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Design:
Ricardo Loperena

The poster features a large silhouette of a human head in profile, facing right. The interior of the head is filled with a grid of small images showing various people in different settings, representing research and education. The neck and lower part of the head are composed of a dense crowd of small, colorful human figures in various colors (red, orange, yellow, green, blue). The background is a light blue and yellow gradient with white circles.

• ABSTRACT SUPPLEMENT •

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ABSTRACTS*

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• Oral Presentations •

O-01 Role of APE1 in Protecting Mouse Liver DNA after Azoxymethane Treatment

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Background & Objectives: Liver cancer is the second leading cause of cancer-related deaths worldwide. Azoxymethane (AOM) is a carcinogen that induces DNA lesions mainly repaired by Base Excision Repair (BER) pathway. BER includes the APE 1 enzyme. Mice with deletion of the Apex1 gene (which encodes APE1) cannot survive development but heterozygous animals (Apex1+/-) have a normal lifespan. Our aim was to study the role of APE1 in the repair of DNA lesions and changes in mitochondrial DNA (mtDNA) abundance induced by AOM in the liver. **Methods:** We isolated DNA from 6-month-old C57BL/6 WT and Apex1+/- mice that were treated with a single AOM dose (10 mg/kg) and sacrificed 24, 48 and 72 hours after treatment. To quantify nuclear DNA (nDNA) lesions, mtDNA lesions and changes in mtDNA abundance in liver tissue we applied a PCR based assay (QPCR). **Results:** Our data show that 24h after AOM treatment both WT and Apex1+/- mice exhibit significant levels of nDNA and mtDNA damage. The lesion number decreases 48 and 72h after treatment but remains statistically elevated as compared to their respective controls. A two tailed ANOVA analysis shows no significant differences between genotypes. Apex1+/- mice show a significant 13% decrease in mtDNA abundance 72 hours after treatment, whereas no significant changes are observed in WT mice. **Conclusions:** These results suggest a delayed repair kinetics of mtDNA and nDNA damage and that APE1 plays a role in preventing AOM-induced loss of mtDNA abundance. **Acknowledgments:** Supported by R25GM061838, 2G12RR003051 and U54CA096297.

O-02 DNA and Reversible-Alkylation: A Step by Step Journey

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The human genome is constantly exposed to different chemicals that cause DNA damage. Quinone methides (QM) are unstable intermediates that can react with DNA in two ways forming kinetic and reversible products that ultimately redistribute to thermodynamic and irreversible products. Our goal is to identify which QM adducts are most readily reversible by their ability to migrate single to double stranded DNA. We hypothesized that cytosine and adenine can transfer better than guanine, meaning that the transfer is more efficient in a double strand DNA. We tested the transfer of a species named Bis-QM in different DNA strand sequences: heterogeneous, G-rich to C-rich, C-rich to G-rich, and TA to AT. Results showed that Bis-QMs exhibits high yield of transfer in DNA with a heterogeneous sequence, moderate transfer in G-C/C-G rich sequences, and lowest transfer in TA/AT rich sequences. A possible reason for the higher yield is the diversity of base pairs in the heterogeneous sequences versus the more limited base pairs in the homogenous sequences. As future directions, we would like to measure migration within individual duplexes to learn how far the Bis-QM can diffuse yet remain covalently attached to the DNA. Understanding the reversibility is the first step to harness this property for application in cancer treatment. We thank S.R. lab members for their critical comments and help. This work has been supported by NSF CHE1405123.

O-03 La enfermería comunitaria trabajando para la prevención de enfermedades mentales en infantes. Cuba

Maricela M. Torres, ENSAP; Marta M. Otero

La proyección comunitaria del trabajo de enfermería en los consultorios del médico y enfermera de la familia en Cuba es muy diversa y relevante, cubre toda la población, y con especial cuidado el programa materno infantil. La atención a la familia es fundamentalmente enfocada hacia la promoción de salud y prevención de enfermedades, no obstante, no siempre se realizan de manera consciente acciones orientadas a preservar la salud mental. En tal sentido se realizó un estudio descriptivo con el objetivo de describir el quehacer del personal de enfermería para prevenir los trastornos mentales y la conducta ante las familias que tienen personas con estos padecimientos. Se utilizó el método histórico lógico que comprendió una revisión bibliográfica y documental. Las principales consideraciones reflejan que el personal de enfermería no se ha apropiado de todas las habilidades para trabajar con las familias y prevenir la enfermedad mental, que pudieran utilizar técnicas psicológicas en función de actividades que reporten más bienestar y faciliten la convivencia. Se concluye que se

pueden utilizar espacios comunitarios y actividades sociales para promover la participación de las familias en función de prevenir mayor salud mental.

