



MADONNA UNIVERSITY CENTER FOR RESEARCH PRESENTS

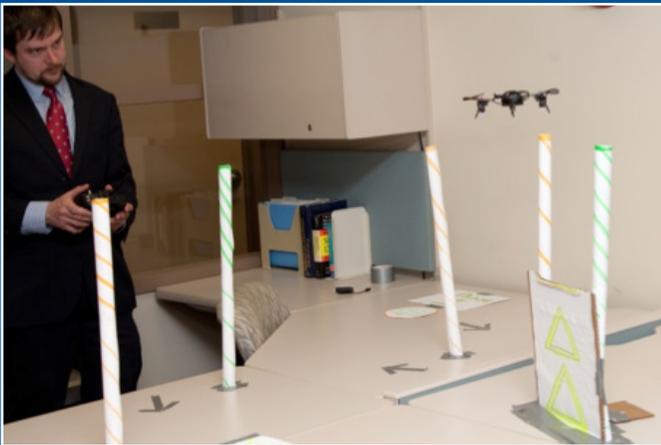
SYMPOSIUM FOR RESEARCH, SCHOLARSHIP AND CREATIVITY

Wednesday, April 12, 2017 • 12–5 p.m.

Kresge Hall and the Franciscan Center

Innovation Lab

Ideate. Collaborate. Prototype.



The innovation lab is located in the School of Business and used primarily to support the Emerging Technology and Application Course, but will be open to any student from any Madonna University school, with any idea at any stage of formation.

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DIRECTOR'S WELCOME MESSAGE



Celebrating our Research Endeavors!

At Madonna University, we understand that research and teaching have different goals and require different skills and specific attributes. The principal goal of research is to advance knowledge, whereas that of teaching is to cultivate and improve abilities. In society, researchers are valued mainly for what they discover, and are acclaimed for the problems they solve, while teachers are lauded for what they enable their students to discover and solve. In Academia, the dichotomy between teaching and research is often viewed as conflicting roles, which can never be mastered by an individual. I am proud that the Faculty and Administration at Madonna University have

made a commitment to infuse our teaching with dynamic research that is relevant to society, and provides important opportunities to engage our students in meaningful and engaging research.

Within our institution, our research endeavors are infused into our teaching to create an experiential learning experience. Student proficiencies are enriched; we aim to equip our students with transferable skills to ensure they are more competitive in the job market. Crucially, our research has relevance beyond the confines of the University. The launch of the Innovation Lab is a milestone for research and innovation at Madonna. The unique collaboration and education space was designed to foster creativity, entrepreneurship and innovation across Madonna University. It serves as a model to allow students to explore and experiment with creating real world applications from emerging technology and applications.

Our hope is that the Innovation Lab will further enhance our research, scholarship, and creative accomplishments, as well as create a vibrant, cross-disciplinary research and innovation-focused learning community.

I invite you to explore the faculty, staff and student endeavors at our 3rd annual Symposium for Research, Scholarship and Creativity.

Phillip Olla, Ph.D.
Director, Center for Research
Madonna University

SCHEDULE OF EVENTS

12 p.m.	Welcome Address	Kresge Hall
	Musical Performance	Madonna University Music Department Students
	President Address	Michael Grandillo
	Research at Madonna	Phillip Olla
	Student Recognition Ceremony Address	Lewis Walker
	Award Presentations	
	College of Arts and Humanities	Kevin Eyster
	School of Business	Deborah Dunn
	College of Education	Karen Obsniuk
	College of Nursing and Health	Deborah Vargo
	College of Natural & Social Sciences	Karen Ross
12:55 p.m.	End of Ceremony	Phillip Olla
1 p.m.	Poster Presentations Open	Franciscan Gathering Space
1–2 p.m.	Social Media and Big Data Analytics for Business Semantic Intelligence Session Chair: Adele Lau, Ph.D.	Room S102
2–3 p.m.	Augmented Reality in Healthcare: Pitches <i>Hacking Health Design Challenge Event</i> Judges: Christy Rapaich, Carl Winans and Suzanne Woynick	Room S102
3–4 p.m.	Madonna 'TED Style' Talks Moderators: Matilda Isaac-Mustapha and Michele Proctor	Room S102
4:30 p.m.	Refreshments and Networking Award Ceremony	Franciscan Gathering Space Phillip Olla and Lewis Walker

SOCIAL MEDIA AND BIG DATA ANALYTICS FOR BUSINESS SEMANTIC INTELLIGENCE

Session Chair: Adela S.M. Lau | Location: S102

- 1 p.m. “Informational Presentations: Future Development of Information Systems: Business Semantic Intelligence” Adela S.M. Lau
- “From E-Commerce to Social Media-based M-Commerce” Bryan Giczewski, Joseph Barczuk, Jake Hwier
- “Social Media Applications for Supply Chain Management: From Information-based to Social Knowledge-based” Jimmie Perry, Noelle Mayer, Brendan Delaney, D’Angelo Allen, Jeremy Otta
- “LAND: Value Estimation System” Will Lin, Rainbow Chang, Jim Jiang, Theo Chen

AUGMENTED REALITY DEMONSTRATIONS

Session Chair: Phillip Olla | Location: S102

2 p.m. Kick-off

“Warfain Diet Dos and Don’ts”

Stephanie Arsenault, Laile Beydoun,
Samantha Browne, Ashlee Eddie, Tavita
Godinez, Abbey Moul, Alexis Roberts,
Christine Surerus, Noelle Southard

“Alzheimers Augmented Reality Application

Brittani Breece, Emma Camp, Sara Elliot,
Amairani Rodriguez, Dan Rosales

“Augmented Reality Application for Orthopedic
Discharge Patients

Joni German, Grace King, Shavonne Shaow,
Ryan Bailey, Kevin Moynahan

“Augmented Reality Application to Teach How
to Monitor Glucose in Diabetes”

Arlin Calukyan, Adrianna Coutts, Jordon
Hale, Debra Merlino

“Virtual Chronic Disease Allergy Indicator”

Mariana Alvarez-Brockmann, Adrienne
Feroozan, Alexis Hoppe

“Menu Identifier”

Jacob Mulcahy-Miller, Michael Vallespir

“Protecting Mother and Baby by Taking a
Picture”

Zahraa Abikhodr, Soojeong Ha, Elisa
Hernandez, Alyssa Kelly, Linda Semsedini

“Diet for Diabetics”

Anna Leckta, Shannon Drinan

“Guide for Medication”

Eugene Son, Jihyun Park

“Celiac Disease”

Jona Sulejmani

“HTNSmart”

Hanah Laffrey-Koumaiha, Samantha Wilder

“Augmented Reality: Cardiac Patient Discharge”

Rana Freig, Kaylyn Scott, Natasha Swoish

AUGMENTED REALITY DEMONSTRATIONS JUDGES



Christy Rapaich

Christy Rapaich has been a staff nurse at St. Joseph Mercy Hospital of Ann Arbor since 1998, and is currently a shift coordinator and quality coach on the Cardiac Medicine Progressive Care Unit. Christy is a member of the American Nursing Association and Michigan Nurses Association. Christy possesses certifications in Advanced Cardiovascular Life Support and is a Certified Infant Massage Instructor.

Since 2007, Christy has been a preceptor for Michigan State University, Madonna University, Eastern Michigan University, Siena Heights University, and University of Detroit Mercy nursing students.



Carl Winans

Carl Winans is a serial entrepreneur interested in the merging of the digital and physical realities. From start-up founder and digital strategist to technology geek and inventor, Carl has the innate ability to move an idea from concept to customer with speed and purpose.

Tactically, Carl leverages human-centered design thinking to develop the brands, startups, websites, mobile apps and virtual reality tools and experiences that make a business impact. Carl has been a speaker and frequent guest on CBS Summer Tech Gear, Fox 2 Inventors, WJR Internet Adviser Radio, and Michigan State University's Conquer Business Accelerator.



Suzanne Woynick

Suzanne Woynick is the House Manager at Henry Ford Hospital in West Bloomfield. She is a RN with adult direct care experience, management and leadership experience for multiple departments and sites in academic health and hospital systems and a multi-specialty integrated physician practice organization. Suzanne attained her BSN from Oakland University and her MSA from Central Michigan University.

She is a Davidson Fellow for Entrepreneurs in Digital Health at the Henry Ford Innovation Institute. Suzanne's current passion is to develop digital innovations to impact the quality, delivery and cost for Patients and healthcare staff.

POSTER PRESENTATIONS

Undergraduate

UNDERGRADUATE

Poster Number: 1
Changes in Water Absorption and Taste Preference from Replacement Flours in Spaghetti

Jordan Daniels

Advisor: Dr. Karen Schmitz

Pasta is a staple in the American diet. Pasta made from traditional semolina flour is a simple carbohydrate with little nutrition. In this study teff, amaranth, or hemp were added to spaghetti to enhance the nutritional value by adding more fiber, vitamins, minerals or protein. This study examines control spaghetti made with 100% semolina flour and spaghetti made with 25% teff, amaranth, or hemp and 75% semolina. Tests to compare consumer preference and water absorption were performed. The researcher found that the replacement flours did not affect consumer preference or water absorption.

Poster Number: 2
Actuarial Science: The Implication of the Law of Large Numbers and the Central Limit Theorem

Jasmine Demare

Advisor: Dr. Susan Toma

Mathematics is in all aspects of actuarial science. In fact, mathematics is the basis for all insurance. Two concepts in particular are fundamental to actuarial science: the Law of Large Numbers and the Central Limit Theorem. The Law of Large Numbers allows actuaries to pool clients' information into one data set so that they can share a small financial risk rather than only a few having a large financial risk. The Central Limit Theorem allows the data set to be normally distributed. This way, actuaries are able to do much more with the data and can produce better conclusions for their clients. Learning these two theorems are crucial to an actuary's training along with many other exams and courses. The Casualty Actuarial Society (CAS) and the Society of Actuaries (SOA) provide the education for each actuary so that they are prepared to manipulate and read data using important concepts of mathematics.

Poster Number: 3
Death of a 16th Century Samurai?: Exploring the Past Using Forensic Science Techniques

Samantha Gertz and Jessica Sykes

Advisors: Dr. Jodi Lynn Barta and Jessica Zarate

A damaged suit of Samurai armor presumed to have been worn by a 16th century warrior was brought to the US from the Far East by returning servicemen. This armor is now in the collection of the Sullivan Museum and History Center at Norwich University. Patterns of damage and reddish-brown material present on parts of the armor raised questions about the origin of the stains. A phenolphthalein test failed to provide a positive presumptive indicator for blood, which was not surprising given it requires the heme component that would be degraded after 700 years. Zar-Pro™ Fluorescent Blood Lifters have been successful in lifting blood impressions, even when latent, making them an excellent choice to attempt lifting the unknown material. The Zar-Pro™ Lifters were used to lift from various locations on the armor to determine if the unknown material would bind like blood and could be preserved and visualized on the Lifter. The material did bind and, similar to blood, was fluorescent under alternate light (505nm) using an orange barrier filter. Subsequent DNA extractions were performed from direct swabs and cuttings of the Lifters used to bind the unknown material. Preliminary results indicate that DNA was preserved and could be amplified, thus supporting that the stain is blood.

Poster Number: 4
Effect of Chia Gel as a Fat Replacer in Brownies

Bonnie Green

Advisor: Dr. Karen Schmitz

Chia seeds have been in the Mexican diet for thousands of years but have only recently become popular in the American diet. Chia seeds are very small, but are high in omega-3 fatty acids, protein, and dietary fiber. The researcher investigated the effects of substituting chia seeds for fat in brownies at varying levels. Gelled chia seeds replaced the fat at levels of 0% (the control), 25%, 50%, and 75%. The brownie batters were tested for viscosity using a Bostwick consistometer, and the volume of 1 baked brownie from each variation was recorded using a seed displacement test. Seven trained panelists evaluated the brownies using a 5-point hedonic scale and indicated which brownies they most preferred. The brownies with increasing amounts of chia gel showed an increasingly viscous batter and an overall increase in volume. Panelists reported that they preferred the 50% chia seed brownie as much as the control brownie. The results indicated that at least 50% of fat in brownies can be replaced with chia seeds, a dietary fiber, while still maintaining consumer acceptance.

Poster Number: 5**Learning Outcomes Assessment Project: Edge Reading: Secrets in the Shadows****David Julien****Advisor: Dr. Karen Obsniuk**

This project is focused on helping students gain an edge on the new SAT. The students in the course were pre-selected by their previous English teachers to participate in the class. Students were tested to determine prior knowledge, taught strategies to improve their reading comprehension skills, and then tested again to determine gained knowledge.

