# DOCTOR OF NURSING PRACTICE SCHOLARLY PROJECTS ~ 2013

VANDERBILT UNIVERSITY \ SCHOOL of Nursing

VANDERBILT UNIVERSITY



School of Nursing

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VANDERBILT UNIVERSITY School of Nursing

### **FOREWARD**

Congratulations to the 2013 DNP Graduates! We celebrate your scholarship – integrating and applying knowledge into practice throughout the US and globally. You have mastered the competencies necessary for planning and initiating change within health care systems as members and leaders of interprofessional teams, recognizing the current state of evidence and societal needs

Calleen Canway - Stelch

Colleen Conway-Welch, PhD, CNM, FAAN Nancy and Hilliard Travis Professor of Nursing Dean, Vanderbilt University School of Nursing



### FROM THE DIRECTOR

The future of nursing is now as our 2013 DNP graduates lead interprofessional teams in creating meaningful innovations. The scholarly projects of the 2013 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.

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### SCHOLARLY PROJECTS ~ CLASS OF 2013

<b>Daniel Kent Barrett</b> Development and Evaluation of an Automated Electronic Health Record Event Recognition System in a Tertiary Pediatric Cardiac Intensive Care Unit	Nanette Lavoie-Vaughan A Critical Analysis and Adaptation of Clinical Practice Guidelines for the Behavioral Management of Dementia in Long-Term Care		
Krystal Amelia Coffman	Lisa Joy Matasovsky  Knowledge and Attitudes of Pediatric Pain in Mongolian Nurses		
Development of a Process for Creating Patient Education Materials	Refi Nelsoff III		
Mary Kathleen Davis	Organizational Transition Management from the CNO Perspective I		
Assessing Registered Nurse Knowledge of Upper Extremity Deep Vein Thrombosis	Dana Nelson-Peterson  Developing and Evaluating an Intervention for Addressing		
<b>Katherine Abraham Evans</b> Bedside Nurses Attitudes and Perceptions of Advance Directives	Caring and Compassion Fatigue Utilizing the Virginia Mason Production System20		
in Long Term Care  Melinda Roberts Harper Socio-cultural Influence on Health Literacy in a Southern	Needs Assessment: Substance Abuse Risks Among Registered Nurses in Tennessee2		
Appalachian Pediatric Population	Lisa Nebecca Fickett		
<b>Sarah Nanney Hill</b> Analysis of Blood Utilization in Pediatric Craniofacial Reconstruction	Identification of Providers' Assessment of Pediatric Overweight and Obesity2		
for the Development of a Practice Based Protocol	Mashae Danielle Shipman		
Lisa Anne Hubbard	Evidence-based Occupational Asthma Surveillance Protocol2		
Perceived Barriers and Facilitators to Attending Clinic Appointments in Veterans with Traumatic Brain Injury	Mary Kathleen Sullivan Identifying Barriers to Diabetes Self-Management Practices in		
Chaquetta Thomas Johnson	Diverse Populations24		
The Impact of Contraceptive Choice on the Incidence of Sexually Transmitted Infections	16		

### Development and Evaluation of an Automated Electronic Health Record Event Recognition System in a Tertiary Pediatric Cardiac Intensive Care Unit

### **Purpose**

The secondary use of health information can be a vital source of data in the health care industry. While the electronic health record (EHR) is an excellent source of information, queries for pertinent data specific to a service is difficult. Often, manual databases are constructed and maintained to track events of concern. Unfortunately, maintenance of a manual database can be a time consuming process with concerns for underreporting.

### Methodology

This pilot study retrospectively evaluated the sensitivity of an electronic discovery system, CADENCE (Computer Assisted Data Extraction and Negotiation for the Capture of Events), compared to a manual database for two events of interest, chest tube and peritoneal drain insertions.

#### Results

The electronic discovery system, was more sensitive in the retrospective event discovery (77.4% vs. 66.7% for chest tubes and 100% vs. 90.9% for peritoneal drain insertions). The system also performed well on a test of daily work flow with rapid event verification and minimal changes to work flow.