O-04 The Effect of Ataque de Nervios on Cognitive Functioning among Anxiety Disorder patients

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Background: Ataque de Nervios (ADN) is a culture-bound syndrome among Latinos, particularly those from the Caribbean, its conceptualized as a strong emotional reaction triggered by an upsetting interpersonal situation. Although ADN is highly comorbid with anxiety and trauma-related disorders, it is unclear how its presence alters cognitive performance and threat perception. Therefore, we compared the effect of comorbid ADN on these neuropsychological variables among Puerto Ricans with anxiety disorder. Methods: A total of 19 subjects (12 with ADN) with anxiety disorder participated. Spanish versions of certain subscales from the Wechsler Adult Intelligence Scale (EIWA-III), Wisconsin Card Sorting Task-IV (WCST), Trail Making Test (TMT A&B) and Rey-Complex Figure (RCFT) were compiled to assess cognitive functions. We also examined how performance in the compilation was related to psychological questionnaires measuring anxiety. Results: Subjects experiencing ADN showed more impairment in attention, concentration, and immediate memory, compared to individuals without ADN. These differences were observed on Symbol Search test ($t(17)=2.207, p<0.05$) and Rey-Complex Figure- Immediate Recall test ($t(17)=2.680, p<0.05$). The most relevant relationship found that higher scores on emotional dysregulation ($r=-0.61, p<0.01$) and anxiety sensitivity index ($r=-0.497, p<0.01$) correlated with lower scores on memory tests. Conclusions: Anxiety disorder subjects with ADN had worsened neuropsychological functioning versus those without ADN. Additionally, psychological constructs associated to presence of ADN, e.g. poor emotion regulation and high anxiety sensitivity also correlated with worsened cognitive function. Our results highlight how comorbid ADN worsens the effect of anxiety disorder on cognitive functioning and thus may affect prognosis or treatment.

O-05 Cerebral Meningioma Epidemiology in Puerto Rico. A Single Surgeon Series

Orlando De Jesús, MD, University of Puerto Rico Medical Sciences Campus

Background and objectives: Meningioma is the most common benign cerebral tumor. The epidemiology in Puerto Rico has not been analyzed in the literature. Methods: The opera-

tive experience with 144 patients with cerebral meningiomas operated in the 21-year period as senior surgeon at the University of Puerto Rico Medical Sciences Campus was analyzed for the following parameters: sex dominance, age at surgery, symptoms, location of the tumor, tumor grade, extent of resection, complication, and recurrences. The results obtained from this Hispanic population will be compared to the scientific literature, and will also serve as a data base for Hispanic ethnicity countries. Results: There was a female 2.7 to 1 predominance with a mean age of diagnosis at age 52. The most common symptoms were headaches, visual disturbances, and seizures. Tumor grade was atypical in 4.9% and malignant in 0.7% of the patients. A total resection was done in 81% of the cases. Recurrence was 5.5% of the patients most of which were reoperated. Conclusions: Hispanic ethnicity was not associated with any difference in incidence of tumor grade. Tumor epidemiologic characteristic were similar to the Caucasian population

O-06 Efectividad de un Programa de Terapia Ocupacional para Aumentar Autoeficacia en uso de Tecnología y Promover Autocuidado de Salud en Adultos Mayores