Poster Number: 6**Xylitol as a Sugar Replacer in Sugar Cookies****Rachel Koscielecki****Advisor: Dr. Karen Schmitz**

This study was conducted to evaluate three different types of sugar cookies made with 100% sugar, 50% sugar and 50% xylitol, or 100% xylitol. The volume, width, sweetness, texture, and overall acceptability of the cookies were measured. The results showed that the variation with the best consumer acceptance and texture was the 50% sugar, 50% xylitol cookie. When comparing volume and width, the 100% sugar cookies were large and thin, and grew smaller but thicker as more xylitol was added. These results can be useful for the food industry. The 50% sugar, 50% xylitol cookie allows companies to produce a reduced-sugar cookie that is desired by consumers.

Poster Number: 7**Modular Arithmetic: Ancient Algorithm, Modern Application****Katharine Krawczyk****Advisor: Dr. Susan Toma**

Modular Arithmetic: Ancient Algorithm, Modern Applications is an exploration of vast theoretical and concrete application of the modulus. Discovered by Carl Friedrich Gauss in the late 1700s, this mathematical concept, based on the division algorithm, has become increasingly important to the modern in almost every sector of industry. Additionally, this algorithm sparked the interests of numerous mathematicians, as Fermat's Little Theorem and Euler's Theorem were discovered as a result of the modulus. Beyond mathematical theory, the modulus is used to insure products are coded correctly, information on computers is kept confidential, and simulations and models are tested with an effective set of pseudo-random numbers. Despite its age, as technology continues to develop, so do the applications of the modulus; this is one algorithm that may never go out of style.

Poster Number: 8**Mercury Levels in Cameroonian Barracuda and Non-Ocean Fish****Stephanie Mackley****Advisor: Dr. Stanley Ngeyi**

There are various methods of testing mercury in water, soil, and fish. A more detailed in depth analysis and interpretations of findings of mercury levels in Cameroonian fish will be completed by April 30th. Cameroonian barracuda from the beach of Limbe were tested on a cold vapor mercury analyzer and a DMA-80. The mercury concentration difference in the former method between raw and smoked samples is hypothesized to be due to moisture loss when smoking, effectively concentrating the mercury. The second method will confirm or refute this hypothesis. Regardless, the smoked sample of fish has a concentration of 205 ppb. Even though this is below the FDA limit of 500 ppb, the EPA has released a recommendation to not eat fish with a concentration above 185 ppb (Cladis et al. 2014). Mercury found in these fish could be from offshore oil rigging and natural bioaccumulation. Larger more predatory fish tend to have more mercury in their tissue. This study will provide dietary recommendations for Cameroonian people in terms of how much is safe to eat per week after completing the final analysis.

Cladis DP, Kleiner AC, Santerre CR. 2014. Mercury Content in Commercially Available Finfish in the United States. *J. Food Prot.* 77:1361-1366. [accessed 2017 Mar 18]. <http://www.ncbi.nlm.nih.gov/pubmed/25198598>

Poster Number: 9**Utilization of Gait Speed and Grip Strength Tests in the Assessment of Frailty in Older Peripheral Artery Disease (PAD)****Thomas Martin****Advisor: Dr. Veronica Riha**

The clinical focus on the geriatric syndrome of frailty has been increasing in recent years. Two of the most commonly cited frailty assessment methods are gait speed and handgrip strength. The purpose of this study was to determine if the gait speed and grip strength tests work well in combination to identify frailty and predict future health problems in patients with peripheral artery disease (PAD). To assess the effects of weak grip strength and slow gait speed, a total of 25 PAD patients from among a larger physical activity study were assessed. Patients were considered eligible if they were 40 years of age or older, had a diagnosis of PAD, and met certain physical activity and cardiac health requirements. This study consolidates much of the current research on the topic of frailty and adds to the growing body of literature on assessing physical health in cardiac patients, particularly those with PAD. When used as single-item measures of health, it was found that both gait speed and grip strength showed a strong association with many adverse health events, including frailty.

This research is in progress, so the results section is incomplete. It will be complete by mid-April.

Poster Number: 10
Research of the Effects of the Deepwater Horizon Oil Spill
Cassidy Minghine
Advisor: Dr. Asaad Istephan

The causes of the Deepwater Horizon oil rig explosion are briefly discussed in preparation for analyzing and explaining the effects of the oil spill on the surrounding area. The oil rig explosion and initial spill occurred on April 20, 2010 and negatively impacted several ecosystems. During this time, many marine animals and humans were affected by the event. These impacts include dermal, neurological, respiratory, and reproductive damage. Efforts were made by the government and the companies involved, BP and Transocean, to clean up the spill. However, the effects of the spill can still be seen despite a multitude of cleanup attempts. Following this, restoration plans were developed by the National Oceanic and Atmospheric Administration. These findings analyze the damage to the ecosystems and discuss the restoration efforts being made.

Poster Number: 11
Tides of the Ocean
Danielle Molnar
Advisor: Dr. Asaad Istephan

Tides are a phenomenon in ocean waters that occur on a daily basis. The cause of the alternating level of the ocean waters involves the anatomy of Earth's galaxy and the theories and laws of physics. While the moon plays a major role in the event of tides, the sun does as well. Where gravitational attraction is present does not necessarily mean that tides are present. Multiple forces play individual roles allowing a tide to form or cause them to be nonexistent. While the moon's gravitational force plays a major role in the formation of tides, the phases of the moon throughout the month determine the level the water will reach. All these factors come into play and affect coastal areas around the world in a different fashion.

Poster Number: 12
Does who you are Affect how you Vote? An Examination of College Students' Political Leanings
Alyssa Sacka and Samantha Hershey
Advisor: Dr. Kenneth Thiel

Our nation has never been more divided or polarized about politics than it is today. Outside of several studies suggesting a strong relationship between moral reasoning and political ideology, surprisingly little research has been conducted to explore

the psychological and social factors that contribute to political identification. In the present study, we wish to further examine the relationship between political affiliation and temperament to identify predictors of political identity. Also, we will explore how factors such as gender, religion, parental voting habits, and economic/social ideology predict political affiliation. Finally, a secondary aim of this study is to specifically examine the factors that contributed to whom individuals voted for in the 2016 Presidential Election. We predict that individuals with an Orienting Sensitivity and Effortful Control temperament will lean towards a liberal affiliation, whereas individuals with a Negative Affect temperament will have a conservative affiliation. Participants were recruited from introductory-level psychology courses at Madonna University. All participants were sent a link to complete a battery of questionnaires using Qualtrics. These questionnaires consisted of demographic information, the Adult Temperament Questionnaire, 19 different moral scenarios, and an identity assessment. Through the use of nonparametric Chi-Square analyses multiple regression techniques, we hope to identify and model the interpersonal and intrapersonal influences on political affiliation, including temperament. Data collection and analysis are currently in progress and will be completed by April 30, 2017. Future research will allow us to look more closely at how intrapersonal factors interact with interpersonal influences in determining/predicting political identity and affiliation.

Poster Number: 13
Effect of Lupin Flour on Physical and Sensory Properties of Cookies
Samantha Stellini
Advisor: Dr. Karen Schmitz

Replacing wheat flour with lupin flour can improve the nutritional benefits of baked goods because lupin flour contains a higher amount of protein and dietary fiber than soft wheat flour. In this study, the researcher investigated the effects of replacing wheat flour with lupin flour at varying concentrations in cookies. Spreadability and likeability of the cookies were tested. After each cookie was baked, the average diameter for each cookie type was recorded to measure how far each cookie had spread. A panel of trained judges evaluated the cookies to determine which type was most preferred. Increasing the amount of lupin flour had no effect on cookie spread. The cookie made with 25% lupin flour was most liked by the panelists. The cookie made with 50% lupin flour was largely disliked by the judges. Overall, lupin flour can be successfully incorporated into cookies up to 25% without changing likeability and spreadability.

Poster Number: 14
Cervical Cancer Screening: Reducing the Risk
Shawnya Abron-Harris
Advisor: Tracey Chan

This poster will exhibit data with recommendations for a continuous quality improvement project that examined adherence to best practice guidelines for cervical cancer screening in females patients 21-65. The project location was at a underserved populated clinic, which provides comprehensive, quality and culturally sensitive primary and preventive health care services to the medically under-served in the area and surrounding communities, including the uninsured, under-insured and those with ability to pay populations. These (USPTF) 2012 and American Cancer Society 2016 guidelines include screening for cervical cancer in women age 21 to 65 years with cytology (Pap smear) every 3 years. To measure the effectiveness of the practice in implementing these practice standards a retrospective chart review was conducted. The inclusion criteria for this project were: 1) all women who have a cervix, regardless of sexual history between the ages of 21 to 65 years per USPSTF guidelines. Thirty charts of women 21-65 years of age were chosen at randomly. A standard data collection tool was constructed and the following data were collected: 1) age, 2) gender, 3) was the pap test ordered, 4) was the pap test performed, 4) was the results documented and was the test results within three years. This quality improvement project will attempt to increase the number of Pap test that is performed in this population.

Poster Number: 15
Attitudes Towards Charitable Giving: "To Give or Not to Give?"
Ryan Ambrozaitis
Advisor: Dr. William Kasperski

Donations from America's individuals, estates, foundations and corporations reached an estimated \$373.25 billion in 2015. This amount is substantial and is continuing to have a major impact on the charitable missions that benefit from such philanthropic generosity. Charitable giving continues to increase and large-scale research on charitable giving habits continues to grow. Yet, results from local, research-based studies on attitudes towards charitable giving are still quite elusive. This poster will present findings of localized research and examine correlations between several giving segments. Since most of the data was gathered from Michigan residents, the research will provide insight into local charitable giving habits. Findings will be examined for adherence to national guidelines and implications for practice will be presented.

Post Number: 16
Diabetes Mellitus Type II: Appropriate Management of Cholesterol with Statins per 2013 ACC/AHA Guidelines
Jarida Begum
Advisor: Dr. Catherine Nichols

This poster will present findings of a continuous quality improvement in managing Low Density Lipoprotein (LDL) levels for patients with diabetes mellitus type 2 in a primary care setting. The American College of Cardiology and American Heart Association (2013) have established a guideline for Cholesterol management with statin therapy to prevent Atherosclerotic Heart Diseases (ASHD). The guideline emphasizes on starting statin in order to achieve a goal of LDL level below 70 for diabetes patients. To measure the effectiveness in implementing this practice, a retrospective chart review of 20-50 patients will be conducted. The inclusion criteria for this project are: 1) patients type 2 diabetes mellitus, 2) ages 40-75, 3) gender, 4) with or without cardiovascular diseases, 5) insurance coverage, and 6) statin or not statin. Data will be analyzed using descriptive statistics. Findings will be examined for adherence to the guideline and implications for practice will be presented.

Poster Number: 17
Band of Brothers
Andrew Ciesielski
Advisor: Dr. Anne Morris

Brother Rice High School has implemented a program named the "Band of Brothers" which seeks to overlap each graduating class together in homerooms or "mentor groups". Each of these mentor groups works together over the course of the year with five or six other mentor groups to earn points for their "band." A study was completed in 2013 to gauge the effectiveness of the program and what steps may be needed in the coming years to make the program work for all.

Poster Number: 18
Increasing Access to Mental Health Treatment Through a Marketing Approach
Adam Colden
Advisor: Dr. William Kasperski

The health care landscape in United States is consistently changing. In order to effectively utilize available health services, it is vital to understand how to obtain them. This is especially important in the field of mental health treatment as the stigma surrounding care is still prominent in our society. The effective assessment of mental health treatment awareness is the first step in improving accessibility to care while eliminating the mental health stigma in the United States. There has been a gap in the understanding and importance of screening for mental health and behavioral issues among health care providers and the public.

In a shift toward a health system in which the primary care provider is the coordinator of all care for the patient, there is an increased need to educate patients and providers on the signs and symptoms of mental illness. Original research is being conducted to assess the relationship between several health and demographic variables and the awareness of mental health services. The research conducted is in the form of a survey available to the public. The goal of the survey is to assess public awareness of both inpatient and outpatient mental health treatment options. A marketing approach will be taken when looking to improve community health agencies, primary care physicians, emergency physicians, community mental health services and local school programs. The ability to close gaps in understanding relating to mental health treatment is vital to providing resources and services to those who may not know where to turn.