### **Implications for Practice**

While trigger sensitivity was a factor in overall event discovery, all triggers that were present in the electronic health record were found by CADENCE during this project.



Daniel Barrett,
DNP, RN, MSN,
CPNP PC/AC
Pediatric Nurse Practitioner



Krystal Amelia Coffman, DNP, MSN, ACNP-BC Acute Care Nurse Practitioner

### Development of a Process for Creating Patient Education Materials

### **Purpose**

The purpose of this project was to create a patient education booklet for neurosurgical spine surgery patients. While reviewing the literature, there was no formalized example or process for how to successfully achieve the desired result. Therefore, this project has evolved into the creation of a step-by-step guideline for creating patient education materials that can be utilized by all disciplines. The aim of this project is to assist health care providers with developing patient education materials that are specific to the populations that they serve.

### Methodology

A Patient's Guide to Spinal Surgery was created and the draft was reviewed. The steps that were utilized to develop the materials were formalized into a 10-step process that is reproducible at different levels and by different types of health care providers.

#### Results

10 Step Process for Developing Patient Education Materials: 1: Idea Formation; 2: Needs Assessment; 3: Evaluation of Available Resources; 4: Recruiting Stakeholders; 5: Literature Review; 6: Determination of Type of Education to be Created; 7: Creation of the Patient Education Materials; 8: Editing; 9: Pilot; 10: Evaluation.

### **Implications for Practice**

Patient education is a vital part of our healthcare system and can improve outcomes, shorten lengths of stay, and decrease readmission rates. This project has significance at all levels of healthcare in that the process developed can be adapted by nurses, advanced practice nurses, and other types of health care providers to develop patient education materials for their own populations.

# Assessing Registered Nurse Knowledge of Upper Extremity Deep Vein Thrombosis

### **Purpose**

The purpose of this project was to determine what extent registered nurses are knowledgeable of the risk factors, signs and symptoms, preventions, and treatments related to upper extremity deep vein thrombosis (UEDVTs).

### **Methodology**

A convenience sample of 30 registered nurses employed on a Surgical-Medical Unit was utilized. The design of this project focused on an inquiry to assess knowledge of risk factors, signs and symptoms, prevention, and treatments of UEDVTs. A questionnaire was administered to registered nurses on the Surgical-Medical Unit who work with patients that might be prone for the development of UEDVTs. A ten item questionnaire was completed by n=22 registered nurses at a 329-bed, Level II Trauma, Midwestern hospital; seven questions required basic knowledge of UEDVTs.

#### Results

The modal level of registered nurse education was a Bachelor degree (M=2.77, SD=0.61). There was no significant correlation (p = < .15) between registered nurse level of education and correct answers (r = -0.23). Provision of care by a registered nurse for a patient with a UEDVT was 8 out 22 (M = 0.36, SD = 0.49). Although there was a positive correlation (r = 0.25) between a registered nurse whom provided care to a patient with an UEDVT and correct answers, the correlation was not significant. The results demonstrated a correlation (r = 0.08) between the years of registered nurse experience to correct answers; although, not significantly (p = > .36).

### **Implications for Practice**

In order to provide the most effective care and assure the optimal outcomes, nurses need to know more about prevention and the care and management of patient's with UEDVTs.



Mary Kathleen Davis, DNP, MSN, FNP Family Nurse Practitioner



Katherine Abraham Evans, DNP, MSN, FNP Family Nurse Practitioner

# Bedside Nurses Attitudes and Perceptions of Advance Directives in Long Term Care

### **Purpose**

The purpose of this scholarly project was to assess the attitudes, beliefs and perceived barriers of bedside nurses in the Long Term Care (LTC) setting toward advance directives as part of a quality improvement initiative to improve advance directive completion rates at one LTC facility.

### Methodology

Data were collected from 36 bedside nurses in a 150 bed long term care facility in suburban Atlanta, GA. The survey was adapted from Bergman-Evans et al (2008) in their study "Uncovering beliefs and barriers: Staff attitudes related to advance directives."