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Trasfondo: Adquirir destrezas de tecnología puede facilitar que los adultos mayores mantengan la salud, bienestar y calidad de vida. El aislamiento social y el pobre automanejo de la salud son de los principales factores de riesgo que atentan contra el envejecimiento activo. El uso de tabletas electrónicas y aplicaciones podría ser beneficioso para atender esta necesidad, sin embargo, la accesibilidad y el adiestramiento apropiado, acorde a las necesidades de los adultos, mayores están limitados. Objetivo: Analizar los resultados de un programa para aumentar la autoeficacia en el uso de la tecnología para promover el autocuidado de la salud en personas mayores mediante el uso de tabletas electrónicas. Método: Diseño exploratorio cuasi experimental con pre y post prueba de un solo grupo en una muestra de 38 adultos mayores de 60 años o más. El programa de intervención fue de 2 sesiones semanales, 2 horas diarias por 4 semanas. Incluyó sesiones psicoeducativas y de aplicación práctica con tabletas electrónicas. El efecto de la intervención se determinó midiendo diferencias entre puntuaciones de la pre y post prueba para las variables dependientes de interés. Resultados y conclusión: Existe diferencia estadísticamente significativa ($p<0.05$) entre las puntuaciones de las pre y post pruebas en las variables autocuidado de la salud y autoeficacia en el uso de la tecnología. Este programa de intervención puede beneficiar a los adultos mayores a desarrollar destrezas en el uso de tabletas

electrónicas para promover el autocuidado de la salud. Establece un modelo para desarrollar programas similares en escenarios comunitarios. IRB:1450115

O-07 Salud Física de los Estudiantes Universitarios: Implicaciones para los Servicios en Centros de Consejería

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La salud física es el óptimo funcionamiento fisiológico del organismo. El concepto está relacionado con el cuidado del cuerpo e incluye tres dimensiones: ejercicio, nutrición y hábitos de sueño. El mayor énfasis de la consejería se ha orientado al bienestar, a la salud mental y muy poco a la salud física del estudiante. El principal objetivo fue conocer el perfil de salud física del estudiante universitario que recibía o recibió servicios en un centro de consejería y las consideraciones de integrar este aspecto a la consejería. Método: Paradigma positivista, de enfoque cuantitativo descriptivo y diseño por encuesta transversal. La muestra se seleccionó por conveniencia. Los datos se recopilaban mediante un cuestionario auto-administrable elaborado por la investigadora. El estudiante lo contestó en línea o en papel. Los datos fueron analizados utilizando estadísticas descriptivas, la prueba Ji Cuadrado, la prueba t. Resultados: Participaron 123 estudiantes. El promedio de edad fue 18 años, 62.6% (77) eran mujeres, 36.6% (45) eran hombres, 0.8 (1) no contestó. Un 61.8% (76) cursaba primer año. El 79.7% (98) había recibido servicios de un Consejero. El 75.6% (93) indicó como influye el estado de ánimo en la salud física y un 70.7% (87) encontró mucha relación del bienestar general con la salud física. Un 85.4% (105) señaló la alimentación saludable como un tema para conocer y un 64.2% (79) contestó se les deben ofrecer talleres relacionados a su salud física. Conclusión: Los estudiantes tienen unas necesidades de atención con respecto a su salud física. Reconocimientos: Ninguno.

O-08 Chronic Subdural Hematoma in the Era on New Antithrombotic Agents

Orlando De Jesus, MD, University of Puerto Rico Medical Sciences Campus; Gabriel Flores, MD, University of Puerto Rico Medical Sciences Campus

Background & Objectives: The use of new antithrombotic agents has increased over the last decade. The preoperative and postoperative use of them in patients with chronic subdural hematomas may influence the recurrence rate of the hematoma. Dabigatran (Pradaxa) was approved by the FDA for use in the USA in 2010 and Rivaroxaban (Xarel-

to) in 2011. Generic Clopidogrel was approved in 2012 although it has been in the market since 1998 under the name Plavix. Methods: A comparison was made with a population treated before 1995 to a population treated after 2009 to determine if the recurrence rate was influenced by the use of these new antithrombotic agents. Results: The recurrence rate in the population treated after 2009 was 7.7%, while the recurrence rate of the population treated before 1995 was 7.8%. Conclusions: In this study, there was no influence in the recurrence rate of chronic subdural hematomas by the use of the new antithrombotic agents. Acknowledgements: No conflict of interest

O-09 Autoeficacia parental, roles de género y relación con los hijos/as: perspectiva de parejas con niños/as con Trastorno del Espectro Autista

