLESPIE, II

PHD, DNP, RN, CEN, CNE, CPEN, PHCNS-BC, FAEN CLINICAL NURSE SPECIALIST

# Chart It to Stop It: A Quality Improvement Study to Increase the Reporting of Workplace Aggression

# Purpose

While the incidence of workplace aggression (WPA) is expected to rise over the next decade, the incidence is likely to be underestimated because healthcare workers persistently underreport the WPA they experience. WPA includes any act of "verbal and physical aggression, threatening words or actions, sexual harassment, and physical assaults" committed by patients or visitors against an employee while on duty. The purpose of this study was to increase the reporting of WPA committed by patients and/or visitors against emergency department (ED) workers.

# Methodology

This descriptive study used a quality improvement (Plan, Do, Study, Act) design with employees working in an urban, hospital-based, pediatric ED in the Midwest United States. Changes in improvement were measured by responses to the Workplace Aggression Reporting Questionnaire. Intervention activities included failure mode effect analysis for WPA reporting, distribution of ink pens labeled with "Workplace Violence: CHART IT TO STOP IT", formal education, and charge nurse rounding reminding ED workers to report WPA.

# Results

The study aim was not achieved. Reporting decreased from 53.3% (n = 208) during the preintervention period to 46.7% (n = 82) during the postintervention period. The decrease was not statistically significant ( $\chi$ 2=3.46; p=.06). Predominant reasons for reporting WPA were incident severity, asked to report, and ease of reporting system. Predominant reasons for not reporting WPA were the incident being too minor, no action would be taken, WPA is "part of the job," WPA was not intentional, and reporting takes too long.

# Implications for Practice

Future Plan, Do, Study, Act cycles need to include administrators on the project team. Administrators involvement will be crucial to facilitate adoption of reporting WPA. Obtaining permissions from organizational leaders early in the process will allow additional intervention components to be deployed during the Do phase of a quality improvement design.

# Designing a Cyclical Continuing Education Program with Simulated Neonatal Resuscitation Skills Practice for Neonatal Nurse Practitioners

# Purpose

Maintaining proficient resuscitation skills is critically important for all healthcare providers. Retention of cognitive knowledge and technical skills is problematic following standardized resuscitation courses. The project purpose was to design a continuing education program (CEP) for routine, deliberate, simulated practice of resuscitation skills including endotracheal intubation, umbilical line insertion, and thoracostomy for Neonatal Nurse Practitioners (NNP) at Johns Hopkins All Children's Hospital (JH-ACH), located in Saint Petersburg, Florida.

# Methodology

The project design was based upon Polit & Beck's (2008) intervention development using current evidence to develop, implement, test and disseminate modules for the CEP. Dr. W. Edwards Deming's (n.d.) Plan-Study-Do-Act (PDSA) Cycle, a four-stage quality improvement model, provided the conceptual framework for this project, and was utilized to evaluate the efficacy of each component of the proposed CEP.

# Results

The data, collected via examining current literature, reviewing procedural protocols, and

seeking expert consultation, resulted in various products or outcomes including equipment lists, budgetary considerations, updated practice protocols, and educational module content. The project result was a completed educational program for implementation, pending stakeholder approval.

# Implications for Practice

Implementing continuing education modules will foster teamwork among NNPs while providing greater opportunities to practice communication, timing and technical skills to efficiency, and positively affect patient outcomes. A CEP will add to the current body of evidence at JH-ACH, and stimulate evidence-based practice changes with regard to developing new approaches to establish and/or maintain resuscitation skills. Routine, resuscitation skills practice responds to the Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care of the Neonate (2015) released by the American Heart Association (AHA) and American Academy of Pediatrics (AAP), recommending that providers engage in simulated resuscitation training more frequently than the current biennial interval.



# TIFFANY GWARTNEY

DNP, ARNP, NNP-BC
NEONATAL NURSE PRACTITIONER



# LISA M. Hachey

DNP, MSN, CNM NURSE-MIDWIFERY

# Human Trafficking Education Program for Healthcare Practitioners

# Purpose

Human trafficking (HT) is a widespread public health issue that erodes the essence of personal value and dignity. The purpose of this project was to implement and evaluate an educational program for healthcare practitioners to increase awareness and knowledge of the physical and psychological clinical indicators associated with HT.

# Methodology

The project was a quantitative, non-experimental, pre-test/post-test design using the REDCap internet-based survey tool to capture data. De-identified participants were provided a unique code to access the surveys and evidence-based educational intervention. The content included information on HT legislation, definitions and stages of HT, risk factors for HT and victim characteristics, health consequences of HT, clinical screening tools for HT, referral resources, and the responsibility of healthcare practitioners in the rescue process.

# Results

Following the invitation to participate, 526 healthcare workers initiated the online educational program. Of those, 227 participants (45%) completed the program and were included in the project analysis. There was a significant effect for the HT educational intervention, t(226) = 12.29, p < .0001, with participants demonstrating an increase in awareness and knowledge of HT following the intervention.

# Implications for Practice

Primary care practitioners are in a unique position to interact with trafficked individuals in the clinical setting and fulfill an important role in identifying and assisting victims. Inadequate training and education are barriers for health care professionals to recognize HT victims and implement timely medical and psychological services. When a trafficking victim is identified, collaborative efforts aimed at restoration and rehabilitation can support recovery. This project demonstrated the need for HT education to increase practitioner knowledge of risk factors, confidence in identifying the clinical indicators, and awareness of resources to assist HT victims.

# Description of Potentially Inappropriate Vitamin Supplement Use at a Community Health Center

# Purpose

The purpose of this project was to describe patient and provider characteristics associated with vitamin supplement use so that clinical action plans may be developed and implemented in an effort to reduce the risks associated with potentially inappropriate vitamin supplement use.

# Methodology

A retrospective chart review of patient charts and health care provider curricula vitae was conducted at a community health center in the Southeastern United States, Several variables (i.e., demographics, medications, clinical information, patient-provider relationship length, patient-provider language match, health care provider type, specialty area of practice, years in practice) were abstracted from the charts of patients and the curricula vitae of health care providers. To describe the characteristics of the study population, descriptive statistics were computed for all variables. After statistics were completed, data analysis of all variables was performed by dividing the sample population into two categories: appropriate vitamin supplement use and potentially inappropriate vitamin supplement use.