#### Results

The bedside nurses clearly understand the importance of advance directives, which are utilized in daily care management. The most common barrier noted by these nurses in honoring advance directives was conflict between the family members and the patient wishes. The majority of nurses were comfortable with participation in the advance care planning process.

### **Implications for Practice**

The next step in this process is to develop a quality improvement project involving the social work and nursing teams. This initiative will focus on improving the advance care planning process, training for the bedside nurses in advance care planning conversations and routine interdisciplinary review of advance directives.

### Socio-cultural Influence on Health Literacy in a Southern Appalachian Pediatric Population

### **Purpose**

The purpose of this quality improvement (QI) project was to evaluate a subpopulation of Appalachian caregivers during an infant well child exam to determine their health literacy needs, specifically related to the socio-cultural influences on the feeding and sleeping habits of the newborn.

### Methodology

The methodology consisted of ten private interviews of English speaking caregivers using a semi-structured format with open-ended questions regarding infant child care beliefs. The interviews were conducted at an Appalachian rural health clinic, specifically, Pioneer Pediatrics in McMinnville, TN. Voluntary participants were recruited based upon a convenience sample of caregivers with infants less than one year of age. Caregivers were ensured that they could withdraw from participation at any time without consequence to their infant's care. The interviews were audio-recorded and "deidentified" to ensure anonymity. In addition to audio tape recordings of the interviews, verbatim transcriptions, observations and note taking were utilized to enhance analysis. Following initial review from the IRB, this OI initiative was considered exempt from IRB approval.

### **Results**

A thematic analysis of transcriptions and observations failed to reveal a synergistic relationship between cultural beliefs and health literacy The methodology for this QI initiative did not provide adequate data regarding the socio-cultural influence on health literacy, specifically infant care beliefs, to support the desired objectives. Therefore, it is recommended that additional methodologies be considered that relate to the socio-cultural influences on the feeding and sleeping habits of the newborn for this demographic region.

### **Implications for Practice**

Although the results of this QI initiative are partially inconclusive, the findings are being utilized to promote provider cultural awareness and development of guidelines for patient education for caregivers of infants. This is being accomplished through various interventions, including patient education material development, practice changes, and provider educational seminars. Additionally, future methodologies are being considered for further research in this demographic region, including snowballing and focus groups.



Melinda Roberts Harper, DNP, MSN, CPNP Pediatric Nurse Practitioner -Primary Care



Sarah Nanney Hill, DNP, MSN, APRN, CPNP-PC Pediatric Nurse Practitioner – Primary Care

### Analysis of Blood Utilization in Pediatric Craniofacial Reconstruction for the Development of a Practice Based Protocol

### **Purpose**

The purpose of this project was to analyze the practice of ordering and utilizing blood products, including red blood cells (RBCs) and fresh frozen plasma (FFP), in infants and pediatric patients undergoing craniofacial reconstruction for craniosynostosis at Monroe Carell Jr. Children's Hospital at Vanderbilt. The specific aim of this project was to utilize and compare the collected data to current literature in order to initiate development of a practice-based protocol.

### **Methodology**

The model for improvement was used. Retrospective chart reviews were completed on 97 patients who had undergone craniofacial reconstruction over a two year period. Analysis of data included describing the number of units of RBCs and FFP ordered preoperatively to the number transfused intra-operatively to guide appropriate ordering standards as it relates to the practice evidence. Finally, a preoperative ordering protocol was proposed to guide safe, efficient usage, minimize blood product wastage, and control cost.

#### Results

Analysis revealed an inefficient process of preoperative ordering compared to intraoperative usage as well as exposed consistent prophylactic usage of FFP, which is not supported in the literature. The preoperative orders could be reduced to a quarter of the current order. Such a reduction could potentially save ~\$4,500-6,000 per patient preoperatively and has the potential to save the institution, patients, and insurance payer over \$150,000 annually.

### **Implications for Practice**

This project revealed a gap in evidence-based blood utilization protocols as well as inefficient, costly, preoperative ordering processes for blood products. A practice- based protocol for preoperative blood ordering was developed aimed at minimizing over ordering, decreasing wastage and cost of blood product transfusions. The critical next step will be to implement and reanalyze the preoperative ordering process via iterative PDSA cycles.