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Trasfondo y Objetivos: Pese a los desafíos socio-emocionales que el Trastorno del Espectro Autista (TEA) impone a la relación pa/madre-hijo/a; aún escasean los estudios acerca de cómo el aspecto relacional entre la diada pa/madre-hijo/a puede incidir en el sentido de autoeficacia de los padres. Este estudio fenomenológico tuvo como propósito: (1) examinar la autoeficacia parental general percibida por los pa/madres de niños con TEA y (2) examinar la autoeficacia parental de los participantes específica al proceso de relacionarse con sus hijos. Metodología: Se realizaron ocho entrevistas semi-estructuradas a parejas de padres-madres de niños/as con TEA. Las entrevistas fueron transcritas y analizadas utilizando el método de comparación constante. Resultados: Los temas principales emergentes de los datos indican que los pa/madres relacionan su sentido de autoeficacia parental principalmente, con su habilidad para ejecutar tareas asociadas con las concepciones tradicionales de roles de género. Padres y madres demostraron tener conciencia constante acerca de los retos y peculiaridades

de tener a un niño/a con TEA. En el caso de los padres, dicha conciencia constante parecía dirigirles a acciones más enfocadas al tiempo presente como, por ejemplo, sintonizar y relacionarse con sus hijos. En cambio, la conciencia constante de las madres redundaba en acciones orientadas al tiempo presente y futuro; por ejemplo, actividades conducentes al desarrollo de destrezas de sus hijos. Implicaciones: Se considerarán las implicaciones de este estudio en términos de la importancia de la concepción de los roles de género y su potencial relación con el sentido de autoeficacia parental emocional.

O-10 The Relationship between the Tax Burden of a Country and its Population Burden of Diseases

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Background: One of the UN sustainable development goals for 2030 is ensuring healthy lives and promoting the well-being for all at all ages. The research question is, how important has been the amount of financial resources the government collects, better known as the countries tax burden, in improving the health status of the population? Methods: Panel data for OECD countries for quinquennial years from 1995 to 2015 was used to estimate a set of panel regression models. The outcome variable was the Disability Adjusted Life Years (DALYs) rates and independent variable was the state tax revenues as a percentage of the total Gross Domestic Product (GDP) controlling for GDP per capita. Results: Results suggest that an increase of 10% in the countries tax burden lead to reductions in DALYs of 0.7% in 1995, 1.5% in 2010, and 2.1% in 2015 but the effect was even larger for communicable, maternal, neonatal, and nutritional disorders were a 10% increase in the tax burden lead to an average annual reduction of 5.4% in DALYs for the whole period. Conclusion: The evidence shows a negative association between the tax burden and the disease burden in a society. Therefore, if countries want to achieve the goal of ensuring healthy lives and promoting the well-being for all at all ages the resources the government has available to fund and invest in its programs and activities must be increase instead of decrease. Acknowledgements. This study was not funded by any grant.

O-11 La pérdida de Capital de Salud en la Reforma de Salud de Puerto Rico

José M. Pérez, PhD, University of Puerto Rico Medical Sciences Campus

Política Pública Analizada: Se analizan las políticas públicas económicas referentes al desarrollo y mantenimiento de la Reforma de Salud desde 1994. Disciplina o Teoría: El modelo

de capital de salud propuesto por Michael Grossman en 1974 es aplicado al desarrollo y mantenimiento de la Reforma de Salud. El capital de salud representa un activo social que puede reflejar la apreciación o deterioro de un sistema de salud. Políticas públicas incorrectas pueden conllevar un deterioro o depreciación acelerada de este capital de salud, implicando un sistema de salud gubernamental inefectivo e ineficiente. Fuentes de Información: Informes oficiales diversos sobre el desarrollo económico de la Reforma de Salud. Método: Se detectan, identifican y analizan datos y tendencias relacionadas con el capital de salud en Puerto Rico desde 1994. Hallazgos: El capital de salud ha estado en deterioro sistemático desde la implantación de la Reforma de Salud, lo cual sugiere se necesita un cambio radical en las políticas públicas en el sector de la salud. Implicaciones: La Reforma de Salud necesita sea reconceptualizada en términos de la gobernanza y estructura operacional a la luz del deterioro sistemático del capital de salud desde 1994. Reconocimientos: Ninguno.