Research is ongoing as data is still being collected. Research will be completed by April 30, 2017.

Poster Number: 19
Assessing and Improving Students' Graphing Abilities

Robert Cundy
Advisor: Dr. Anne Morris

To succeed in college math, science, and business courses, a student needs to be proficient in organizing, analyzing, and evaluating data to create graphs, charts, and figures. High school students are assessed in their ability to decipher visual representations of data on standardized exams. This research sets out to measure and improve the graph interpretation abilities of high school sophomores. Five Physical Science A sections were given a pretest measuring students' graph interpretation abilities. In addition to a typical high school science curriculum a focus was placed on instruction and practice on various types of graphs. Student work was analyzed for growth, and interventions were implemented as suggested through a journal of teacher reflections. At the conclusion of the study, a posttest was given to assess progress. Student work analyzed during the study showed a pattern of increased comprehension and success. Post-test results showed an average increase of 39.7% in student comprehension of visual data representations, with all subgroups showing improvement. Through a curriculum with an increased focus on graphing skills, student proficiency was improved. This increased proficiency should encourage student success on the standardized exams in April, as well as into their collegiate and professional future.

Poster Number: 20
The Effects of Non-Monetary Benefits on Employee Satisfaction

Amanda Currin
Advisor: Dr. William Kasperski

The purpose of this study is to gain knowledge on the effects of Non-Monetary benefits offered by an employer and the impact on employee job satisfaction. In this study, several non-monetary benefits were examined from the following categories: Work life balance, discounts, work environment, traditional benefits and education. This research is derived from scholarly journals and data collection to support the hypothesis that the type and number of

non-monetary benefits an employer offers has a positive impact on employee job satisfaction. A survey has been created and data collection is in progress.

Analysis and interpretation of this data will be completed by April 30, 2017.

Poster Number: 21
Law Enforcement Officers: Stress, Anxiety, and Depression

Future Davis
Advisor: Dr. William Kasperski

There are many different types of law enforcement officers, like are police officers, corrections officers, and even transportation security officers. Regardless to what type of law enforcement officer a person is and what their individual job requires when they are on duty they all face stressful situations at one time or another. The stress could be provoked by a co-worker, a supervisor, or by being involved in a critical incident. Law enforcement officers encounter different types of people and must tackle all different kinds of problems that could potentially put their jobs at risk and even worst, their lives.

The title of my study is Law Enforcement Officers: Stress, Anxiety, and Depression. The purpose of this study is take a closer look at stress, anxiety, and depression in law enforcement officers, what circumstances brings about these negative feels, and how these feelings can be reduced. The study will also compare how stress, anxiety, and depression in adults who do not work in the law enforcement field compares to law enforcement officers. Knowing what is causing stress, anxiety, and depression can offer great solutions on what can be done to help reduce these issues. A survey has been created and administered to adults with careers in and out of the law enforcement field asking questions that relate to the topic.

Analysis and interpretations in progress.

Poster Number: 22
Lung Cancer Screening Utilizing Low-Dose CT Scan: An Evidence-based Practice in Primary Care

Lowella Camille Dequiros
Advisor: Tracey Chan

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines for screening Lung Cancer using low-dose computed tomography (CT) scan. The project setting was a primary care practice serving a population of adult and geriatric patients. The USPSTF (2015) established guidelines for use in primary care practice to provide annual screening for lung cancer with low-dose computed tomography in adults aged 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.

Poster Number: 23
Do College Students Lead a Stressful Lifestyle?

Laverne Ellis

Advisor: Dr. William Kasperski

Many college students encounter a stressful lifestyle while attending school and trying to accomplish everyday tasks. The difficulties of everyday life are a challenge and when one takes on more responsibility it becomes stressful to the average individual. The purpose of this study is to find out if indeed adding college course into your everyday route causes additional stress. The study will be conducted on students from Madonna University along with Facebook friends that are enrolled in college courses for the winter 2017 semester.

Data collected in this study will give statistics of stress levels in ranges from lower levels between 0 to 34% up to extremely high levels reaching 75% and above.

These stress factors include gender, diet, age, and college status. The objective is to prove that stress can be added to one's life without realizing the correlation between college and a lifestyle change which is an added component.

A college student's lifestyle is more demanding than the average person. This study is to determine whether stress is added to a college student and if changes occur while attending a university. There are many facets of life changes that can contribute to stress while attending college courses. It is the approach that the student uses in time management, diet, relationship and family, activities, and amount of credits taken in a semester. Students may not alter their lifestyle to fit their classes into an everyday schedule. In order to complete a college degree and start a career, one must identify that stress is what they are experiencing and it is manageable.

Poster Number: 24
Marketing Research and Enrollment Trends in Education

Megan Fleischer, Nicholas Aiello, Melissa Knepshield

Advisor: Dr. Anne Morris

For many years, private Catholic schools have had a constant influx of students enroll each year. In the past, administrators didn't have to concern themselves with declining enrollment or effective strategies to market their school. Today, administrators are facing a negative change in school communities, with a continuous decline in enrollment. The lack of marketing and ineffective strategies implemented affects new student enrollment and the survival of each school. The research will focus on what it takes to increase enrollment and what marketing tools and strategies were most effective. The problem is there are many factors that impact a school's enrollment.

All analysis and interpretations are ongoing and will be completed by April 30, 2017.

Poster Number: 25
Physician Efficacy in Incentive Programs

Tamar Friedman

Advisor: Dr. William Kasperski

It is no secret that health care reimbursement has undergone

significant change during recent years. However, those who provide healthcare services are often unaware of these changes, and how they changes in reimbursement models affect patients and their care. Do physicians feel that they are able to understand and navigate the world of healthcare reimbursement? This question is at the heart of "Physician Efficacy in Incentive Programs." Determining the self-efficacy of physicians is crucial to understanding how physicians feel they can respond to changes in the healthcare market. Analysis and Interpretations are still in progress and will be completed by April 30th, 2017.

Poster Number: 26
No Pain, All the Gain

Nicole Gawel

Advisor: Dr. Gail Lis

Cancer-related pain should be presented as a major focal point of healthcare systems worldwide based upon the incidence of 12,667,479 new cancer cases in 2008, with projections of over 15 million cases in the year 2020 (Annals of Oncology, 2012). Uncontrolled, postoperative pain is associated with dissatisfaction, increase in development of chronic pain, and postoperative complications including immobilization which delays return of bowel function (Postoperative Gynecological/Oncology Surgery Guidelines 2016). The self-reporting assessment of pain intensity is the first step toward effective and individualized treatment of the cancer patient. This quality improvement project examines the relationship between assessment and effectiveness of pain control in postoperative gynecological abdominal surgery patients and the initiation of early mobility and prevention of post-operative ileus complication. A retrospective chart review, of twenty patients with a diagnosis of gynecological abdominal surgery who can successfully use the Visual Analog Scale for rating of pain, will be evaluated for level of pain pre- and post-analgesic administration, documentation of mobility, and return of bowel function. Data will be analyzed using descriptive statistics. Implications for advanced practice nurses will be discussed.

Poster Number: 27
Should the United States Adopt a Childbirth Limitation Policy?

Kelly Goodman Rodgers

Advisor: Dr. William Kasperski

Should the United States Adopt a Childbirth Limitation Policy is a research study testing and evaluating selected target populations based on age, gender, financial status, household numbers and personal opinion to see if U.S. citizens are in agreeance with adopting a childbirth limitation policy and what they believe the appropriate number of children per family should be limited to. The world we live in today is filled with high unemployment rates, poverty stricken individuals that struggle daily, deprived children that have very little resources to survive, and parents that choose to abandon their children because they cannot give them the quality of life deserved. Natural resources are becoming scarce because there is an imbalance between population and natural resources available. Proposing a policy that will help reduce the rising birthrate in the United States will help reserve some the natural resources that are rapidly depleting. It will also allow

the government to assist individuals that are living in poverty which will improve the quality of life. The continuation of this research will include expanding the targeted populations as well as collecting and evaluating more surveyed data. The results will deem to be useful in considering if a childbirth limitation policy should be adopted by the U.S. to increase the quality of life. Analysis and Interpretations are in progress and will be completed by April 30, 2017. Preliminary results may be addressed.

Poster Number: 28
Calming Pre-Test Jitters: The Effect of Biofeedback on Test Anxiety and Performance
Rebecca Grossman
Advisor: Dr. Kenneth Thiel

Previous research has demonstrated that heart-rate variability (HRV) biofeedback is a safe, simple, and effective way to reduce the negative symptoms of many mental illnesses including anxiety. It has been successful in a variety of populations, even in short treatments, with little negative emotional or physical risk to patients.

Additionally, in prior research, anxiety has been linked to poor performance in the domains of academic, professional, and cognitive testing. Specifically, test anxiety has been shown to affect performance on the Wechsler Adult Intelligence Scale.

As biofeedback has been shown to reduce anxiety and improve performance on a variety of tasks, the purpose of the current study is to examine the impact of a biofeedback treatment on reducing anxiety and test performance on the Wechsler Adult Intelligence Scale (WAIS-IV). Students recruited from introductory psychology classes were randomly assigned to two groups: a biofeedback treatment group, or a non-treatment placebo group. All participants completed a questionnaire assessing general anxiety, current anxiety, and test anxiety before completing a short HRV biofeedback training, or a short placebo treatment. Following treatment, both groups completed an additional anxiety questionnaire before being assessed on domains of perceptual reasoning, working memory, and processing speed using the WAIS-IV. Data collection is still underway and will be completed by April 30th, 2017. Statistical analyses will be conducted to examine the relationship between HRV biofeedback, anxiety, and WAIS-IV performance. Further, analyses will examine the impacts of HRV biofeedback and anxiety on the different factors of intelligence assessed by the WAIS-IV indexes.

Poster Number: 29
Hand Hygiene: Every Patient, Every Time
Kimberly Hamann
Advisor: Dr. Matilda Isaac-Mustapha

Hand hygiene is the single most effective way to prevent infections, yet hospital acquired infections (HAIs) still remains a concern. Poor hand hygiene practices affect patient outcomes and increase costs. Literature shows there are no sustainable hand hygiene practices but early behavioral changes can impact long term

hand hygiene habits. Undergraduate nursing students need to learn to prevent adverse events while increasing patient safety by incorporating effective hand hygiene practices. Through knowledge transformation, teacher role modeling, undergraduate nursing student didactics and proper hand hygiene, infections can be minimized. Research finding through a literature review have proven hand hygiene is a problem in healthcare. Many studies have been done yet not one organization is able to sustain a reliable program. Further research analysis and interpretations will be in progress and completed by April 30, 2017. The researcher has determined from this quantitative study that infections could be reduced significantly if proper hand hygiene is done routinely, every patient, every time. Hand hygiene is the single, most poorly utilized intervention yet the most effective.

Poster Number: 30
Developing Leaders Through Track and Field
Paula Holbel
Advisor: Dr. Anne Morris

The purpose of conducting the study was to query former and current Waza TC athletes, families and coaches to determine if Waza TC is developing effective Team Leaders whom coaches respect and teammates trust.

Poster Number: 31
How Leadership Styles in Manufacturing Affect Employee Participation
Everette Holland
Advisor: Dr. William Kasperski

Due to the negative historical relationships with the American automotive manufacturer and the United Automotive Workers (UAW), there are reasons to examine, "How Leadership in Manufacturing Affects Employee Participation." In this competitive environment, effective leadership styles are necessary to get the most out of the people. Leadership styles affect employee performance and productivity. This topic is chosen because of the underutilization of our most valuable resource, the people who perform these jobs daily. Some of these employees have worked in their capacity for over thirty years. Leadership styles and how it affects employee participation is discussed in the literature presented.

Steps are taken to improve this deteriorating relationship. The breakdown in relations stem from the change in times, inconsistencies in leadership styles, employment laws, the mentality of everyone involved and technology. Often, these types of behaviors are demeaning to some very talented, knowledgeable, and irreplaceable employees. The first step in this process is to create a survey with key factors that will allow the surveyed to express themselves. The second step is to administer the survey to understand the issues that employees are experiencing because of the inconsistencies in leadership of management. After the survey are returned, there will be an open discussion to see what can be rectified and whether or not there is a particular leadership style that is more effective.