# Perceived Barriers and Facilitators to Attending Clinic Appointments in Veterans with Traumatic Brain Injury

### **Purpose**

The purpose of this study was to collect demographic data, assess perceptions about issues related to attending clinic appointments, including barriers, facilitators, and current practices, and to solicit suggestions to improve appointment attendance in veterans diagnosed with traumatic brain injury (TBI).

### **Methodology**

Utilizing literature review data for appointment non-attendance in the civilian population, a survey was developed and mailed to all veterans diagnosed positive for TBI by the Cincinnati Veterans Affairs Medical Center TBI/Polytrauma program. A total of 464 surveys were mailed. To maximize the number of surveys returned, the entire population was sampled, survey information was anonymous, all documents were at a sixth-grade reading level, and a postage-paid return envelope was included with survey information. Descriptive statistics were used to compile survey data. The Health Belief Model was the basis for the study design.

### Results

Seventy-two completed surveys were returned (15.5%) within the 21 day collection period.

Veterans who responded to this survey were generally younger (mean 37.9 years), white (88.9%), males (98.2%), with psychological or mental problems (68.1%). Most (66.6%) live less than 25 miles from the clinic where most of their appointments are scheduled, and drive themselves to appointments (83.3%). The main barriers to attending appointments were found to be forgetting appointments (57.8%), parking and traffic problems (47.9%), and work obligations (36.6%). Factors facilitating attendance included phoned reminders (91.6%), bundling appointments (79.2%), scheduling with the patient (76.0%), and mailed reminders (73.6%).

### **Implications for Practice**

Health care providers should expect to see an increase in the number of veterans with TBI as troops return from combat overseas. Clinicians treating veterans with TBI should consider perceived barriers and facilitators when formulating treatment plans, and seek opportunities to promote clinic appointment attendance.



Lisa Anne Hubbard, DNP, MSN, CNL Clinical Nurse Leader



Chaquetta T. Johnson, DNP, MSN, MPH, WHNP-BC Women's Health Nurse Practitioner

# The Impact of Contraceptive Choice on the Incidence of Sexually Transmitted Infection

### **Purpose**

The purpose of this project was to examine whether choice of contraceptive method influenced the incidence of sexually transmitted infections.

### **Methodology**

A retrospective chart review was completed of initial and annual patient visits to the Family Planning medical clinic at Rapides Parish Health Unit in Alexandria, Louisiana. A total of 135 charts were reviewed. Usable data was extracted from 100 charts, utilizing a data extraction tool developed specifically for the purposes of this project.

### Results

Of the charts used for this project (n=100), 65% were African- American females and 35% Caucasian females. Fifty-two percent chose injectable contraception and 48% oral contraceptive pills (OCPs). Among injectable contraceptors, 21% (11/52) were treated for an STI in the last year, 23% (12/52) tested positive for an STI on the day of the clinic visit, and 37%

(19/52) reported using a condom during the last sexual encounter. As for oral contraceptive users, 15% (7/48) were treated for an STI in the last year, 31% (15/48) tested positive for an STI on the day of the clinic visit, and 42% (20/48) reported using a condom during the last sexual encounter. This project noted slightly higher condom use among injectable contraceptors compared to OCP users. Also, among African-American clients, there was less frequent condom use and a higher incidence of STIs compared to Caucasian clients.

### **Implications for Practice**

For the sample investigated in this project, there was no clear, increased STI risk associated with choice of contraceptive method. There was a definitive need identified for increased education on the benefits of condom use, especially among African-Americans, in conjunction with a hormonal method of contraception, to effectively reduce STI risk. Consideration should also be given to culturally-sensitive dialogue and printed materials that may foster good rapport and effective communication.