# Results

Patients and providers at the community health center were using vitamin supplements appropriately in thirty-eight percent of reviewed charts, while the incidence of potentially inappropriate vitamin supplement use occurred in sixty-two percent of reviewed charts. Thus, efforts to decrease the incidence of potentially inappropriate vitamin supplement use thereby increasing the incidence of appropriate vitamin supplement use are warranted.

# Implications for Practice

The information obtained from this descriptive project can be considered an important step toward validating the necessity for incorporating vitamin supplement screenings into the triage processes of all patients, exploring the health beliefs of patients and health care providers relative to vitamin supplement use, educating patients and health care providers on the risks associated with potentially inappropriate vitamin supplement use, and encouraging dietary, exercise, and lifestyle modifications for patients taking and/or requesting vitamin supplements.



KRYSTAL R. HOWARD HENRY

DNP, APRN, FNP-BC FAMILY NURSE PRACTITIONER



# ELISHA HILL DNP, APN, FNP-BC FAMILY NURSE PRACTITIONER

# Development of an Assessment Tool for Testosterone Therapy Initiation for Men in a Family Practice

# Purpose

The purpose of this project was to evaluate the degree to which providers in a particular practice were assessing patients appropriately before initiating testosterone therapy. In addition, a tool would be developed to perform chart reviews. To accomplish this, the initial step was to review the effects of testosterone and its overall beneficial and potentially harmful effects on men. Safety concerns linger as testosterone has been linked to serious health conditions when not prescribed and managed properly. As we anticipate future evidence regarding the employment of testosterone therapy, primary care practitioners must consider evidence-based research and take all precautions when initiating testosterone therapy in male patients.

# Methodology

The purpose of this scholarly project was to improve the quality of testosterone treatment care received by men in a local primary care practice. A family practice friendly initiation tool was created. This project provided the impetus for future development of the tool with an eye toward full implementation a local family practice and dissemination.

# Results

Practice providers were asked to fill out questionnaires to identify perceived difficulties in initiating testosterone therapy. A chart review checklist was used to compare the important elements identified in the literature in the areas of; History, Physical Exam, and Laboratory and Diagnostic Findings, to actual practice as identified in the chart reviews. Findings reveal that there is a need for consistency in testosterone related assessments among family practice providers.

# **Implications for Practice**

Data analysis revealed a clear need for testosterone assessment education and tool implementation in this practice. Though practitioners gain initial knowledge in their educational programs, research is constantly revealing new evidence, resulting in revised recommendations. It is incumbent upon those prescribing testosterone to remain regarding this evidence. This assessment tool can increase the quality of care provided while decreasing the patient's risk for harm.

# Evaluation of a Preoperative Admission Order Process

# Purpose

A volatile American healthcare system calls leaders to respond and add value for healthcare customers. Healthcare organizations can improve the patient care experience through preadmission orders while ensuring effective, efficient, safe, and reliable care. The purpose of this scholarly project was to evaluate the accuracy of the Vanderbilt Preoperative Evaluation Center (VPEC) Preadmission Order Entry Process for elective surgical cases. The project aims were to evaluate variation in the VPEC Preadmission Order Entry Process and make recommendations for process improvements.

# Methodology

A performance improvement design, the Model for Improvement (MFI) was applied to evaluate accuracy in VPEC's Preadmission Order Entry Process. The MFI questions: 1.What are we trying to accomplish? 2. How will we know that a change is an improvement? 3. What change can we make that will result in improvement? The Plan, Do, Study, Act (PDSA) cycle model was applied to drive and continually evaluate the improvement project work.

# Results

Project evaluation showed the process added non-value work process steps for nurse practitioners (NPs), frontline staff, physicians, ancillary staff, and key stakeholders causing a negative workflow impact. Additional steps reduced efficiency, effectiveness, and reliability of the work process. Ameliorating negative workflow impact requires adjustments to standard work. Although findings did not support the change, NP participation illustrated the operationalization of the MFI and the need to test and study processes before making permanent changes.

# Implications for Practice

Nursing leaders and NPs awareness has increased regarding the importance of applying quality improvement methodologies and healthcare technologies to enhance organizational efficiency, to elevate the NP role in organizational change, and to optimize the allocation of scarce healthcare resources. A foundational framework now exists to encourage future changes through lessons learned in this project. Leadership is now positioned to study and improve NP roles by removing nonvalue added steps, increasing reimbursement, improving cross-departmental communication, and reducing staffing requirements.



# LAURA HOLLIS

DNP, MSN, RN, CCRN HEALTH SYSTEMS MANAGEMENT



# DENISE ISIBEL

DNP, RN, CNE HEALTHCARE LEADERSHIP

# Assessing Health Literacy Within a Health Organization

# Purpose

The purpose of the DNP scholarly project was to assess the health literacy knowledge of an Interdisciplinary team at a Program for All Inclusive Care of the Elderly (PACE) and develop a health literacy improvement plan using the "Agency for Healthcare Research and Quality (AHRQ) Health Literacy Universal Precautions Toolkit. The implementation of the quality improvement plan is expected to improve patient outcomes, increase teamwork and safety related to limited health literacy.

# Methodology

The Health Literate Care Model that posits health literacy is an integral concept in chronic care management guided the methodology. The Assessment Questionnaire from the AHRQ Health Literacy Universal Precautions Toolkit was completed by the Interdisciplinary team (IDT) at a selected PACE site. A convenience sample of 15 members completed the questionnaire. Responses to the questionnaire were analyzed and a quality improvement plan was developed and presented to the Administration of the PACE program.

# Results

This project has impacted the PACE site by providing a measurement of their current understanding of health literacy; clarifying the need for an improved health literacy program, and assisting the team to support a more health literate approach to their patient population. The results showed priority areas to improve spoken communication, and improve written communication. The ongoing impact will be measured as the improvement plan is implemented.