Poster Number: 32
To Delay or Not to Delay: Surgical Delay for Hip Fracture Clients on Warfarin Therapy
Jodah Jadallah
Advisor: Dr. Gail Lis

This CQI project will examine geriatric patients admitted to the hospital who have sustained a hip fracture while on long-term treatment with Warfarin therapy. Treating hip fractures injuries is very costly. In 2015, cost for falls to Medicare alone totaled over \$9.8 billion (Burns, Stevens, & Lee, 2016). Over 800,000 patients a year are hospitalized because of a broken hip (Centers for Disease Control and Prevention, 2017). Moreover, hip fractures in geriatric patients have very high postoperative mortality rates and the number of hip fractures in the United States is expected to continue to increase (Thakore, Lee, Sathiyakumar, Obremsky, & Sethi, 2014). Early surgery is essential to improve outcomes, but patients on Warfarin therapy have a high risk for increased bleeding if surgery is performed within the usual 48 hours window. This project presents literature and research addressing the dangers of delaying surgery versus undergoing surgery before the optimal reversal of the Warfarin therapy prior to the procedure. The risk of perioperative bleeding must be weighed against the risk of hemorrhage and thrombosis. Early surgery also shortens hospital stay and reduces the incidence of decubitus ulcers, deep vein thrombosis, and pneumonia (Ramlogan & Lui, 2015). Thus, decreasing the surgical delay of hip fractures increases survival and reduces morbidity.

Poster Number: 33
Does Location and Social Class have an Impact on the Quality on Public School Education?
Courtney Johnson
Advisor: Dr. William Kasperski

This thesis examines the differences in public schools located in the urban city and public schools located in a small town or suburb. Educational outcomes for minority children, over the years, have shown that they have unequal access to key educational resources, which include skilled teachers and adequate curriculum. The United States educational system is one of the most unequal in the industrialized world, and students receive dramatically various learning opportunities based on their social class. Two thirds of minority students attend predominantly minority schools most are located in central cities and funded well below those in neighboring suburban districts. As a result, students residing in these urban cities are attending unfit institutions, which lack adequate supplies and necessities.

Poster Number: 34
Heart Failure: Relationship Between ACE Inhibitor or ARB Therapy Prescription At Discharge and Hospital Readmissions
Sorie Kanu
Dr. Gail Lis and Sue Sirianni

Heart failure (HF) is associated with high morbidity, mortality, and healthcare expenditures for those ≥ 65 years of age.

Approximately 1 million of the 6.5 million hospital days are for patients with (HF) and make up a large portion of the estimated \$37.2 billion that is spent each year on HF in the United States (Gheorghide, Vaduganathan, Fonarow, & Bonow, 2013). Although there has been progress made in reducing mortality in patients hospitalized with HF, readmission rates continue to rise, approaching approximately 30% within 60-90 days of discharge (Desai & Stevenson, 2012). Heart failure is not a disease, rather an indicator of various cardiac and noncardiac abnormalities (Desai & Stevenson, 2012). Hospitalization for HF requires immediate therapy and results in extended hospitalization, and comprises patients with worsening stages of HF (chronic, acute, or advanced) (Gheorghide, Vaduganathan, Fonarow, & Bonow, 2013). The outcomes for patients with HF have improved tremendously in the past 20 years, given the initiation of therapies such as angiotensin-converting enzyme inhibitors (ACEI) and angiotensin receptor blockers (ARBs) (Gheorghide, Vaduganathan, Fonarow, & Bonow, 2013). Through a retrospective chart review, twenty patients with a diagnosis of HF will be evaluated for adherence to the American College of Cardiology guidelines in relation to ACEI/or ARBs therapy in HF patients. Process indicators will include; compliance with ACEI/or ARBs therapy in HF patients with risk for hospitalization and readmission, as well as the documentation of contraindication(s). Data will be analyzed using descriptive statistics. Implications for advanced practice nurses will be discussed.

Poster Number: 35
Don't Come Back Soon: CHF Readmission Improvement
Masoumeh Khosravi
Advisor: Dr. Gail Lis

Congestive heart failure (CHF) is a leading cause of hospitalization. According to U.S Department of Health and Human Services (2016), 5.7 million adults have CHF and it costs the nation an estimated \$30.7 billion each year. It is reported that up to 25% of patients hospitalized with CHF are readmitted within 30 days, (AHRQ, 2014). CHF readmission typically occurs secondary to non-compliance with medications, dietary restriction, and inadequate supportive systems. Multidisciplinary support has been shown to improve outcomes, quality of life, and reduce readmission rates by early post discharge follow up. High readmission rates among Medicare patients after discharge from the hospital have led to the development of Transitional Care Interventions To Prevent Readmission For People With Heart Failure guidelines (AHRQ, 2014). These guidelines outline appropriate interventions such as follow up phone calls post discharge from hospital by multidisciplinary team and educational support.

This quality improvement project will evaluate the impact of early multidisciplinary support phone calls as well as identify family and social support systems in reducing readmission rate of patients with diagnosis of CHF in 30 days post discharge. Data will be collected via a retrospective chart review and analyzed using descriptive statistics. The role of the advanced practice registered nurse (APRN) will be discussed.

Poster Number: 36
Improving Quality of Care for the African American Diabetic Patient
Renee Kinaia
Advisor: Tracey Chan

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines in relation to HgBA1c, serum cholesterol, and blood pressure control for the management of the African American diabetic patient receiving care in the suburban primary care office setting. According to the American Diabetes Association Standards of Medical Care in Diabetes 2017, 49% of patients still do not meet targets for glycemic, blood pressure, or cholesterol control, and only 14% meet targets for all three measures.

1. Blood pressure should be measured at every routine visit. (LEVEL B)
2. Most patients with diabetes and hypertension should be treated to SBP goal of 130 mmHg and DBP goal of 80 mmHg. (LEVEL A)
3. A reasonable A1C goal for many adults is 7%. (LEVEL A)
4. In patients with diabetes, identify and treat other cardiovascular disease risk factors. (LEVEL B)

To measure the effectiveness of the practice in implementing these practice standards a retrospective chart review was conducted. The inclusion criteria for this project were: 1) established patients in the practice, 2) African American males and females, 3) ages 45-64, and 4) established diagnosis of Diabetes Mellitus Type 2 and undergoing treatment for at least one year, having been seen in the office in the past 6 months. Thirty charts were extensively reviewed to examine adherence to national guidelines with a benchmark of 50% or greater upon the completion of the quality project.

Poster Number: 37
COPD Exacerbations: Hit Me With Your Best Shot
Jennifer Larade-Fancy
Advisor: Dr. Gail Lis

Chronic Obstructive Pulmonary Disease (COPD) is defined as a common, preventable disease characterized by persistent symptoms and airflow limitation related to abnormalities in the airway and/or alveoli, caused by exposure to noxious particles or gases [The Global Initiative for Chronic Obstructive Lung Disease (GOLD), 2017]. COPD is currently the fourth leading cause of death in the world, and is projected to become the third leading cause by 2020 (GOLD, 2017). The Centers for Disease Control and Prevention (CDC) reported that medical costs related to COPD were expected to rise from 32.1 billion dollars in 2010, to 49 billion dollars by the year 2020 (CDC, 2014). The GOLD 2017 Guidelines recommend the Influenza vaccine for all COPD patients, and Pneumococcal vaccines for COPD patients over the age of 65 and those under age 65 with significant comorbid conditions. This retrospective study examined twenty medical records of COPD exacerbation patients to evaluate how the use of the Influenza and Pneumococcal vaccines as described in the GOLD clinical guidelines affects the severity of COPD exacerbations and the subsequent number of ICU days in hospitalized patients. Process indicators measured included whether patients had received the

Influenza and Pneumococcal vaccinations prior to admission and the number of days spent in the ICU. Patients that had received both recommended vaccines prior to admission spent an average of 0.5 days in ICU, compared to an average of 1.8 days in ICU in patients that had not received both vaccinations.

Poster Number: 38
The Importance of Volume Resuscitation in Acute Pancreatitis
Amy Mackie
Advisor: Dr. Gail Lis

Acute pancreatitis (AP) is one of the most common diseases of the gastrointestinal tract in the United States and it was the most common gastroenterology discharge diagnosis with a cost of 2.6 billion dollars in 2009 (GI.ORG, 2013). Over a ten year period the annual incidence of AP has increased from 40/100,000 to 70/100,000 (GI.ORG, 2013). While most cases are mild and self-limiting, 20% of patients admitted with acute pancreatitis develop severe disease that leads to multisystem organ failure. No specific pharmacological agent is available to prevent the organ complications occurring in acute pancreatitis. Volume resuscitation aids in the prevention of circulatory dysfunction and is the cornerstone of treatment. This quality improvement project will investigate compliance with the guidelines set by the American College of Gastroenterology (2013) for IV hydration for patients admitted with acute pancreatitis. Through retrospective data collection, twenty electronic records will be reviewed focused on the process indicator of IV hydration guideline compliance. Pain scores and BUN/Cr will be evaluated to determine the effect of hydration on the resolution of pancreatitis. Data will be analyzed using descriptive statistics. The role of the advance practice nurse will be discussed.

Poster Number: 39
Student Athlete Academic Achievement and Performance at a Small Academic Institution
Trevor McClain
Advisor: Dr. Matilda Isaac-Mustapha

Athletics are used as a way for student athletes to get into college but academics become considerably more critical to achieve success after graduation. This study will focus on how a student athlete's grade point average (GPA) is impacted by three independent variables. This study will look at the prioritization between athletics and academics by the student athlete, the resources provided by the school and how involved a coach is during their athletic career.

Several studies have been conducted in an effort to understand how GPA is impacted by different factors that a student athlete may encounter during their collegiate careers. Most of the research which was found focused on revenue generating sports at major institutions within the National Association of Intercollegiate Athletics (NCAA).

This study was able to conclude that a student athlete's GPA, at a small institution, was impacted by each of the independent variables. Based on the results of this research, it can also be concluded that each of the independent variables can positively

impact the GPA of a student athlete over the course of their academic careers.

This research is currently in progress.

Poster Number: 40
Flexible Work Environment

Jamie McCowan

Advisor: Dr. Matilda Isaac-Mustapha

The implication of a flexible work environment can be based off of many different criteria and explained in different ways, but ultimately it is any environment that dissuades from a traditional work schedule. The significance of a flexible work environment deals with how the new environment impacts the organization as a whole. The literature review will guide the paper to the different areas of focus in regards to the flexible environment through a company's culture, their management structure, communication, and work performance. Each of these factors has an effect on the outcome of introducing a flexible work environment to any organization. This research paper had an interesting outcome as it shed some light on possible areas of concern in introducing a flexible work environment into an organization. The benefits are truly employee based which sometimes can benefit the organization, but at the same time, if the organization is not careful, they can end up negatively impacted during the process.

Poster Number: 41
Review of Older Cardiac Drugs for Atrial Fibrillation

Michelle Miclea

Advisor: Angela Donovan

Atrial fibrillation (AF) is the most common type of heart arrhythmia. An estimated 2.7-6.1 million people in the United States have AF. More than 750,000 hospitalizations occur each year because of AF. (CDC, 2015) Another type of heart arrhythmia is atrial flutter. Although it is not as common as AF, it still needs to be treated in the hospital setting utilizing the same guidelines as AF. The treatment for these serious atrial heart arrhythmias is conversion to normal sinus rhythm. The longer period of the time a patient remains in AF or atrial flutter; the more difficult it is to convert them back to normal sinus rhythm. The 2014 AHA Guidelines recommends that when previous failed drug or ablation attempts fail to keep a person in normal sinus rhythm then the next step is try medications that are administered to the patient in a supervised hospital setting.

This quality review project will evaluate the pharmacological loading administration of Sotalol or Tinkosyn for symptomatic atrial fibrillation or atrial flutter. Through retrospective data collection, twenty charts will be reviewed. The process indicators include that the patient will have symptomatic atrial fibrillation or atrial flutter, and after a dose is given there will be an EKG done with reporting to the attending cardiologist if the QTc is prolonged. Data will be analyzed using descriptive statistics. The role of the advance practice will be discussed.

Poster Number: 42

Let's Get Physical: Improving Mobility Outcomes in Stroke Patients on an Inpatient Rehabilitation Unit

Julianne Mitchell

Advisor: Dr. Gail Lis

Stroke is a disease with significant morbidity and mortality in the elderly. In this population, stroke is the second leading cause for hospitalizations as well as a high rate of readmission to the hospital (Han & Bushnell, 2016). Stroke affects 800,000 individuals per year with two-thirds of these patients requiring rehabilitation (Winstein et al., 2016). Ideally, a multidisciplinary team would lead rehabilitation efforts under the direction of a physical medicine physician (Winstein et al., 2016). Inpatient rehabilitation units with such an approach are regulated by Centers for Medicare and Medicaid Services (CMS) and provide three hours of therapy per day at least five days per week. Patients admitted to these units are expected to make dramatic progress toward a return home to the community.