# A Critical Analysis and Adaptation of Clinical Practice Guidelines for the Behavioral Management of Dementia in Long-term Care

### **Purpose**

The purpose of this scholarly project was to critically analyze the clinical practice guidelines for behavior management of long-term care residents with dementia and draft an adaptation for implementation in this writer's practice

### **Methodology**

An online search of professional organizations and guideline collection websites was conducted to find pertinent clinical practice guidelines for review. The selected guidelines were analyzed using the Appraisal of Guidelines for Research and Evaluation Instrument. A comprehensive literature review of evidence-based research for behavioral interventions using was conducted. The clinical team used standardized tools for evaluating systematic reviews and randomized-control studies as well as scores on the evidence hierarchy and the Strength of Recommendation Taxonomy evidence rating scale to select interventions to adapt into the clinical practice guideline.

#### **Results**

The guideline selected was from the American Medical Directors Association as it focused specifically on long-term care. The clinical team used standardized tools for evaluating systematic reviews and randomized-control studies as well as scores on the evidence hierarchy and the Strength of Recommendation Taxonomy evidence rating scale to select interventions to adapt into the clinical practice guideline. A final draft of the guideline was reviewed and approved by the clinical team.

### **Implications for Practice**

As the number of persons with dementia continues to grow and the burden on LTC staff to provide safe and quality care increases, evidence-based data must be used to develop individualized plans of care. The nurse practitioner plays a pivotal role in this process by disseminating information, doing research, and assisting staff in formulating care plans. Although it may be difficult to individualize every plan, an evidence-based guideline may make the process easier for the practitioner.



Nanette Lavoie-Vaughan, DNP, MSN, ARNP-C Adult Nurse Practitioner



Lisa Joy Matasovsky, DNP, MSN, PNP-AC Pediatric Nurse Practitioner – Acute Care

### Knowledge and Attitudes of Pediatric Pain in Mongolian Nurses

### **Purpose**

The purpose of this project was to assess current knowledge of pediatric pain and to assess the effectiveness of an education intervention on improving knowledge and attitudes of pediatric nurses working at a major children's hospital in Mongolia.

### **Methodology**

Knowledge and attitudes of Mongolian nurses were evaluated pre and post a two-hour educational intervention. The translated Modified Mongolian Pediatric Nurses' Knowledge and Attitudes Survey Regarding Pain-Shriner's revision survey was distributed to pediatric nurse participants at the children's hospital in Ulaanbaatar Mongolia.

### **Results**

167 nurses attended the conference with 155 nurses completing the pre and post educational intervention surveys. The mean score on the pre survey was 12.7 out of 35 (26.4% correct) while the mean score on the post survey score was 16.7 out of 35 (47.8% correct). A statistically significant difference between scores was found using a paired t test (p<.0001).

### **Implications for Practice**

The World Health Organization and the International Association for Study of Pain cite the significance of pediatric pain as a major global health issue. Pediatric nurses in Mongolia demonstrate insufficient knowledge of pediatric pain management. The educational intervention was effective in improving short term pediatric pain knowledge and attitudes in Mongolian nurses. Similar educational endeavors with pediatric nurses in developing countries are encouraged to improve pain knowledge and attitudes.

### Organizational Transition Management from the CNO Perspective

### **Purpose**

The purpose of this project was to determine the extent to which Chief Nursing Officers participate in leading change and transition in their organizations, and to determine if this leadership is being executed effectively.

### Methodology

Data were collected from sixteen CNOs using a structured interview guide. The data were analyzed for the components of an evidence-based organizational transition framework proposed by Dr. Mitchell Marks.

### Results

Although experience and educational levels varied, many commonalities were found among the methods used by CNOs in the transition process. The framework proposed by Marks is an effective tool for framing organizational transition as fifteen of the sixteen CNOs led successful transitions that incorporated the framework's aspects of empathy, engagement, energy, and enforcement.

### **Implications for Practice**

Although the scope and complexity of transition management for a CNO can vary greatly, a structured framework may help to successfully manage organizational transition. Organizations may improve the likelihood of a successful transition by educating CNOs in the use of evidence-based organizational transition methods.