# Implications for Practice

Health care organizations need to provide information that all patients can use regardless of their level of health literacy. Acknowledgement of this responsibility and an emphasis on health literacy at the system level will result in improved patient outcomes and decreased costs. The ability to assess the health literacy of a group of healthcare providers is an important first step to improving health literacy of the organization. The continued use of the AHRQ toolkit has future implications for the improvement of current tools.

# Reducing the Number of Daily Labs in the ICU: A Risk/Benefit Ratio

# Purpose

The purpose of this project was to assess the effectiveness of the acute care nurse practitioner (ACNP) as the patient advocate in reducing the number of daily laboratory test ordered for ICU patients. Anticipated outcomes included a reduction of panel laboratory tests and no change in the number of adverse events.

# Methodology

Utilizing the Model for Improvement as this project's framework, a quality improvement pilot project was initiated whereby the ACNP was present on daily ICU Multidisciplinary Rounds to facilitate the discussion of laboratory testing needs for each patient managed by the intensivist team for the following 24-hour period.

#### Results

No significant differences in age, APACHE II/SOFA score, mechanical ventilation, hemoglobin difference, or ICU length of stay were noted between the two groups. Patients participating in the project in 1 to 3 day and 4 to 10 day cohorts experienced a 3.3 and 9.2 percent decrease in panel tests respectively, whereas a 6.8 and 9.2 percent increase was noted for individual tests. This trend remained consistent when patients on heparin and insulin infusions were excluded. Breakdown by laboratory test revealed an overall decrease in the majority of panel tests with an increase in all individual tests except magnesium and prothrombin time. No increase in adverse events was noted.

# Implications for Practice

The presence of an ACNP during daily ICU multidisciplinary rounds, serving as advocate to decrease laboratory testing, may be an effective, safe method to change the practice towards the ordering of tests based on clinical indication or perhaps an overall decrease in the number of tests ordered which, in turn, can lead to decreased patient costs.



# BRIAN Jefferson

DNP, ACNP-BC, FCCM
ACUTE CARE
NURSE PRACTITIONER



MARY
JOHNSON

DNP, CRNA
CERTIFIED REGISTERED
NURSE ANESTHETIST

# Evaluation of Certified Registered Nurse Anesthetists' Knowledge of Herbal Medicines: How Much Do We Really Know?

### Purpose

The purpose of this scholarly project is to assess the knowledge and documentation practices of Certified Registered Nurse Anesthetists (CRNAs) regarding eight commonly used herbal medicines.

# Methodology

A convenience sample of 24 CRNAs employed by two Mississippi hospitals completed a pretest/posttest questionnaire and educational seminar. Chart audits were conducted prior to and after the educational seminar in order to assess documentation of herbal medicine use among surgical patients.

### Results

Scores on the posttest (m = 59.17) were significantly higher than the pretest (m = 14.88, p<.001). A Wilcoxon signed-ranks analysis was conducted to determine differences between participants' documentation of herbal use before and after the training. Results indicated that documentation after the training (88.6%) was significantly higher than before the training (5.6%, p < .001). These results indicate a lack of knowledge of herbal medicines and herbal documentation among CRNAs and the need for herbal education.

# Implications for Practice

In order for CRNAs to continue to provide safe, effective, high quality patient care, they must be knowledgeable, inquire, and document the used of herbal medicines. Herbal medicine education should be included in the nurse anesthesia education programs and continue to be included in the continuing education seminars for recertification. Additionally, more research is needed regarding how herbal medicines impact anesthesia, surgery, and the perioperative process. Furthermore, there is a need to research the knowledge level of other healthcare practitioners (physicians, nurse practitioners, and surgeons.

# Establishing a Program of Safe Intraoperative Anesthesia Management of Patients with Cardiac Implantable Electronic Devices

# Purpose

The purpose of this scholarly project was to identify, communicate, and employ a program for safe anesthesia management in patients with cardiac implantable electronic devices (CIED) presenting for non-cardiac surgery at Wright-Patterson AFB, Ohio. Cardiac implantable devices include pacemakers, cardioverter-defibrillators, and devices used for cardiac resynchronization therapy.

# Methodology

The review and synthesis of the current literature available revealed the lack of a clinical practice guideline to assist anesthesia providers in caring for patients with CIEDs. The ACE Star Model was used to develop a local guideline. The AGREE II tool was used to evaluate the usefulness and validity of the newly developed guideline.

#### Results

Eight core articles were used to develop the guideline. Implementation included staff education and dissemination. Three retrospective chart reviews were completed since implementation. The five items reviewed for compliance: preoperative clinic scheduling, completion of CIED form on electronic charting system, anesthesia consult, documentation of underlying rhythm and dependency on device, and CIED team consult when necessary, were met with 100% compliance. Retrospective chart reviews will continue over the next 12 months.

# Implications for Practice

Written guidelines assist medical professionals in providing safe patient care through the application of current best evidence-based practice. In facilities with low volume of select procedures, guidelines ensure consistent care and aids in reminding providers of critical tasks or knowledge necessary to provide safe care.



# VIRGINIA M. Johnson

MSN, CRNA CERTIFIED REGISTERED NURSE ANESTHETIST



MELISSA Kalensky

DNP, FNP-BC FAMILY NURSE PRACTITIONER

# Developing a Clinical Decision Support Tool to Improve Primary Care Provider Utilization of Hypertension Resources Provided by a Managed Care Organization

# Background & Purpose

Managed care organizations enact a multifaceted approach to improve quality while reducing cost. However, there is no standard framework for encouraging resource utilization and developing efficient and effective care coordination within this structure. The aim of this project was to increase knowledge and utilization of hypertension resources provided through managed care.

#### Methods

A clinical decision support tool was developed to highlight hypertension resources. Data regarding blood pressure control and resource use at baseline was gathered via retrospective chart review. The tool was implemented at a primary care site through provider education and a provider survey assessed the tool's utility in clinical practice.