Through a combination of retrospective and real-time chart review, 20 patients' records were evaluated. The population is a mixture of males and females admitted to an inpatient rehabilitation unit who are 55 years of age and older with primary diagnosis of cerebrovascular accident.

The functional independence measurement (FIM) is a tool established by CMS to measure a patient's current level of independence with activities. This score is measured upon admission to the unit and again at discharge. The mobility FIM scores will be examined. The expectation was an improvement in FIM score upon discharge. The impact of aggressive inpatient therapy by a multidisciplinary team has favorable outcomes on mobility in stroke patients.

Poster Number: 43

The Quality of Life for Parents with Special Needs Kids

Danielle Nelson

Advisor: Dr. William Kasperski

The purpose of this study is to determine the quality of life for parents with special needs children and ways to improve their quality of life. Also, compare the quality of life with adults with no children and parents without special needs children. Research shows there is an abundance of evidence that supports the theory parents with special needs children have higher levels of stress, depressive symptoms, and increased health problems.

This study is intended to find out why parents of special needs children have higher rates of stress, anxiety, and bad moods than parents without special needs children. Also, it will compare the time spend with special needs children to typical children. The following research will inform the parents with special needs children of the mental and physical changes that can happen to them while caring for a special needs child. Furthermore, this research will recommend different ways for parents to cope with the constantly changing environment of raising a special needs child. Finally, inform parents of special need children how to cope with their situation and how to reach out to support groups which can improve their physical and mental health. Currently the analysis and interpretations are still in progress.

Poster Number: 44
The Effect of Gentrification on Urban Areas
Sijuade Oke
Advisor: Dr. William Kasperski

Gentrification was first introduced in the 1960's, where middle and upper class populations began moving into the inner city. The movement so called "urban revitalization" was viewed as the architectural restoration of damaged housing, and the clustering of new cultural amenities in urban communities. This paper will focus on the effect of gentrification on urban areas. This paper presents an investigation of the changes in Detroit, specifically the downtown and its surrounding areas.

For a variety of reasons, downtown Detroit have become more gentrified than ever, with increase of young, predominantly white upper and middle class working professionals. To some, the import of new businesses, jobs, urban houses redevelopment and more is enough to justify the displacement of low-income residents, most of whom are African-Americans. Little attention is focused on the negative impact gentrification has on the community. The gentrification of downtown Detroit negatively affects the outskirts of the city, which often neglected due to the intense focus on one specific area. This paper will explore gentrification from both sides; it will capture views from a positive and negative perspective. It will analyze the impacts of urban revitalization, its impact on communities, and how it can be a manifestation of gentrification. Research is derived from surveys, which will be provided to local residents, professionals, small business owners and visitors of downtown Detroit.

Poster Number: 45
Medication Management on Chronic Illness: The First 24 hours
Shereen Patten
Advisor: Dr. Gail Lis

The geriatric population, 65 years and older, are living longer and with more co-morbidities. Furthermore, they have greater encounters with transitions in care (e.g., home-to-hospital or hospital-to-rehab facility) than any other age group. The prevalence of medication discrepancies noted in transitions of care and stages of care have been associated with patient harm. Recommendations and policies instituted by authoritative entities have led to greater coordination and attention to care transitions (i.e., improved continuity of prescribed medications via medication reconciliation for patients at transitions of care; as cited in Redmond et al., 2013). The National Institute for Health and Care Excellence (NICE) 2015 guidelines on medicine optimization recommend that in an acute setting, an accurate list all of the person's medicines be reconciled within 24 hours or sooner when the person moves from one care setting to another; organizations should ensure that a trained designated competent health care provider has overall responsibility for the medication reconciliation process; and that this completed process is documented in the patient's medical record. This quality project will utilize a retrospective chart review to scrutinize documentation of appropriate attainment of medication history in patients >64 years

of age admitted to internal medicine. Charts will be evaluated for initiation of medication history within the first 12 hours of admission and for documentation of completed medication reconciliation within 24 hours of admission. Data will be analyzed using descriptive statistics. Implication for the advanced practice nurse will be discussed.

Poster Number: 46
Student Motivation
Christine Placinta, Courtney Awad, Julia Mazanka
Advisor: Dr. Anne Morris

As long as there have been schools, teachers have been asking themselves questions about how to motivate students. Teachers know that more motivated students tend to achieve at higher levels. However, answering the question of how to motivate students has been the subject of much research. With this project, we are attempting to answer these two questions, "How do teachers motivate students and how effective are these strategies with students?" Our group wrote two online surveys related to motivation and distributed them to two groups within the Livonia Public Schools District: teachers and students. Once the completed surveys were submitted we looked for themes and patterns to emerge that would help us to understand how teachers motivate students and whether or not this matched students' attitudes. What we found was that for the most part teachers and students agreed on what motivates students. In conclusion, we found that what motivated students most were for teachers to tap into their desire to succeed.

Poster Number: 47
Appropriate Documentation of Colorectal Cancer Screening in African-Americans
Florence Pugh
Advisor: Tracy Chan

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines for Colorectal Cancer Screening adherence in African American patients age 50-75. The project setting was a primary care practice serving the underserved population of Pontiac, Michigan. African Americans have the highest colorectal cancer incidence and mortality rates of all racial groups in the United States (American Cancer Society, 2016). The American Cancer Society (2016) guidelines state that starting at age 50, men and women at average risk for developing colorectal cancer should use one of the following screening tests: Flexible sigmoidoscopy every 5 years, Colonoscopy every 10 years, Double-contrast barium enema every 5 years, or CT colonography (virtual colonoscopy) every 5 years. To measure the effectiveness of the practice in implementing these practice standards a retrospective chart review was conducted. The inclusion criteria for this project were: 1) African Americans, 2) males and females, 3) ages 50-75, and 4) established patients. The exclusion criteria for this project were: 1) Patients with a diagnosis of colorectal cancer or total colectomy, 2) age less than 50, and 3) age greater than 75. Thirty charts of African American men and women ages 50-

75 were chosen at random. A standard data collection tool was constructed and the following data were collected: 1) gender, 2) age, 3) race, 4) insurance, 5) screening- colonoscopy, 6) screening flexible- sigmoidoscopy, and 7) screening- gFOBT (Guaiac-based fecal occult blood test).

Data will be analyzed using descriptive statistics. Findings will be examined for adherence to national guidelines and implications for practice will be presented

Poster Number: 48
Talking about Mathematics
Linda Reeves
Advisor: Dr. Anne Morris

This research project “Talking about Mathematics” presents challenges students in the first grade face with talking about mathematics. The participants in this study were students in one first grade classroom over a course of three weeks. During this period, students observed modeled math talks, participated in math talks, interacted with and completed Unit 2 (Introducing Addition) in the Everyday Mathematics 4 math program with an emphasis on math talks, were given a pre-test, mid-unit open response assessment, and a post-test. Student results from the research provide supporting evidence for why talking about mathematics is important not only for deepening mathematical knowledge and understanding but also how talking about mathematics leads to equal success in the other content areas.

Poster Number: 49
Walmart: Advertise what You do Best
Mohamed Safiedine
Advisor: Dr. Betty Jean Hebel

For years Walmart has been advertising everyday low prices (EDLP). Whenever shoppers hear Walmart they quickly think EDLP. It has been stressed since the start of the company in 1962. In this study, the researcher will attempt to prove that Walmart should not only advertise low prices or cost, rather they should include the other two factors, which they have mastered. These two factors are convenience and quality. While it is clear that Walmart has mastered cost, it is not clear to the public that Walmart has also mastered convenience and quality. This study will attempt to prove that Walmart has mastered these three factors, which are cost, convenience, and quality. Walmart’s mission of mastering these three factors means that customers want these three factors. While some customers appreciate EDLP, other may appreciate convenience or quality. Walmart understands that customers appreciate EDLP, that is why they advertise it so much. However, Walmart has also mastered convenience and quality. With that said, it is crucial that Walmart advertises convenience and quality as well. Walmart should advertise what they do best, which is offering cost, convenience, and quality.

The results and interpretation are in progress and will be completed by April 30, 2017.

Poster Number: 50
The Impact of Cost, Convenience, and Quality on Walmart’s Success
Mohamed Safiedine
Advisor: Dr. Matilda Isaac-Mustapha

Walmart’s success has caught the eyes of millions of business owners and future entrepreneurs all over the globe. The purpose of this research study is to understand the impact that cost, convenience, and quality have on organizational success, more specifically, Walmart’s success. This study will attempt to discover if these three factors have played and continue to play a major role in Walmart’s success. While these are assumed to be the three key factors of organizational success, they can be broken up into two different groups; business expansion and business growth. It is believed that cost and quality are factors of business growth while convenience is a factor of business expansion. The results and interpretation are in progress and will be completed by April 30, 2017.

Poster Number: 51
An Evaluation of Using Mobile Health Applications
Manal Shehada
Advisor: Dr. William Kasperski

Mobile applications cover almost every aspect of our daily life activities even healthcare services. Mobile health (mHealth) is about using wireless communication devices to improve public health and clinical procedures. MHealth applications help in improving the quality of the healthcare services and reduce the cost of these services. They also help in facing the upcoming healthcare obstacles resulting from the population aging and the shortage of healthcare professionals. The purpose of the study is to evaluate the usage of mHealth applications from patients’ and physicians’ perspectives, and to explore the obstacles that prevent adopting these applications widely. This study is performed through web-based and paper based questionnaire delivered to a sample of people and physicians in Michigan. Participants’ socio-demographic data such as age groups and gender will be collected. The study will try to find if the gender of the users has an effect on using mHealth applications, and on evaluating the benefits gained from mHealth applications. Also, it will identify if the therapeutic use of these applications has an effect on rating the gained benefits, and if the physician specialty has an effect on prescribing mHealth applications to patients. In addition, it will identify the main features of mHealth applications prescribed by physicians, and the effect of physician’ gender on prescribing mHealth applications. (research is in progress)

Poster Number: 52
Thinner is not Always Better
Jessica Simerly
Advisor: Dr. Gail Lis

This CQI project will assess whether elderly trauma patients (age 65 and older) with intracranial hemorrhage (ICH) and being anticoagulated with Coumadin were appropriately reversed and

coagulation profiles monitored per guideline recommendations. There is an increasing proportion of elderly patients being treated at trauma centers primarily related to falls. Furthermore, many of the elderly patients who present to trauma centers are also being treated with Coumadin, an anticoagulant, for a secondary medical condition. With Coumadin, patients are at an increased risk for post injury hemorrhage and perhaps further complications.

Studies have suggested that timely reversal of Coumadin anticoagulation may decrease ICH progression and reduce overall mortality. For this quality assurance study, two process indicators will be evaluated that include, documentation of coagulation profiles on elderly trauma patients with ICH and if rapid reversal was completed for those patients anticoagulated with Coumadin and had an INR >1.5.

Through retrospective data collection, twenty records of patients who were anticoagulated with Coumadin and admitted with ICH will be reviewed for a decline in neurologic function as measured by the Glasgow coma scale. Data will be analyzed using descriptive statistics. The role of the APRN in promoting positive patient outcomes in trauma patients admitted with intracranial hemorrhage will be discussed.

Poster Number: 53
Walking Away from Your Troubles
Jasmine Singh
Advisor: Dr. Gail Lis

With rising incidences of chronic back pain, an aging population, increased awareness levels, and an influx of advanced technologies, the number of orthopedic spinal procedures has been rapidly increasing worldwide. In fact, with over 3 million spinal procedures performed annually, the global market for spinal surgery is projected to reach \$9.3 billion this year (Global Industry Analysts, 2017). It is known that with any surgery, there is risk for post-operative complications that may involve subsequent pain and impairment or even the need for additional surgery; when surgery is done near the spine and spinal cord, these complications could potentially be quite serious. Thus, guidelines and protocols for early mobilization have been established to help avoid post-operative complications including deep vein thromboses, pulmonary emboli, and urinary retention, in elective spinal surgery patients.