O-12 DNA vaccination with E6-coding plasmid activates adaptive immunity

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Background & Objectives: Administration of available smallpox vaccine has been associated with a variety of adverse reactions. Consequently, many people worldwide are in risk from suffering orthopoxviruses infections, making imperative the identification of potential antigens for a safe vaccination approach. E6R gene codes for E6 protein, which is located at core of the virus and it has a role in morphogenesis of immature virions. We aim to describe the immune responses elicited by this protein. Methods: Female Balb/c mice received three doses of our DNA-based vaccine coding for Vaccinia virus Western Reserve E6 protein (pE6R) by intramuscular route. One week after last dose, we analyzed the activation of lymphocytes through ELISpot and ELISA assays. Results: Our ELISpot assay showed a significantly higher frequency of antigen-specific IFN- γ -producing cells in mouse receiving pE6R. Furthermore, when CD8+ cells were removed, a significant decrease was notable in the production of IFN- γ . No significant differences in antigen-specific IL-4- producing cells among groups of mice were observed. Moreover, mice receiving pE6R showed a significant higher production of total IgG, IgG2a and IgG1. Epitope mapping indicate that 4 out of 139 individual peptides promote an extremely significant

increase in the secretion of IFN- γ . Conclusion: A Th1-type immune response, among other effector immune mechanisms, is essential for viral clearance. Our results indicate that our vaccine candidate triggers a Th-1-type immunity, supporting E6 as a novel antigen for vaccines against orthopoxviruses. Acknowledgements: This work has been supported by NIH SCORE 1SC3GM116698-01, NIMHHD 8G12MD007600 and MBRS RISE R25GM061838 grants.

O-13 Acute Pain Assessment in Sedated Patients in the Early Postoperative Period

Annette Wysocki, PhD, University of Massachusetts, Amherst, Massachusetts; Sherily Pereira, PhD, University of Puerto Rico Medical Sciences Campus; Carmen Mabel Arroyo, PhD, University of Puerto Rico Medical Sciences Campus

Background & Objectives: Acute pain associated with surgery in the early postoperative period remains inadequately assessed and managed. A valid instrument that assesses acute pain in sedated patients during the early postoperative period is needed. The main objective of this study was to assess pain presence and evaluate relationship between two behavioral pain instruments; the Non-Verbal Pain Scale Revised (NVPS-R) and Critical Care Pain Observation Tool (CPOT), to determine whether one is superior in assessing patients' acute pain in Post Anesthesia Care Unit (PACU). **Methods:** A crossover study design was used. Upon arrival to the PACU, patient with a sedation level of low (-2), moderate (-3) or deep (-4), using the Richmond Agitation Sedation Scale were evaluated. Acute pain behaviors were assessed using the CPOT (scored 0-8) and the NVPS-R (scored 0-10) at 0, 15, 30, 45, 60, 90, and 120 minutes time points. **Results:** A high positive correlation between CPOT and NVPS-R scores was found. Increases in the NVPS-R vital signs and respiratory indicators were not seen in patients with significant pain at time 0, 15, and 120 minutes. Incidental findings suggest that the CPOT vocalization indicator was consistently present in patients with significant pain. **Conclusion:** Findings suggest that the CPOT is superior to the NVPS-R in assessing acute pain in a PACU setting. In addition, our data does not support the exclusive use of vital signs indicators to assess acute pain. **Acknowledgements:** Support provided by the Puerto Rico Clinical and Translational Research Consortium (grant number: 2U54MD007587).

O-14 Gross Hematuria and Transaminitis in an Infant: Would you Suspect Child Abuse?

Auda Plaud Gonzalez, MD, UPR Department of Pediatrics, Tagrid M. Ruiz Maldonado, MD, University of Puerto Rico Medical Sciences Campus; Marina Martinez Garri, MD, Department of Pediatrics, University of Puerto Rico Medical Sciences Campus

Purpose: Recognition of child abuse in an infant when physical findings are not readily apparent. **Case Description:** A fully breastfed, 2-month-old term boy with regular health-maintenance checkups, cared for by both parents, taken by his mother to a local emergency department due to irritability of 12-hour evolution, without other symptoms. At ED, low-grade fever and gross hematuria were found, otherwise, physical exam unremarkable. **Clinical Approach:** Workup showed hematuria and pyuria without proteinuria. A urinary tract infection was suspected, and he was started on IV antibiotics. Renal function, CBC, and coagulation profile were normal. However, transaminases were elevated (AST>2000U/L, ALT>1000U/L). Abdominal sonogram was unremarkable. He was transferred to our institution for gastroenterology evaluation. On our evaluation, patient's mother was reluctant to a prolonged hospital stay; otherwise, unremarkable exam. Laboratories showed pyuria without hematuria, down-trending transaminases, and no other abnormal laboratories. Although infectious or metabolic etiologies were probable, the swift resolution of hematuria and decreasing transaminases in a non-toxic and thriving infant raised suspicion for an alternate diagnosis. Mother revealed a history of domestic violence by her husband after questioned about bruises noticed on her arms; however, she did not witness traumatic episodes towards the infant. Child-abuse was considered a likely diagnosis. **Clinical Findings:** Skeletal survey and abdominopelvic-CT revealed multiple acute-subacute rib fractures without organ injury; normal ophthalmological and head-CT findings. Child-abuse diagnosis was confirmed. **Hypothesis:** Child-abuse continues to be under-recognized by health care professionals. Incongruent history, physical, and laboratory evaluation should raise a high index of suspicion. **Acknowledgements:** Nothing to disclose.