#### Conclusions

While the majority of patients with hypertension were classified as well controlled per clinical guidelines, the practice's target of 90% was not achieved. Chart review found no documented use of hypertension resources available through

managed care. The primary means utilized to achieve control of hypertension was traditional medication management. The majority of care providers reported a lack of clarity regarding available managed care resources and did find the clinical decision support tool helpful in improving awareness of resources. Providers expressed concern that time available and format may limit use of clinical decision support in this area moving forward. These care providers requested further development of a tool in electronic format that includes additional clinical diagnoses.

# Implications for Practice

As the marketplace implements integrated models of care, the focus of care delivery will shift from volume to value. Incentivizing providers for quality reinforces this priority in defining success of care delivery. In primary care settings resources will need to be clearly identified and utilized efficiently to meet both quality outcomes and patient expectations. Managed care organizations, especially those operating within a risk adjusted capitated payment structure, will become a driving force in creating value through quality.

# Implementing SBAR Communication in Rural Acute Care Hospital in Kenya (East Africa)

# Purpose

Communication failures have been cited as the leading cause of inadvertent patient harm (Leonard, Graham, & Bonacum, 2004). The purpose of this project was to successfully introduce the Situation Background Assessment Recommendation (SBAR) communication framework for nurses and clinicians in a selected clinical unit in a rural, acute care hospital in Kenya (East Africa).

# Methodology

A descriptive study applying Lewin's management change theory was used in a pilot format. A convenience sampling method was used to recruit 25 healthcare professionals as participants. A pre and post implementation survey was conducted and the data analyzed and presented using descriptive statistics.

#### Results

The survey results revealed that the factors of within group communication openness and accuracy improved with a difference mean±standard deviation of 1.10±4.07 and 0.1±3.55 respectively, while the factors of between group communication openness and accuracy improved with a difference mean±standard deviation of 2.0±2.31 and 0.75±3.59 respectively. The factor of communication timeliness improved slightly with a difference mean±standard deviation of 0.12±2.51. The factors of patient safety issues and the frequency of events reported had a negative difference mean±standard deviation.

# Implications for Practice

The pilot project successfully introduced the elements of SBAR into a clinical setting that had previously not applied any formal communication framework among the healthcare personnel. The perception of the SBAR framework was positive and its implementation can improve communication between professionals to improve patient safety.



PERIS Kariuki-Kiarie

DNP, MSN HEALTH SYSTEMS MANAGEMENT



CAROLYN E. LATHAM DNP. MSN. MBA. RN. CNN

HEALTHCARE LEADERSHIP

# Purpose The purpose of this project was to patient breastfeeding education.

The purpose of this project was to improve patient breastfeeding education by nurses using patient and family engagement (PFE) communication techniques as evidenced by changes in nurses' PFE self-assessment and patient education audits.

Applying Patient and Family Engagement Strategies to Improve

# Methodology

The project design was a quality improvement initiative focused on enhancing patient education delivery by nurses using PFE strategies. Donabedian's quality of care theory of structure, process, and outcome provided a framework well suited for the conceptual foundation.

The project included implementation of a computer-based staff training module, in-person leadership workshop, nurse leader resource guides, and electronic staff surveys on PFE utilization and confidence. The study methods incorporated evaluating pre and post survey results of matched staff samples and pre and post aggregated patient education audit results.

### Results

Of the 74 eligible post-training survey participants, 45 completed questionnaires

yielding a 61% response rate. The Wilcoxon signed rank test indicated significant positive differences in nurses' teach-back confidence levels (z = -2.30, p = .022) after training. Significant changes occurred in PFE communication and teach-back use after training. This implies self-assessments of the utilization of PFE and confidence in using teach-back were impacted by staff training. The patient education audit results improved by 87% indicating a greater number of patients acknowledged they received and remembered important breastfeeding-related information.

# Implications for Practice

Nurses' confidence levels and use of PFE communication strategies may be influenced by staff training. Computer-based training incorporating interactive case studies is practical and effective. Focused attention to patient education delivery by nurses may impact program outcomes such as patient education audit results. The interventions have implications for future work to evaluate the impact of PFE on breastfeeding and other aspects of women's health services.

# Reminder in Electronic Health Records to Reduce Indwelling Urinary Catheter Duration

# Purpose

Catheter associated urinary tract infections is the most common hospital acquired infection with 80% associated with the use of an indwelling urinary catheter. This project evaluates the efficacy of a reminder in the electronic health record (EHR) to reduce indwelling urinary catheter duration.

# Methodology

A pre-intervention and post-intervention retrospective chart review was conducted on hospital patients admitted during the months of March 2014 and March 2015 to evaluate a reminder in the EHR that identified patients who had an indwelling urinary catheter and the current duration (in days). Data collected included age, clinical unit, and catheter duration.

#### Results

A total of 100 charts were reviewed. There was approximately a one day reduction in indwelling urinary catheter duration between the pre-intervention and post-intervention, but no statistical difference. The mean duration of urinary indwelling catheterization was 11.42 days with a SD of 6.5 days in the pre-intervention group and 10.58 days with a SD of 7.12 in the post-intervention group.

# Implications for Practice

This scholarly project suggests that the improvement in catheter duration has a practical clinical significance that should be considered. The results have the potential for noninfectious benefits, such as cost savings or increased patient satisfaction.



EMILY Launhardt

DNP, FNP, ANP-BC
ADULT NURSE PRACTITIONER



# ORLIN Márquez

DNP, MSN, MBA, FNP-BC, CMI-SPANISH

FAMILY NURSE PRACTITIONER

# An Assessment of Attitudes and Perceptions of Frontline Personnel toward Asthma Action Plans in Pediatric Inpatient Units

### Purpose

The purpose of this scholarly project was to examine the attitudes and perceptions that frontline personnel such as physicians, advance practice providers, registered nurses, and respiratory therapists responsible for the provision of asthma action plans (AAP), have toward AAPs in a pediatric inpatient setting.

# Methodology

Clinical personnel completed a survey, which measured their attitudes and perceptions towards the AAP, its use, value and effectiveness. A pool of approximately 330 registered nurses, 30 respiratory therapists, 18 physicians and 10 APPs received the survey via email. The response rate was 50% which provided an expected sample of n=194. A free text area allowed respondents to elaborate on their answers.