This quality improvement project will investigate the effect of early post-operative mobilization on reducing the incidence of the aforementioned complications. Through a retrospective data collection method, thirty medical records of orthopedic patients who underwent elective spinal surgery will be reviewed. The process indicators evaluated will include documentation of mobilization beginning the day of surgery, consultation to Physical and Occupational Therapy to work with the patient on the day after surgery, and continual documentation of daily mobility during the inpatient post-operative period. This data will be analyzed using descriptive statistics. Furthermore, implications for the advanced practice nurse in regards to this topic will be discussed.

Analysis and Interpretations are currently in progress and will be completed by April 30, 2017.

Poster Number: 54
Time to get the Balloon to the Heart
Stacy Slaughter
Advisor: Dr. Gail Lis

An ST segment elevation myocardial infarction (STEMI) is a term used to describe an infarction that encompasses the full thickness of the heart, and is typically diagnosed with ECG and abnormal blood tests (i.e. troponin). These blockages are caused by Coronary Artery Disease (CAD); which is the buildup of plaque within the blood vessels of the heart. It is imperative that EKG be performed in a timely manner in patients presenting with symptoms of STEMI.

If blood flow is not restored the heart in a timely manner death of the myocardium will occur. The preferred treatment for STEMI is revascularization via percutaneous coronary intervention (PCI) within 90 minutes from the onset of medical care (American College of Cardiology Foundation, 2013). Reperfusion via PCI significantly reduces the size of the infarction, potential for re-infarction and mortality. The longer treatment is delayed, the greater the risk that complications may occur.

The focus of this quality improvement project is to evaluate the timeliness of EKG order and read in addition to arrival time of patient to cardiac catheterization lab for PCI. Twenty Medical records will be evaluated for the above process indicators. The outcome of patient length of stay and development of complications will also be assessed. Data will be analyzed using descriptive statistics. The role of the APRN in facilitating timeliness of care will also be discussed.

Poster Number: 55
Depression Screening in Chronic Pain Patients
Bethany Stallings
Advisor: Tracey Chan

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines for depression screening in chronic pain patients. The project setting was a physical medicine and rehabilitation practice which also treats chronic pain patients. To measure this practices implementation of depression screening, a retrospective chart review was conducted. The inclusion criteria for this project were: 1) patients who do not have a diagnosis of, or are currently being treated for depression 2) males and females, 3) ages 18 and above 4) have a diagnosis of pain for at least the past 6 months. Forty charts were chosen at random. A standard data collection tool was constructed and the following data were collected: 1) age 2) sex 3) insurance coverage 4) diagnosis 5) pain score 6) number of pain medications prescribed 7) number of opiates 8) Depression screening documented in chart 9) If positive depression screening in chart, was there a referral placed or PCP contacted. Data will be analyzed using descriptive statistics. Findings will be examined for adherence to national guidelines and implications for practice will be presented.

Poster Number: 56
Breathe Easy: Evaluating Documentation of Peak Flow Measurements and Discharge Instructions in Patients Admitted with COPD Exacerbation
Simona Surugiu
Advisor: Dr. Gail Lis

Chronic Obstructive Pulmonary Disease (COPD) is a common, preventable and treatable disease that is characterized by persistent respiratory symptoms and airflow limitation that is due to airway and/or alveolar abnormalities usually caused by significant exposure to noxious particles or gases (GOLD, 2017). COPD is the fourth leading cause of death in the world. COPD exacerbations are acute worsening of respiratory symptoms that result in additional therapy. The goals of treatment for COPD exacerbations are to minimize the negative impact of the current exacerbation and prevent the development of subsequent events (GOLD, 2017). There is a significant relationship between spirometric severity and the risk of exacerbation and death (GOLD, 2017). Spirometry in conjunction with patient symptoms and exacerbation history remains vital for the diagnosis, prognostication and consideration of other important therapeutic approaches (GOLD, 2017). The CQI project will examine adult patients admitted with COPD exacerbation. The process indicators will include appropriate documentation of peak flow measurements and COPD discharge instructions. Through retrospective and real time data collection,

twenty charts of patients admitted with COPD exacerbation will be reviewed. Data will be analyzed using descriptive statistics. The role of the advanced practice registered nurse will be discussed.

Poster Number: 57
Have You Weighed Yourself Lately?
Alicja Szewczyk
Advisor: Dr. Gail Lis

Heart failure currently affects over 5 million people in the United States, with 550,000 new diagnosed each year. Death from HF accounts for 1 out of every 9 deaths. Additionally, 50% of patients with HF will die within five years of being diagnosed cases. Therefore, diagnosis and treatment of heart failure is one of the most expensive conditions. (American Heart and Stroke Association, 2015; Chaundhry, Wang, Concato, Gill, & Krumholz, 2007; White, Howie-Esquivel, & Caldwell 2010).

This quality improvement project will evaluate compliance with the 2013 ACCF/AHA Guidelines for the Management of Heart Failure. A retrospective chart review of 20 individuals over the age of 55 diagnosed with CHF exacerbation will be conducted. Two process indicators will be evaluated: documentation of patient weight within 24 hours of hospital admission; and daily weights thereafter. Data will be analyzed using descriptive statistics and the role of advanced practice registered nurse will be examined in early prescribing of pharmacological treatment of patients with CHF exacerbation.

Post-graduate Presentations

Poster Number: 58
The Impact of Frontline Leadership Rounding on Nurse Engagement
Kelly Baird-Cox
Advisor: Dr. Phyllis Brenner

Objective: To evaluate the impact of frontline leadership rounding on four domains of staff nurse engagement considered by the Magnet program in a pediatric emergency department.

Background: Numerous studies found staff nurses were the least engaged among healthcare employees' concerning situation for the largest segment of the healthcare workforce. Studies suggest nurse engagement begins with the frontline nurse leader.

Methods: A pre-post design eliciting quantitative and qualitative data was used to assess the impact of structured leadership rounding on staff nurse engagement.

Results: Survey results revealed positive mean score differences on all selected domains and discrete items for each domain of employee engagement.

Conclusions: Monitoring engagement through the lens of leadership rounding enables nurse leaders to receive timely feedback and take meaningful real-time action to address structural and process aspects of work that contribute to nurse engagement.

Poster Number: 59
Patient Perception of Readiness for Discharge: Impact on the Discharge Experience
Julia Libcke
Advisor: Dr. Phyllis Brenner

Purpose: The purpose of this study was to evaluate the impact of assessing patient perception of readiness for discharge on patient satisfaction in an inpatient rehabilitation facility.

Background: Effective discharge planning is key to positive outcomes. Readiness for discharge is inconsistently assessed from a patient perspective in various care settings. Identification of strategies to drive patient-centered care (PCC) is needed to improve the quality and safety of health care.

Methods: Using a pre-post evaluation design, the Readiness for Hospital Discharge scale was implemented to measure patient perception of discharge readiness and provide patient-centric information to individualize the process.

Findings: Lowest scoring areas for intervention included patient personal status and knowledge. Data revealed favorable responses to satisfaction questions on the day of discharge and when evaluated in the home.

Conclusion: Obtaining patient perceptions of readiness may impact team functioning that improves satisfaction with the discharge experience.

Exhibition Poster Presentations

Exhibition Poster Number: 60

Generation Z

Taylor Byron

Advisor: Dr. Betty Jean Hebel

Reaching generation Z is one of marketing professionals' next big challenges. They are very different from the former generations in many aspects. The tactics that worked in the past will not work for this new generation. They grew up in a different world compared with previous generations, which causes them to see things differently and go about things in a different manner. Marketing professionals need to use more technology and social media with this generation to reach them.

Exhibition Poster Number: 61

The Jammin' Classroom: Music Highlights by Grade

Emily Crombez

Advisor: Linette Popoff-Parks

This project consists of a set of twelve vocal songs, which I am composing for unison voices and piano or guitar accompaniment. Although this project is a work in progress, the final product will culminate in one song for each grade, 1st-12th. Each song is designed to introduce a new music topic, teach a specific element of a music lesson, or summarize a learned music concept. For example, some of the topics include major and minor scales, melody characteristics, improvisation, and ostinato lines. The lyrics describe the respective topic while the musical characteristics demonstrate how that topic sounds, feels, or is used in a piece of music. The keys of the songs will acknowledge the circle of fifths so they are related as a set of songs. However, because of their individual content, each song is intended for a specified grade level and the album will not be intended for use by a single classroom in its entirety. The project outcome will include notated sheet music for both the teacher and the student as well as a recording of each song made available on YouTube with the lyrics. The project will be completed by April 26, 2017.

Exhibition Poster Number: 62

Can Mass Media be Used to Teach the Public about MRSA and Clostridium Difficile Reduce Antibiotic Resistance?

Shawn De la Cruz

Faculty Sponsor: Dr. Rachel Mahas

Background

Thirty to fifty percent of all antibiotics are prescribed inappropriately. Each year in the United States, at least 2 million people are infected by an antibiotic resistant pathogen and at least 23,000 will die as a direct result from Methicillin-Resistant Staphylococcus aureus and Clostridium difficile (C. diff). On December 2014, only 44.3% of acute care hospitals in Michigan had the seven core elements of the antibiotic stewardship program recommended by the Centers for Disease Control and Prevention. MRSA and C. Diff are no longer isolated to hospitals it has been

recently discovered within the community over the past 30 years.

Purpose

To obtain successful reduction of antibiotic resistance in Michigan, we wanted to show that multiple forms of media are required to teach the public.

Results

California became the first state to pass a bill, mandating an antibiotic resistance stewardship program for their local hospitals. Although California made extraordinary efforts, this only moved their rating from negative red to mid-level yellow. A different approach needs to be considered. A subject tip was sent to the Ask Dr. Nandi show on WXYZ Channel 7 of which he featured not only hand hygiene but included discussion about the antibiotic stewardship program. Social media platform was created to increase awareness and public knowledge.

Implication

The antibiotic stewardship program is limited to the hospital environment whereas antibiotic resistance affects everyone. A concerted effort from social media, news, radio, and television need to be accessed to aid reduction in antibiotic resistance.

Exhibition Poster Number: 63

Digital Transformation

Ashley Moore

Faculty Sponsor: Dr. Betty Jean Hebel

This project will discuss the digital transformation of the modern corporation. Digital issues focus on pressing managerial problems at multiple levels of analysis. There is a belief is that marketers have taken a very narrow view examining social media, Big Data and the transformation of marketing communications. I would like to discuss the issues concerning this matter.

Exhibition Poster Number: 64

The Role of Social Media in Professional Sports

T. Chase Root

Faculty Sponsor: Dr. Betty Jean Hebel

This project explores the role of social media in professional sports. A noticeable shift has been seen from traditional marketing efforts to new digital marketing campaigns. Numerous articles have been analyzed throughout this project to better understand the effects of social media on the relationship between fans and sports organizations. An opportunity is presented for teams to develop their brands in front of their consumers. Conversations and interactions that take place in virtual communities can be viewed as a form of capital to teams that can use that information to deliver fans what they want. Also, effective engagement of fans with high levels of team identification is important when it comes to producing a financial impact. These philosophies, among others, are discussed to better understand the role that social media with have in professional sports for years to come.

Faculty Presentations

Poster Number: 65

Does Shadow Health Assist in clinical Readiness? A Student's Perspective

Tracy Chan and Dr. Patricia Clark

Research has shown that Nurse Practitioner students struggle with the transition into a precepted clinical setting and ultimately into autonomous practice. Simulation has been found to be a safe way to assist nurse practitioner students in this transition. A form of simulation is virtual patient management. It is believed that with virtual simulation programs students can demonstrate and perfect their clinical reasoning skills through life-like interactions with virtual patients. We wanted to evaluate the effectiveness of Shadow Health in assisting with clinical readiness. In Shadow Health, students are able to obtain subjective data through the interview process, virtually perform a physical examination, and determine diagnoses and a plan of care. We initiated the use of shadow health in our advanced health assessment class and continued its use through the clinical courses. It was utilized with both adult-gerontology primary care and acute care nurse practitioner students. A longitudinal study was initiated and students were surveyed at the end of health assessment and during their clinical courses on the impact they perceived shadow health had on their clinical readiness. A 7 question survey tool using a visual analog scale plus 2 open-ended questions was developed and utilized to measure student's perception of clinical readiness following virtual simulation through shadow health. Results are currently being analyzed. Preliminary findings favor the use of virtual simulation for the development of interview and history taking skills. Concerns were noted regarding excessive time commitment and technology issues.

Poster Number: 66

Perspectives of Care on a Mission Trip

Marisa Ferrari

Background: With diverse patient populations, healthcare can often lack patient specific cultural care. Cultural care can be challenging when experiences are limited in diversity and complexity. Medical mission trips are a venue to provide culturally sensitive healthcare while reducing healthcare inequities.