Ken Nelson III, DNP, RN, NE-BC Health Systems Management



Dana L. Nelson-Peterson, DNP, MN, RN Health Systems Management

### Developing and Evaluating an Intervention for Addressing Caring and Compassion Fatigue Utilizing the Virginia Mason Production System

### **Purpose**

The purpose of this scholarly project was to evaluate the effectiveness of an intervention aimed at addressing compassion fatigue and caring and its impact on the delivery of care in caregivers and the patient's experience across the oncology service line at an integrated medical center in Seattle, WA.

### Methodology

For this descriptive study, participants (n=101) completed a pre-post evaluation following participation in a two day retreat focused on creating a model of care delivery incorporating Dr. Kristen Swanson's theoretical framework for caring and identification of and methods for prevention and mitigation of compassion fatigue using Lean quality improvement and innovation methods.

### Results

The effect of the intervention was evaluated using  $2 \times 4$  chi square test on specific questions. The number of participants who had a good understanding of compassion fatigue and the impact it had on the patient's experience

revealed significant improvement, (3, n = 101) = 36.46, p < .0001. Additionally, participants showed significant improvements in their understanding of how compassion fatigue might impact their care delivery, (3, n = 99) = 40.13, p < .0001. The results of this project suggest that interventions directed towards recognizing, addressing, and mitigating compassion fatigue have a positive effect on the delivery of care and the patients' experience.

### **Implications for Practice**

Education regarding how to identify compassion fatigue in self and others, ideas around how to mitigate compassion fatigue as well as strategies to prevent compassion fatigue from occurring had a statistically significant impact on retreat participant's perceptions about the impact of compassion fatigue. Leadership needs to be cognizant of the presence of compassion fatigue and the burden it poses on the oncology caregiver and actively seek out strategies to identify, treat and prevent compassion fatigue to enhance the patient and staff's experience.

### Needs Assessment: Substance Abuse Risks Among Registered Nurses in Tennessee

### **Purpose**

The purpose of this study was to conduct a needs assessment for strategic planning of preventive interventions with focus on modifiable substance abuse risk factors among registered nurses (RNs) in Tennessee.

### **Methodology**

Actively licensed and full time employed RNs in Tennessee (TN), including advanced practice nurses, were recruited to participate in a statewide internet-based epidemiological survey to gather data on modifiable and non-modifiable substance abuse risk factors. The participation rate was 12.6% (n=188).

### **Results**

The analysis of data revealed that 40% of responders identified the stress associated with relational conflicts in the workplace to be the most observed occupational substance abuse risk factor. The following modifiable risk factors also identified were the physical exhaustion experienced by nurses who worked greater than 55 hours a week, the easy access to controlled drugs and the stigma of addictive disorders. The results also indicated that 26%

of responders observed that co-workers had inadequate understanding of substance abuse or dependency as a brain disease. Less than half (44%) of participants chose substance abuse/ dependency topics for continuing education (CE) credits in the last two years.

### **Implications for Practice**

The prevention focused needs assessment identifies the next steps in strategic planning and intervention. Learning the atypical characteristics of nurses with substance abuse/dependency issues will enable the caring nurse to effectively intervene when needed. Based on the findings, the recommendations include: (1) calling on the leadership of nurses to actively engage in the culture of respect (for self and others) and to be instrumental in discouraging negativity in the workplace, and (2) the promotion of substance abuse and dependency topics for CE credits, regardless of nursing specialty practice, so nurses may further their scientific knowledge about the brain and how the dysfunction is manifested in addictive behaviors of identified or unidentified at-risk patients, peers or self.



Racquel O'Riley, DNP, MSN, PMHNP Psychiatric Mental Health Nurse Practitioner - Family



**Lisa Rebecca Pickett, DNP, MSN, FNP**Family Nurse Practitioner

# Identification of Providers' Assessment of Pediatric Overweight and Obesity

### **Purpose**

The purpose of this scholarly project was to examine health care providers' evaluation and assessment and documentation of pediatric patient visits for overweight and obesity.

### **Methodology**

Data collected through a retrospective chart review were gathered to identify whether there was a deficit with the identification and treatment of overweight and obesity in the pediatric population ages 6-11 years. The study design was a cross-sectional descriptive study using retrospective data.