#### Results

77.53% of the respondents considered the AAP an effective self-management tool and 66.29% agreed that the requirement of provision of an AAP at discharge had improved the actual discharge process and its outcomes. Responses in the free text area were analyzed

and responses were in line with findings in published literature. These corroborated a general sense from participants that AAPs are effective, but only if they are specifically tailored to each individual and their particular sociocultural situation.

# Implications for Practice

The information gathered from this scholarly project offers, at the practice level, a view into valuable feedback from frontline personnel on the effective and efficient use of AAPs. Some of the suggestions included interventions that would increase involvement and create partnerships between patients/families, primary care providers and inpatient discharge planners. Data from this survey shows that providers in this particular pediatric inpatient context find AAPs to be effective tools. However, they acknowledge that there might be opportunities for improvement in the area of implementation and follow-up. The data yielded by this project has potential for application in future studies and quality improvement initiatives.

# Timing of Initial Palliative Care Consultation in Oncology Patients

### Purpose

Patients and families benefit from comprehensive care throughout the continuum of disease. The purpose of this scholarly project was to describe the point along an illness trajectory when initial palliative care consultation occurs for patients with cancer.

# Methodology

A retrospective chart review was conducted for hospitalized oncology patients at the Memphis VAMC who received initial palliative care consultation between January 2014 and December 2014.

### Results

Charts of 94 oncology patients who received initial inpatient palliative care consultation at the Memphis VAMC during the period of January 2014 and December 2014 were identified and reviewed for this project. The median interval between initial cancer diagnosis to initial palliative care consultation was 145 days. The median interval between initial palliative care consultation and death was 34 days.

# Implications for Practice

Initial palliative care consultation referral practices at the Memphis VAMC are late in the cancer trajectory, often in the last days, weeks or months of life. Identification of systematic triggers for clinicians to use to initiate palliative care consultation would be useful to integrate palliative care services earlier in the cancer trajectory across the Memphis VAMC.



# CHRISTY MARS

DNP, AG-ACNP
ADULT-GERONTOLOGY ACUTE
CARE NURSE PRACTITIONER



ALLISON MORRISON DNP, MSN, FNP FAMILY NURSE PRACTITIONER

# A Provider Targeted Intervention to Improve Adherence to Obesity Guidelines in Primary Care

# Purpose

The purpose was to assess provider knowledge, clinical care, attitudes, and beliefs in relation to the most recent obesity management guideline jointly produced by the American Heart Association, American College of Cardiology and The Obesity Society entitled "Guideline for the Management of Overweight and Obesity in Adults" before and after a 50-minute education session and toolkit dissemination among primary care providers in a Memphis clinic.

# Methodology

The providers completed the pretest survey, which assessed knowledge, attitudes, beliefs, and clinical practice in relation to obesity guidelines, then participated in the intervention, which highlighted the identified obesity management gaps. Each received an obesity management toolkit, an easily accessible resource to facilitate obesity guideline utilization. Included were a streamlined algorithm for obesity management, resources for diet and exercise programs; referral contacts for bariatric physicians and registered dietitians; and an overview of the National Coverage Determination for Obesity Management. The pre and post-test surveys completed by the

providers were analyzed and compared.

### Results

The results were mixed. The project did demonstrate improvements in some attitudes, beliefs, knowledge, and self-reported clinical care practices. However, there was no overall improvement in beliefs or attitudes. There was an overall improvement in knowledge and self-reported clinical care practices. Further studies are needed with larger sample sizes and a longer intervention period to determine statistical significance of the results and to determine whether there is sustained change over time. Additionally, further studies should assess actual behavior change.

# Implications for Practice

Prior to the project the clinic had no processes consistent with recent guidelines, which diminished its ability to deliver optimal evidence-based obesity management. This project addressed the lack of obesity management guideline adherence and offered evidence-based information and resources, and introduced existing incentives for providers with information regarding coverage determinations and reimbursement for obesity management.

# Evaluating Nurse Leaders Perception of Evidence Based Practice (EBP) in Rural, Acute Care Hospital in Kenya (East Africa)

# Purpose

Evidence-based practice (EBP) has been defined as "the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients" (Thurston, Kathryn, & King, 2004, p. 239). The purpose of this project was to evaluate the nurse leaders' perception of EBP and assess whether a change in perceptions would improve adoption and practice of EBP in a rural, acute care hospital in Kenya (East Africa).

# Methodology

A descriptive design using Everett Roger's Diffusion of Innovation Theory was used as a framework. A random sample of 14 (n=14) nurse leaders were educated on the importance of evidence-based practice through a series of inperson discussion sessions over a period of eight weeks. Participants completed the Evidence-Based Practice Profile (EBP2) questionnaire pre and post intervention. The EBP2 assessed knowledge, behaviors and attitude using five domains; relevance, sympathy, confidence, terminology and practice. Process included the

establishment of a computer resource room, upgrading nurse leaders' basic computer skills, and allocation of non-clinical "protected" time for access of current evidence.

### Results

Significant improvement included improved value, emphasis, and importance of EBP (0.69, p=0.05); understanding of common research terms (1.43, p=0.01); perception of the compatibility of EBP with professional work (0.44, p=0.2); improved use of EBP in practice (0.16, p=0.5); perception of an individual's ability with EBP skills (0.69, p=0.05); and ability to use computers.

# Implications for Practice

EBP uptake in rural, acute care hospitals in the developing countries is challenged by organizational and individual barriers. Mentorship is an important strategy for the improvement in nurse leaders' perceptions of EBP. EBP barriers can be overcome through focused efforts on protected time and enhanced computer skills training.