Purpose: The purpose of this study was to evaluate the perspectives of care provided on a mission trip. Specific aim was to determine if differences exist between licensed professionals and student perspectives.

Design/Method: A self-designed, mixed-methods survey was distributed at the completion of a 6-day medical mission trip. The survey addressed: orientation, communication, resources, time management, outcomes, follow-up, adverse outcomes, personal standards, interpreter/language barriers, cultural knowledge, goals, and overall experience.

Sample: The medical mission trip had 58 participants, 33 of the surveys were returned (63% professionals and 37% students). The majority respondents were: under 24 years of age (43%); nurses

(38%); and female (78.8%).

Results/outcomes: There was no significant difference between the "professionals" and "students" perspectives (4.36 and 4.24; $p=0.66$). There were significant differences in 2 questions: "Greater language proficiency would have increased your productivity" ($p=0.045$); and "Greater cultural awareness would have improved the quality of care provided" ($p=0.003$).

Conclusion: All members had positive perspectives of the care provided. Both groups "completely agree" their goals were met and their experience was positive. Student perspective of language barriers and cultural awareness was significantly different than professionals. Experience and patient interactions might account for this. More education and exposure to diverse communities could enhance cultural competency and foster changes for patients.

Poster Number: 67

A Qualitative Analysis of Servant Leadership Attributes in Nursing Students

Marisa Ferrari, Nadine Wodwaski, Remy Bruder

Background: Service learning can link nursing curriculum with civic responsibility, community service, and population health. It allows students to attain the knowledge, skills, and attitudes necessary to deal with the social issues patients encounter. Characteristics include; listening, empathy, healing, awareness, persuasion, conceptualization, foresight, stewardship, commitment to the growth of people, and building a community.

Purpose: This study identified relationships between servant leadership attributes and sophomore nursing students' journaled service learning clinical experiences.

Design/Method. A qualitative study of nursing students' 3 service learning experiences was performed. Students completed journal entries following clinical experiences and answered the questions: 1) What personal or professional insights were gained during the experience? and 2) How do you think this experience will influence/impact your understanding of health promotion for yourself or others?

Sample description: BSN students ($n=66$), $N=24$ sophomore nursing students (males= 21% ; females= 79%; mean age 24.9). Results: Using NVivo 10[®], student data revealed three themes: people, community, and health. Positive Pearson correlations (1) where determined between: the student theme community and the servant leadership attribute of "building community;" and the student theme people and the service learning attribute "commitment to the growth of people."

Key findings: In the sophomore year, there was a positive relationship between 2 servant leadership attributes (commitment to the growth of people and building a community) and the themes from the students' responses. As students matriculate through the curriculum, service learning experiences may impact servant leadership development and a commitment to promoting a healthier community.

Poster Number: 68
Future Development of Information Systems: Business Semantic Intelligence
Dr. Adela S.M. Lau

As the evolution of 5D technology in 2020, internet speed and data processing power will become much faster and powerful. Virtual reality, augmented reality, machine learning, social media, big data and mobile apps will become new generation of business technologies. Enterprise will analyse data from various sources such as social media, open data, Web 4.0, company databases, document repositories, etc., and in different formats. Enterprise will be able to perform better decision making by viewing and manipulating the analysed data in semantic manner. Therefore, this research is aimed to discuss how social media management systems, big data analytics and n-D visualisation to be used for creating business semantic intelligence. The examples of its applications in various industries and its concerns will be discussed

Poster Number: 69
Million Hearts Service Learning
Dr. Mary Mitsch, Dr. Traci Stewart, Dr. Rachel Mahas, Dr. Linda Nikpour

Madonna University Health Sciences students enrolled in Evidence Based Research and Health Promotion courses from January 2016-2017. Students took part in an Academic Service Learning Project in collaboration with The Ohio State University (OSU) School of Nursing and the CDC Million Hearts Initiative.

The CDC Million Hearts Initiative is to reduce the incidence of stroke and heart attacks by one million in the United States by 2017. The goal of the project is to teach students and health care professionals how to conduct, interpret, and triage a Million Hearts screenings in the community setting. Prior to screening community members, students completed the OSU's Million Hearts educational modules. These modules required that at least ten participants had to be screened and entered into the OSU data bank. After completion of a posttest students were awarded a Million Hearts Fellow certificate.

Students participated in the screening of n=150 parishioners at a community church from January 2016. Participants were recruited and the following screenings were performed: Body Mass Index (BMI) and stress screening via the Perceived Stress Scale-4 tool. Blood pressures were taken by volunteer nurses. Furthermore, Health Sciences students administered health education messages and material on lowering their cardiovascular risk factors and if necessary appropriate referral information to the participants. A collaborative IRB with Madonna University and the Ohio State University was obtained for this project.

Poster Number: 70
Homelessness in Detroit: The Story and Proposed Solutions
Dr. Michelle Proctor, Dr. Gerald Charbonneau
Student Presenters: Monserrat Contreras-Galindo, Ashanti Daniels, Marilyn Lugo, Jennifer Pettway, Cheron Philpot, D'Marco Redd, Livonia Shropshire, Desiree Simpson, Sidney Sparks, Antonio Williams

Chronic homelessness is regarded as people who are experiencing either repeated episodes of homelessness or continuous, long-term homelessness of five years or more, and typically with more barriers. This a class research project focused on exploring homelessness in the city of Detroit. Secondary data analysis was examining homelessness in the context of community as a structure. Forms of existing oppression, discrimination, poverty, marginalization, alienation, factors of diversity and difference as well as sources of privilege and power as they impact social well-being were identified that propel individuals and families toward homeless. Lack of affordable house, and inadequate services, policies and funding to assist those in need, and gentrification, to name but a few are explored. This project seeks to find solutions to the issue of homelessness emphasizing the application of planned change processes at the community level in response to changing contexts and needs to promote social and economic justice, and to advance the equitable distribution of basic human rights and resources.

Poster Number: 71
The Perceptions of Diversity and Inclusion on the Campus of Madonna University
Dr. Michelle Proctor, Dr. Gerald Charbonneau, Marius Sidau

Diversity in this study refers to differences that include the dimensions of race, ethnicity, gender, sexual orientation, socio-economic status, age, physical abilities, religious beliefs, political beliefs, or other ideologies. This study is the third phase in a longitudinal study with the goal of accessing the perception of diversity and inclusion on the campus of Madonna University by students, faculty and staff. The first phase was conducted in 2010, the aggregate findings suggested that Madonna University is relatively free of prejudice and discrimination. However, upon further analysis of minority groups' responses to both quantitative and qualitative questions, patterns of perceived prejudice and discrimination emerged. The results of this study are consistent with previous research regarding the pervasiveness of discrimination in college environments. The subsequent phase was conducted in 2012, and the findings suggested improvement in perceived prejudice and discrimination among minority groups, but that that improvement was slight. In 2017, the study is being conducted in its third phase which will be cross-tabulated with the previous two phases of the survey. During this third phase, however, the data collection will be supplemented with qualitative data analysis in the form of focus groups with student, faculty and staff. Our study aims at aiding the reform process at Madonna University by presenting quantitative and qualitative evidence collected from the Madonna University community in order to support, enhance, redirect, and shape policies to achieve an equitable and diverse environment.

Interactive Demonstrations | Location: Franciscan Gathering Space

Virtual Chronic Disease Allergy Indicator **Mariana Alvarez-Brockmann, Adrienne Foroozan, Alexis Hoppe** **Advisor: Dr. Phillip Olla**

The Virtual Chronic Disease Allergy Indicator is an application that will be useful for persons that have specific chronic diseases and are allergic to certain over-the-counter (OTC) medications. When someone uses the Virtual Chronic Disease Allergy Indicator, it will notify that person if a specific OTC medication has a chemical compound that the person is allergic to. The Virtual Chronic Disease Allergy Indicator will be specific to commonly-used OTC medications such as Tylenol, Aleve, and Motrin etc. This app will be very helpful to persons with certain chronic diseases and will educate them on the OTC drug restrictions due to the specific disease they may have.

The Virtual Chronic Disease Allergy Indicator will work by scanning an OTC medication and searching its database according to the disease correlated to the medication. It will then notify if the OTC is within that person's drug restrictions. A green check mark will appear if the person may have the OTC; if not, the chronic disease will appear on the screen which indicates to the patient that specific drug is not suggested for them to take.

Warfarin Diet Dos and Don'ts **Stephanie Arsenault, Laile Beydoun, Samantha Browne, Ashlee Eddie, Tavita Godinez, Abbey Moul, Alexis Roberts, Christine Surerus, Noelle Southard** **Faculty Sponsor: Dr. Phillip Olla**

Heart disease is the leading cause of death in America, currently there are over 6 million people in the U.S. on an anti-coagulant regiment because of this. Warfarin (Coumadin) is a popular anti-coagulant medication that helps many suffer of heart disease, but there are many foods and medications that do not interact well with it, which can cause this drug to intensify or adverse effects to happen. Being unaware of what foods, medications, and supplements to avoid or limit when on a Warfarin regiment can pose a serious health risk. With the use of augmented reality, I would like to generate an application that would allow a patient on a Warfarin regiment to be able to use his or her phone to scan food items and over the counter medicines to discriminate what they can have, cannot have, and what they should limit to only small amounts. I believe that this application could be a great help in educating many patients who are having trouble remembering which items that they should be avoiding and limiting.

E-Commerce to M-Commerce **Joseph Barczuk, Brian Giczewski, Jake Hwier** **Advisor: Dr. Adela S.M. Lau**

In light of the rapid growth of technologies, nowadays, business has been changed from e-commerce to m-commerce and social media

approaches in order to improve overall business competitiveness. This research is aimed to discuss the evolution of m-commerce, social media, and provide a technology landscape on the social media-based m-commerce development. As more companies seek to develop their management information systems and integrate it with new technology, there needs to be an evaluation of the strategies and benefits that surround the various approaches. Along with this is the adoption of mobile technology, and it is becoming more common to see how it plays a role in payment options and even virtual-reality advancements. A framework on the social-media based m-commerce development will be presented and discussed. However, it is of great importance that the limitations and drawbacks of its development are equally mentioned. The adoption of new technology, especially in the form of mobile commerce, sets up society for significant development and potential, but only after realizing the benefits, security aspects, and history that surround it.

Alzheimer's Virtual Reality App. **Brittani Breece, Emma Camp, Sara Elliot, Amairani Rodriguez, Dan Rosales** **Advisor: Dr. Phillip Olla**

Alzheimer's disease affects about 3 million people every year. Unfortunately, this condition has no cure and greatly affects the lives of its victims. The disease causes memory loss and interferes with an individual's cognitive function. The virtual reality application (app) my group is proposing will aim to help the individuals suffering from Alzheimer's disease with tasks of everyday life. The app will have features of their everyday life, descriptions of what needs to be done, and why the action is being performed. The app would be aimed at individuals with mild to moderate cases of Alzheimer's. We would utilize pictures of everyday items and tasks around the house. If the individual is confused, they can open the virtual reality app and it will walk them through the use and purpose of the item or task in question. The goal of the app would be to help provide clarity to these patients in moments of confusion. This can help these individuals restore aspects of a normal life. By using household items, it can provide a sense of familiarity and instruct them on the task at hand. The app is aimed at patients in the mild to moderate stages because part of their memory is still intact. The app can be used to walk them through the steps but also try to help to temporarily restore part their memory. For example, a picture of soap would appear and list the purpose as well as times that this product is frequently used.

Augmented Reality: Diabetes **Arlin Calukyan, Adrianna Coutts, Jordon Hale, Debra Merlino** **Faculty Sponsor: Dr. Phillip Olla**

Type 1 diabetes, also known as juvenile diabetes, is usually diagnosed in children and young adults. In type 1 diabetes, the body does not produce insulin. Your body breaks down the sugars and starches you eat into simple sugar called glucose which is used

for energy. Insulin is a hormone that the body needs to get glucose from the bloodstream into the cells of the body. While about 1.25 million Americans have type 1 diabetes and an estimated 40,000 people will be newly diagnosed each year in the U.S., that still only equates to 5% of the overall population.