#### Results

Data analysis revealed that in a randomly selected population of children ages 6-11 years, 49% are overweight or obese; In three age groups, over half met the criteria for overweight or obese. Unfortunately, this chart review revealed that the children who meet overweight or obese criteria are not consistently receiving a diagnosis or the necessary and recommended services, as only 16.3% received a diagnosis, and all charts of patients that met the criteria for overweight or obese were lacking information

### **Implications for Practice**

Overweight and obesity were underdiagnosed and undertreated by health providers in this study, and evaluation and management of those who met the criteria for overweight or obese were not consistent with the current recommendations. Results of this scholarly project are consistent with the current data: health care providers do not address pediatric overweight and obesity effectively. Providers need to more consistently diagnose pediatric overweight and obesity, to incorporate education and treatment into practice to correct the deficit, and aid in developing patient-specific interventions to improve patient quality of life and future health outcomes. This project can help raise awareness for providers to understand the deficit in comprehensive care for pediatric patients who meet the criteria of overweight or obese. In addition, it will begin to provide guidance to providers to deliver consistent and high quality care to these patients.

### Evidence-Based Occupational Asthma Surveillance Protocol

### **Purpose of Project**

The purpose of this project was to develop an evidence-based protocol for occupational rhinosinusitis (OR) surveillance among industry workers in a manufacturing industry of rural Arkansas. OR is a predecessor to occupational asthma (OA), one of the most common occupational lung diseases in the industrialized world.

### **Data Sources**

Data were collected from an all-inclusive retrospective chart review of the medical records of 208 full-time employees of a manufacturing company located in northeast Arkansas. The chart review stratified risk levels of employees and to identified individuals with prior diagnoses of rhinitis, sinusitis, and asthma.

### **Conclusions**

The findings were reported for the total group (N=208) and the treatment group, consisting of employees treated for specified ICD-9 code rhinitis, sinusitis or asthma. The findings showed 26% held high risk positions and 74% low risk positions. Frequency of Clinic visits of the treatment group were noted to be highest

during the winter months, which is inconsistent with the seasonal norm for this region. Data were also collected regarding compliance with protective equipment. While the industry provides personal protective equipment, compliance with use is suboptimal.

### **Implications for Practice**

The findings of this scholarly project support the need for regular evidence-based health surveillance for OA for industrial workers of northeast AR. Instituting an OA Health Surveillance Program is recommended to improve primary, secondary and tertiary prevention measures.



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# Identifying Barriers to Diabetes Self-Management Practices in Diverse Populations

### **Purpose**

The purpose of the project was to identify barriers to self-management practices in Hispanic, Caucasian and African-American patients with type 2 diabetes mellitus (T2DM) and then compare the similarities and differences between ethnicities.

### **Methodology**

A written survey was completed by 42 participants 18 years of age and over with a diagnosis of T2DM at Caballero Family Healthcare, a family practice in Memphis, Tennessee. Of the 42 participants, ethnicities included African-American, n=13 (31%), Caucasian, n=20 (48%), and Hispanic, n=9 (21%). The survey questions assessed individual health beliefs, level of health literacy, and frequency of barriers to certain self-management practices. The results of the survey were analyzed using descriptive statistics.

### Results

The majority of participants were able to identify the effects of uncontrolled blood glucose on the body and what factors control blood glucose. Participants were aware of the importance of diet, exercise and taking medications. Caucasian and African-American participants identified a knowledge of healthy food options while the Hispanic participants felt they lacked knowledge in this area. There was a lack of exercise among all ethnicities but for different reasons. Caucasian and African-American participants either did not have enough time to exercise or had other barriers to exercise. In contrast, Hispanic participants felt there was no need for exercise due to the physical nature of their job. The majority of Hispanic participants wanted more counseling by a healthcare provider, the majority of African-American participants wanted more educational material/handouts and many Caucasian participants wanted cheaper medications.

### **Implications for Practice**

The survey results provide evidence that healthcare providers need to assess the needs of their patient population with T2DM. The differences between ethnicities and cultures should be taken into consideration. Treatment plans including diabetic education and counseling should be specific and tailored to the needs of the individual.



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