# MARY NJERI MUCHENDU

DNP, MSN HEALTH SYSTEMS MANAGEMENT



# KIMBERLY MULLINS

DNP, APRN-BC, AOCNP ADULT-GERONTOLOGY NURSE PRACTITIONER

# Stereotactic Body Radiosurgery for Non Small Cell Lung Cancer: Measuring the Rate of Local Control in a Southwest Ohio Oncology Clinic

# Purpose

To evaluate the rate of local tumor control (LC) at one-year post treatment for patients with Non Small-Cell Lung Cancer (NSCLC) treated with SBRT within a private, freestanding oncology practice. The gold standard treatment of NSCLC is surgical excision. Up to 40% of patients with NCLSC cannot or do not have surgery. Radiation therapy by SBRT rates of LC approach those of surgery, minus the toxicity or mortality risk. Every SBRT program should perform quality assurance evaluations of which nursing at every level plays in integral part.

# Methodology

A Retrospective chart review was performed utilizing a physics database and Electronic Medical Record to collect patient data in an Excel workbook. Determination of local tumor control was based on Greene's criteria. The sample began with 240 patients, which after applying exclusion criteria was narrowed to 93 NSCLC patients. Descriptive statistics were evaluated and the rate of LC was determined. Post hoc analysis evaluated for variance among groups.

#### Results

The rate of local control was determined to be 91% at one year. The most commonly prescribed radiation doses were consistent with those in literature found to provide higher local tumor control and all within the recommended biologically effective dose (BED). Post hoc analysis using Fischers Exact Test did not find significant variance in local tumor control among groups.

# Implications for Practice

The rate of LC in this clinic was within the range reported for similar treatment centers in the United States and Globally. Additional analysis evaluating the overall survival and adverse events would add strength to quality assurance evaluation. Barriers to data collection were identified; such as inconsistent upload of information into the EMR and lack of written policy for patient follow up. These can be addressed by the clinic to impact patient care and improve data collection capability for continued quality assurance evaluations.

# Maternal Influenza Vaccination: Use of a Provider Vaccine Prompt

### Purpose

To implement a pilot quality improvement intervention to determine if use of an influenza provider vaccine prompt by certified nurse-midwives (CNMs) will increase maternal influenza vaccination rates by 10% at an urban, federally qualified health center.

# Methodology

An one-page prompt was created to remind CNMs to ask every pregnant patient if the patient had received the influenza vaccination since August 1, 2015 and to remind of the benefits of influenza vaccination during pregnancy. The CNMs received daily prepared vaccine prompts for every scheduled patient. CNMs only received prompts for patients who had not previously completed a prompt.

#### Results

Between December 1, 2014 and February 28, 2015, 98 unique antepartum patients were seen. Between December 1, 2015 and February 29, 2016, 162 unique antepartum patients were seen. Influenza acceptance in 2014-15 pre-intervention group was 46% and in 2015-16 intervention group was 36%. 66% (n=107) of patients had provider vaccine prompts completed by certified nurse-midwives (CNMs), 24% (n=39) of patients

had provider vaccine prompts not completed by CNMs and 10% (n=17) of patients did not have a provider vaccine prompt prepared for them. 50% (n=54) of the patients with a completed provider vaccine prompt accepted the influenza vaccination while 9% (n=56) of the patients with a non-completed provider vaccine prompt or lack of prepared provider vaccine prompt accepted the influenza vaccination. The top four reasons for refusal are declined, thinks will make self sick, doesn't vaccinate, and will do later.

# **Implications for Practice**

This project demonstrated that influenza vaccine acceptance did not improve by 10% despite implementation intervention. However, use of provider vaccine prompt may improve maternal influenza vaccination acceptance. Future improvements include: medical assistant use of prompt, consistent location documentation influenza vaccination from outside organizations, in-services from CNM trained in public health, and creation of prompt within electronic medical record.



AMY
NASSAR
DNP, MSN, FNP
FAMILY NURSE PRACTITIONER



SHEILA OCHYLSKI

DNP, MSN, RN-BC NURSING INFORMATICS

# Evaluating the Usability of a Clinical Decision Support Alert for Red Blood Cell Transfusion Safety

### Purpose

The purpose of this scholarly project was to develop and apply a method by which to evaluate the usability of electronic clinical decision support (CDS) tools associated with blood transfusions within the electronic medical record across a large national health system. This method of CDS evaluation assures evidence-based practice standards are communicated, minimally interrupt the clinician and guide the clinician to the appropriate action.

# Methodology

Both impact and process frameworks were used to guide the evaluation of an evidence-based CDS tool. The Socio-Technical model focused on impact of the CDS within the electronic medical record system while the TURF framework for EHR usability guided the evaluation of the processes used by clinicians. Both models synergistically contributed to improving the processes needed to promote evidence-based care across a nation-wide health system using electronic CDS tools.

#### Results

This scholarly project provided recommendations to the CDS steering team to change elements of the RBC transfusion alert based on the results of a review of the literature, a remote moderated usability task analysis, and a heuristic review. Additionally, this project paved the foundation for the development of a heuristic team to evaluate other CDS tools.

# Implications for Practice

Although electronic CDS tools provide guidance to clinicians, they also carry risk, ranging from alert overrides to clinician desensitization.

Providing meaningful electronic CDS alerts which are easy to use, appear at the right time with the right information is an iterative process that must be continuously addressed. Advance practice informatics nurses are in a unique position to collaborate with clinicians, HIT developers, and leaders to reduce risk and liability by presenting evidence-based, sophisticated, usable, appropriate CDS tools and a continuous quality improvement cycle to evaluate and improve healthcare safety, quality, and reduce costs.

# Mobile Phone Asthma Action Plan Application: Use in Adolescents

#### Purpose

Asthma burden affects mortality, morbidity, quality of life, and the economy. Written asthma action plans are standard of care according to national guidelines, but these plans are often not prescribed. The purpose of this project was to develop an asthma action plan application for smartphones.

# Methodology

A development studio was consulted for support in developing a smartphone application to code the software for the asthma action plan and assist in the design process. During development of the application, a survey was conducted to assist in design of the application and functionality.

# Results

All survey participants agreed that the application was easy to use, could be used without written instruction and was designed for adolescents with asthma of any severity. Patients and providers mostly agreed that the app would help provide information about what to do in the event of an asthma exacerbation and that the application would be used frequently.