Those who are diagnosed with diabetes, and their families, will be faced with many questions and will be required to learn a new lifestyle. At its core, proper type 1 diabetes management is composed of a handful of elements: blood glucose control and insulin management, exercise, nutrition and support. The group is proposing using augmented reality to help patients and their families adjust to the new lifestyle, answer questions and show techniques to manage their diabetes. We would use Augmented Reality to show newly diagnosed patients and their families how to use a glucose meter to monitor your glucose levels, how to calculate the amount of insulin that should be injected, how to give someone an injection, how to give yourself an injection to name a few. AR can be used to show patients how to read labels and determine better choices and how the information on the labels feeds into the insulin calculation factor.

Protecting Mother and Baby by Taking a Picture

Elisa Hernandez

Advisor: Dr. Phillip Olla

Smartphones have become the easiest form in gaining information. Smartphone applications give the population an easy and fast way to access specific information. Every year millions of women worldwide become pregnant. During pregnancy, many foods and medications need to be avoided to protect mother and baby. Some food or medication can cause mild reactions like heartburn to severe reactions as birth defects or death. Per a CDC article published in June 2012, Clinical Infectious Diseases, nearly one-in-three cases of Listeria infections in pregnant women resulted in fetal loss or neonatal death from 2004 to 2009. Among those newborns with infections, 44 percent were stricken by meningitis. Listeria is commonly found in deli meats, hot dogs, and meat spreads. A simple way to protect mother and baby is in the choice of food consumed. The list of food to be avoided can seem common sense to many, but may not be the case for all. With this project a person can look at an item, food or medication, and have the item identified as safe or unsafe. This application will also give the safe range of a specific item. For example, ibuprofen is unsafe for pregnant woman but acetaminophen is safe. While raw meat may be known as unsafe, apple cider may not. Some food or drink may be safe to consume but at restricted amounts like caffeine. The need to scour the internet or read multiple books will be reduced, everything will be in this one app.

Augmented Reality Application for Orthopedic Discharge Patients

Joni Germain, Grace King, Shavonne Shaow, Ryan Bailey, Kevin Moynahan

Faculty Sponsor: Dr. Phillip Olla

Patients, who are discharged from the hospital after an orthopedic surgery, are often given instruction on performing different

exercises for the continuation of their care. Noncompliance is a big problem, because the patient may not understand how to properly carry out each exercise, putting the patient at risk for repeat injury to the location that was just repaired. We are proposing to address this issue by introducing an augmented reality app that would help resolve this problem. The app will allow the patient to scan the name of the stretch, which is printed on the discharge summary, and show the appropriate maneuver. The app would also give modified versions, in case the move is too advanced. It will also be able to tell the patient the wrong way to do the stretch. Having an app that will instruct the patient correctly will increase the chances of following the course for the duration of the treatment.

Augmented Reality: Cardiac Patient Discharge

Rana Freiji, Kaylyn Scott, Natasha Swoish

Faculty Sponsor: Dr. Phillip Olla

Using an augmented reality component, we have created a way in which health care providers are assured that each patient has their own personalized discharge instruction plans based on their health condition. We've also prepared several links and other helpful educational materials from reliable and clinically approved sources to avoid conflicting messages and information. This in turn will help reduce patient anxiety.

What this application does: Patients have the ability to obtain all of their discharge instructions at their fingertips. Using a specific symbol or barcode, the patient is able to scan the image and graphics and web links are uploaded to their smartphone or handheld device. Some guidelines may include dietary restrictions, activity/exercise recommendations, action restriction, medication regimen (including how and when to take their medications), signs and symptoms of a cardiac event or of infection, and where to contact help if an emergency presents itself. Using a wide range of multimedia aspects, patients are able to watch videos in regards to their disease process, read information from reliable sources on how to improve their disease process, and view images to help supplement this material. Augmented reality allows patients to always have access to the instructions that are up-to-date and user friendly. In the event of an emergency, this component can be life-saving.

Three-Dimensional (3D) Printing

Randy Madej and Andrew Wallas

The purpose of this session is to provide attendees with a valuable networking opportunity to discuss educational focused 3D printing initiatives on campus. 3D printing is the practice of creating a physical object from a digital model. This is achieved by using an additive process of laying down successive thin layers of a material.

Menu Identifier

Jacob Mulcahy-Miller, Michael Vallespir

Advisor: Dr. Phillip Olla

Every three minutes, a food allergy reaction sends someone to the emergency department (FARE, 2017). Food allergies are on the rise and it is unknown why. Some reactions can become fatal and can

affect people of all ages, especially children. Our goal is to create a program that will prevent some of these common food allergic reactions. We will collect a sample menu from a restaurant and use the program Aurasma. The app can be downloaded onto a phone. The person with a food allergy will be able to scan a food item on the menu and an image will appear of the common allergies that are in the specific food. The program works by uploading trigger images and when the camera scans over a trigger image, the program will recognize the trigger image as a possible food allergy. If restaurants participate in this program, many serious or fatal allergic reactions can be prevented. People with food allergies can download the app on their cell phones and be able to protect themselves when they are eating at a restaurant.

Diet for Diabetics

Anna Leckta, Shannon Drinan

Advisor: Dr. Phillip Olla

Nearly 29 million people suffer from diabetes in the United States. Hyperglycemia can cause many health problems such as nerve damage and intestinal or digestive issues. Diet plays a very important role in keeping a diabetics blood sugar at equilibrium. The application to be demonstrated can help a person with diabetes make healthier diet choices. Using augmented reality, a patient will be able to scan the food logo, and a message will be in either red, yellow, or green, also with a link to tips to eating healthier. The red will symbolize that the food item is high in sugar and should be avoided. Green will mean that the food is low in sugar and is a healthy choice.

Land Value Estimation System

Yiwei Lin, Yihong Jiang, Xiwen Chang, Zhiyu Chen

Advisor: Dr. Adela S.M. Lau

As the blooming of Chinese market, an increasing number of foreign investors are interested in mainland Chinese companies. Investment targets with high portion of land (“land-rich”) could not enjoy capital gain tax exemption for Qualified Foreign Institutional Investor (QFII) under certain circumstances, and hence estimating land portion is crucial. Land portion could not be directly extracted from balance sheet as journal entries are cost-based and do not reflect market value. This research is aimed to develop an estimation risk model for determining the market value of land and the land portion to maximize the tax exemption benefit of QFII. Considering the limitations of current estimation techniques, we combined benchmark-based and market-based methods and conducted multiple regression of land market price on explanatory variables including land benchmark price, area, population and GDP. After that, we could derive the market value, land portion and the estimation risk by comparing land portion calculated from our model (market value) and balance sheet (book value) for investors to predict whether their investment is genuinely “land-rich”. We incorporated the above functions in our Land Value Estimation System (LVES) in the big data visualization tool “Qlik Sense.” Users could use Google Map when choosing land locations and modify threshold in estimation risk segment. The research outcomes help companies conduct capital budgeting and future land value estimation; the government decide taxation and

city planning issues; and accounting and consulting firms conduct first-step due-diligence check of the land value data provided by client companies.

Social Media Applications for Supply Chain Management: From Information-based to Social Knowledge-based

Jimmie Perry, Noelle Mayer, Brenden Delaney, D’Angelo

Allen, Jeremy Otto

Advisor: Dr. Adela S.M. Lau

Traditional approach of supply chain management adopted information systems to streamline the business processes and improve its efficiency and effectiveness. Companies used procurement information system and just-in-time services to contact suppliers for material ordering, production planning, and inventory control. Customer relationship management system analyzes customer feedbacks and transaction data for product design, cross-sales, up-sales and marketing. However, as the organizational and human behaviors have changed from information-based to social-knowledge-based nowadays, customer will search the comment from social media before purchasing the product. Since information flows fast via social media, company sales database and feedbacks may become outdated and cannot reflect the current market need and customer expectations for product design and production planning. Therefore, this research aims to review the current examples or potential uses of social media on procurement process, production planning, inventory control, sales and marketing, customer relationship management, and human resource management and to develop a framework for the implementation of social-knowledge-based supply chain management using social media. The real life examples including beer manufacturing, wedding business, beauty salon, property sales, and college athletics will be studied. Its social media uses, behavioral changes, market insight, and impacts to business processes will be discussed.

Guide for Medication

Eugene Son, Jihyun Park

Advisor: Dr. Phillip Olla

There are a variety of medicines available in a lot of stores. Thus, people from the different countries and even residents of the United States have difficulties choosing the right medicine for the certain symptoms they have. Each drug has its own purpose. However, people struggle to find out what they need to buy because the therapeutic effects are complex to them. Therefore, people with little understanding choose the wrong medicines for their symptoms and experience side effects. Through this project, we will try to solve this problem by just simply scanning the pill bottles with Aurasma application, which will show side effects and which symptoms that they may work the most effective. Moreover, people will grab some idea what to avoid when they take medicine and to choose a right medicine that they were looking forward to treating.

Celiac Disease
Jona Sulejmani
Advisor: Dr. Phillip Olla

Celiac disease is a serious genetic autoimmune disorder where the ingestion of gluten leads to damage in the small intestine. It is estimated to affect 1 in 100 people worldwide. Two and one-half million Americans are undiagnosed and are at risk for long-term health complications. When people with celiac disease eat gluten (a protein found in wheat, rye and barley), their body mounts an immune response that attacks the small intestine. These attacks lead to damage on the villi, small fingerlike projections that line the small intestine, that promote nutrient absorption. When the villi get damaged, nutrients cannot be absorbed properly into the body. The only treatment currently for celiac disease is a strict, gluten-free diet. Most patients report symptom improvement within a few weeks, although intestinal healing may take several years. There are no drugs that treat celiac disease. You'll need to go on a strict gluten-free diet. In addition to staying away from bread, cake, and other baked goods, you'll also need to avoid beer, pasta, cereals, and even some toothpastes, medications, and other products that contain gluten. My group and I are going to create a virtual augmented reality application discussing celiac disease. We are going to scan various food items and indicate if those products have gluten in the list of ingredients or not. Often, ingredients are hidden in food products. Having an application that scans items and lets you know if there is gluten in the item will certainly help individuals with celiac disease.

HTNSmart
Samantha Wilder
Advisor: Dr. Phillip Olla

The name of our application (aura) is HTNSmart. This application was designed to assist those diagnosed with hypertension in understanding their medication(s) as well as medical terminology, in general. There are many different types of hypertension medications as well as contraindications of these medications with other medications. If you do not have a medical background, reading the information on these medications can be very difficult, and may result in a dangerous adverse reaction. The augmented reality application will allow patients to take a picture of a word they do not understand, and it will direct them to a link in a medical terminology book/website. This will allow patients to understand more about the disease and the medication. Another aspect to the application involves taking a picture of the name of the drug itself. When they take the picture, it will direct the patient to relevant information related to the medication, and what OTC drugs can be taken with their medications. The information they will receive includes the classification, the action, the contraindications, the adverse effects, and the appropriate dose of the medication. This application will help patients understand and properly take their medications to avoid adverse effects/ complications.

Learning Outcomes Assessment Project for Non Fiction Text
Mini Unit
Maggie Wunderlich
Faculty Sponsor: Dr. Joy Oslund

This research encompasses learning outcomes derived from fifth grade state standards with respect to the English Language Arts content area, specifically for understanding nonfiction text. Additionally, it includes lesson plans for a nonfiction text mini-unit, and pre-and-post assessments. Moreover, pedagogical approach examples are provided, including formative assessments, and other best practices. Artifacts of student work are also part of this research. Lastly, detailed data is given for the students' pre-and-post assessment scores. It contains a reflective analysis of such data, including the students' growth as a class, and individually.

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Film Awards

The 2016 Capstone Film Team: Creation of Madonna University's first full-length film, "Married on a Monday"

Nancy Boyd- Director

Maya Clark - Producer

Meghan Griesbeck - Producer/Director of Photography

Chelsie Husband - Continuity Supervisor

William Julien - Special Effects Supervisor

Chris Kemski - Assistant Director

Kelly Surmann - Production Supervisor

Jacob Eliett - Film Score Composer

Music Award

Lauren Mallie - Livonia Civic Chorus Scholarship

School of Business

Michael F. McManus Jr. Award for Leadership and Scholarship

Rachel Wiersing - Undergraduate recipient

Kimberly Hamann - Graduate recipient

Business Community Engagement Award

Courtney Brinker

Stefanie Papasoglu

Amanda Sinense

College of Education

Learning Outcome Assessment Plan (LOAP) Award

Abby Boggs

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David Julien

Laura Kurtjian

Stefanie Shepler

Maggie Wunderlich

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Leah London - Franciscan Values Award for Nursing Master's

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