# Implications for Practice

There was consensus from both patients and providers that this application is not only functional but also helpful in the event of an asthma exacerbation. The project met the goal of designing a mobile phone application that would improve patient access to asthma action plans.



# LAURA ODOM

DNP, FNP FAMILY NURSE PRACTITIONER



# JOANNE PHILLIPS DNP, RN, CPPS CLINICAL NURSE SPECIALIST

# Evaluation of Telemetry Utilization on Medical Surgical Floors

# Purpose

Noise generated by clinical alarms can be disruptive and anxiety producing for staff, patients, and families, resulting in alarm fatigue (AF). The purpose of this project was to evaluate practice patterns for telemetry utilization on medical-surgical floors and assess congruence with the American Heart Associations' EBP guidelines.

# Methodology

Using the define, measure, analyze, improve and control (DMAIC) framework, data were collected over a 28 day period on one medicine unit and one surgery unit at a 776 bed quaternary care hospital. The data examined practice patterns for the ordering and discontinuation of telemetry monitoring. Nurse's attitudes and practices related to alarm safety were evaluated through the administration of the "Attitudes and Practices Related to Alarm Safety" survey from the Healthcare Technology Foundation.

#### Results

The survey was completed by 60% of eligible staff. Results were analyzed with SPSS and will help to inform counter measures to AF on the two hospital units. Telemetry data were gathered from 94 individual patients. Of the 94 patients, 32% had provider orders that were supported by the AHA guidelines. The data demonstrated 43% congruence between the provider order and the patient's clinical status. The predicted length of monitoring was compared with the actual length of monitoring to measure potentially non-value added monitoring time. The mean gap of time between the predicted and the actual length of monitoring was over 43 hours, indicating a significant overuse of telemetry monitoring.

# Implications for Practice

The adoption of evidence based guidelines for telemetry utilization has the potential to decrease the unnecessary use and duration of telemetry, which will lead to a decrease nuisance alarms and decrease in alarm fatigue. A nurse drive telemetry discontinuation protocol is one countermeasure that can drive that practice change.

# Identification of Primary Care Providers' Perceived Barriers to Screening for Urinary Incontinence in Women

# Purpose

Many women suffer with urinary incontinence (UI) for years prior to receiving evaluation and treatment from HCPs. Early diagnosis of UI in women through provider screening can lead to earlier management, a higher quality of life for the patient, and reduction in individual and healthcare system costs. Identification of barriers to provider UI screening is pivotal in determining appropriate interventions to promote UI screening for women in primary care. The purpose of this Doctor of Nursing Practice (DNP) scholarly project was to identify PCPs' perceived barriers to UI screening in women in clinical practice. The aim of the project was to gain knowledge and insight to advance future research and clinical practice.

# Methodology

This non-experimental descriptive study was conducted through distribution of an original survey to a target population. A non-probability consecutive sampling of primary care APNs within the state of Tennessee, specifically those APNs who were Tennessee Nurses Association (TNA) members, were invited to participate in this scholarly project via electronic questionnaire. Study data was collected and

managed using REDCap electronic data capture tools hosted at Vanderbilt University.

#### Results

After averaging the sums of scores for all respondents, an overall neutral response was identified, indicating no polarity in whether barriers pose a threat to UI screening in women.

# Implications for Practice

Academic programs educating APNs must ensure that education includes the impact of UI on overall quality of life and wellness along with education on UI assessment and options for management and referrals. Primary care practices should consider distribution of a simple UI screening questionnaire as part of standard office visits for all women, especially during annual exams. The low response rate from such an extensive professional organization warrants investigation on APNs' involvement in professional organizations, academic research, and efforts to improve patient outcomes.



# JESSICA ANNE (ROGERS) SEARCY

DNP, FNP-BC, WHNP-BC FAMILY NURSE PRACTITIONER / WOMEN'S HEALTH NURSE PRACTITIONER



# KARLA SCHROEDER

DNP, MSN, RN, MHA, ANP-BC, NE-BC ADULT-GERONTOLOGY NURSE PRACTITIONER

# Workplace Stressors of Nurses Providing Palliative Care in an Acute Care Setting

# Purpose

The purpose of this scholarly project was to identify and describe workplace stressors perceived by palliative care nurses (PCN) working in an inpatient palliative care unit in the Southeastern United States (US). The objective was to provide findings to other nursing leaders to assist their understanding of the importance of identifying, describing and assessing workplace stressors and their impact within specific populations and environments

# Methodology

This project was designed to look at stressors perceived by bedside nurses working in acute palliative care. A questionnaire was developed to identify and describe stressors in six categories (Factors) using a Likert score with four points of measurement. Under each of six Factors, specific stress-related questions were asked. Respondents were asked to rate the perceived level of stress encountered.

#### Results

The results revealed a high level of stress caused by differences in policy and provision of care by providers. Advanced practice nurses can assist with the standardization of

practice, which can be accomplished through the introduction of national evidence-based practice guidelines such as the National Consensus Project for Quality Palliative Care and End of Life National Education Consortium.

Differences in the way a team thinks about care may cause increased psychological and emotional demands placed on the PCN, causing more stress. As practices differed, stress increased in this group of nurses. Providing standards of practice will provide consistency and decrease stress.

# Implications for Practice

Descriptions of stressors in acute PCNs are needed to maintain the compassionate care these professional nurses provide. Nurse leaders can assess for indicators of increased stress, compassion fatigue, and burnout which may decrease employee and patient satisfaction, retention, and engagement. Managers may note increased medical errors as burnout causes nurses to disengage from patient care.

# Opportunities and Barriers to Health Care Transition for Youth with Spina Bifida

# Purpose

This project aimed to identify and describe opportunities and barriers to successful transition from pediatric to adult health care for youth with spina bifida served by Oregon Health Science University (OHSU).

#### Method

Structured interviews were conducted with pediatric patients with spina bifida and their family within the Spina Bifida Clinic at OHSU. The interview tool was developed using questions from the National Survey of Children with Special Health Care Needs combined with setting and population specific questions. Quantitative information was analyzed utilizing descriptive statistics. Responses to open ended questions were reviewed for common themes among participants.

# Results

A total of 16 interviews with patients and their families were completed. Only 25% of the participants reported ever having a conversation with their pediatric providers about the need to transition to adult health care with 33% reporting conversations regarding health care needs as they age. Two factors were noted by participants

as beneficial in planning transition to adult care providers; meeting adult providers prior to transition (93.8%) and the desire for a written transition plan and a transition policy (68.8%). Only 18.8% of the participants felt a separate transition clinic would be beneficial. Qualitative findings suggest that parents of children with greater disabilities reported more worry around transition when compared to parents of higher functioning children.

# Implications for Practice

Results from this project reflect similar deficits to previous national findings and indicates an opportunity to develop a comprehensive transition plan for patients in the Spina Bifida Clinic at OHSU. Information gathered in this project will directly guide the development of a structured transition program focused on addressing concerns and barriers identified by the population and include the suggested interventions patients and families reported would facilitate this transition.



# AMANDA SQUIERS

DNP, ANP-BC, GNP-BC ADULT-GERONTOLOGY NURSE PRACTITIONER



# KATHLEEN STEIGER

DNP, ACNP, MSN, CCRN, PCCN
ADULT-GERONTOLOGY ACUTE
CARE NURSE PRACTITIONER

# Improvement in Palliative Care Screening and Referral in a Community Hospital Critical Care Service Following an Educational Intervention

# Purpose

The purpose of this project was to assess the utilization of a palliative care program at a community hospital in upstate New York and increase utilization of the program within the critical care service.

# Methodology

Lewin's Model for Change was used to guide this project which included a retrospective chart review of two time-periods, pre- and post-educational intervention, to obtain information on the number of screenings performed and consults ordered. An educational presentation was developed to improve staff awareness of palliative care in the critical care area. At the conclusion, participants completed a survey to obtain respondents' demographic information and their opinions regarding the benefit of the program on their knowledge and awareness of palliative care.

#### Results

Data collected showed a difference between the number of palliative care screenings and referrals from the critical care service before and after the educational intervention. Data collected showed pre-intervention palliative care screening was done on 17.2% of patients with 13.3% generating a consult. Post intervention palliative care screening increased to 92.07% of patients with 44.9% generating a consult. A Chi Square test, demonstrated 99.9% probability an indicating the educational intervention was effective in increasing awareness and knowledge of the need for palliative care screening.

# Implications for Practice

Implementing palliative care in the critical care environment has inherent difficulties due to the pace and curative nature of the environment and cultural bias toward curative therapy from medical and nursing staff. As the population ages and medical technology becomes more adept at maintaining life, the need for palliative care teams will become more apparent in this setting. All critical care staff should be positioned to ensure an environment that provides patient-centered, high-quality care utilizing evidence-based practice. Palliative care can be an essential part of this process.

# Unique Factors to the Implementation of a Disaster Preparedness Plan at Georgetown Public Hospital in Georgetown, Guyana

# Purpose

The purpose of this scholarly project was to identify unique factors to developing a disaster preparedness plan at Georgetown Public Hospital in Guyana. Georgetown Public Hospital is the epicenter of 26 district and regional hospitals and is the largest government run healthcare institution in Guyana. This assessment aimed to identify area strengths, educational needs, opportunities for practice improvement, and reveal any factors that may contribute to the development/implementation of a disaster preparedness plan.

# Methodology

This project utilized the Plan-Do-Study-Act quality improvement method. Three one-hour focus groups were convened to discuss disaster preparedness via six semi-structured open ended questions. The focus groups included accident and emergency department administrators, physicians, and nursing staff.

# Results

Key messages with regards to disaster preparedness were analyzed within/across each focus group. Security, mass casualty

incidents, lack of resources, and limited disaster education were amongst the most common concerns across all three groups. Improved communication and teamwork were identified as the greatest interdepartmental strengths.

# Implications for Practice

Disaster preparedness planning in developing countries has been largely ineffective yet these areas are more likely to suffer from a catastrophic event. Crisis standards of patient care are often a 'daily reality' and without a cohesive hospital disaster plan, relief provided to victims can be ineffective or delayed contributing to a confounding loss of life. This data will serve as part of a staff needs assessment prior to the formal development and implementation of a disaster preparedness plan in the Accident and Emergency Department at Georgetown Public Hospital Corporation.



# JESSICA Van Meter

DNP MSN RN APN-BC CCRN A-EMT ADULT-GERONTOLOGY NURSE PRACTITIONER



# DONNA VICKERS

DNP, MSN, ANP-BC, CCRN
ADULT-GERONTOLOGY
NURSE PRACTITIONER

# Canine-Assisted Therapy: A Complementary Program to Improve Inpatient Satisfaction

# Purpose

Establish an evidence-based, complementary canine-assisted therapy (CAT) program for adult inpatients and examine patient satisfaction with the new program. The Stetler Model of Research Utilization guided program development, implementation, and evaluation.

# Methodology

A descriptive cross-sectional design was used to assess patient satisfaction with the CAT program using the Client Satisfaction Questionnaire (CSQ-8). Formative evaluation concerning program progress was delineated by specific action plans. Summative evaluation of patient satisfaction occurred through a convenience sample of 32 adult inpatients who were able to read, write, and speak English. The participants received a single, 10- minute CAT session and completed the CSQ-8 after the session.

#### Results

Use of the Stetler Model for formative evaluation showed facilitated utilization of applicable research by the interdisciplinary team, enhanced communication and accountability amongst team members and resulted in establishment of a quality evidence-based CAT program. Summative findings from the CSQ-8 data suggested a high level of patient satisfaction with the new CAT program (mean CSQ-8 score was 30.75, within the high-range of 27-32). This quality, evidence-based CAT program was associated with high patient satisfaction.

# Implications for Practice

CAT may serve as an effective, complementary therapy to improve the overall hospital experience in adults. The details specifying the development, implementation, and evaluation of this evidence-based CAT program through the use of a research utilization model may provide others with a quality model to initiate such a program in their facility.



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