O-15 Chromatographic Strategy to Eliminate the Interference of Ascorbate in the Scopoletin Method of Hydrogen Peroxide Determination.

Enrique Leal Alvarez; Sixto García Castiñeiras, MD, PhD, University of Puerto Rico Medical Sciences Campus; Augusto A. Ortiz Rivera

Background and Objectives. The scopoletin method of H₂O₂ quantification is based on the disappearance of scopoletin fluorescence (390/460nm, pH=10) upon peroxidase-catalyzed oxidation with H₂O₂. The reaction is inhibited by H-donors, like ascorbate, because ascorbate is oxidized easier than scopoletin. This tends to underestimate H₂O₂ levels in fluids with high ascorbate levels. We have determined the ion-exchange chromatographic behavior of H₂O₂ and ascorbate standards with the objective of eliminating the source of the interference. **Methods.** HPLC was carried out on a Partisil-SAX column isocratically eluted with 20 mM phosphate buffer pH 4.0, at 1 ml/min flow rate. One ml fractions were collected and subsequently analyzed

for H₂O₂. Results. The negative fluorescent peak of H₂O₂ appeared in fraction 4 while ascorbate was detected in fraction 7, sufficiently separated to preclude interactions. The amount of H₂O₂ injected was quantitatively related to the size of negative peak 4. Conclusion. Submitting real aqueous humor samples to an initial chromatographic step on a Partisil-SAX column should allow to measure H₂O₂, free of ascorbate interference, in the fractions collected, using the highly sensitive and selective scopletin procedure. This will be very useful to finally establish the precise steady-state level of aqueous H₂O₂ and other aspects of H₂O₂ metabolism. Acknowledgements. The authors are indebted to the Department of Biochemistry for administrative and laboratory support, and to the MBRS-RISE Program (R25 GM061838) for access to special instrumentation.

O-16 Sana PR: Una herramienta interactiva para la identificación geográfica de servicios de salud en Puerto Rico

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A pesar de que los programas electrónicos de mapeos proporcionan un marco para entender los comportamientos humanos, identificar necesidades de las comunidades y apoyar los procesos de planificación de servicios, su uso es muy limitado en profesiones en el campo de la salud. Estos programas pueden ser una herramienta valiosa para estas profesiones dado los niveles de intervención que ejercen dentro de las comunidades y el marco de los derechos humanos que les asiste, con especial atención en el derecho a la salud. Como parte de este proyecto, 49 directorios de servicios de salud fueron identificados con el propósito de diseñar un mapa interactivo utilizando un programa en línea del Environmental Systems Research Institute. La información fue cumplimentada y validada a través de una base de datos en Excel y luego transferida al programa para su ubicación geográfica. La herramienta cuenta con información de servicios en Puerto Rico en las siguientes áreas: hogares de cuidado, hospitales, salud ambiental, salud física, salud mental, aseguradoras, salud, educación y política social, y centros de salud. Como resultado, Sana PR permite: analizar la jerarquía espacial de servicios de salud, comparar la dominación de servicios privados, frente a servicios públicos y no-gubernamentales, y contrastar la disponibilidad de servicios y la geografía de la población. Por otro lado, Sana PR es una herramienta valiosa no sólo para la investigación en salud y la planificación de servicios, sino para la identificación de servicios por profesionales de la salud y ciudadanos/as en sus propias comunidades.

O-17 Evidence-Based Practice Implementation Among Undergraduate Nursing Faculty: Study Case

José Soto Sonera, EdD, University of Puerto Rico, Río Piedras Campus; Elsie Méndez Castro, EdD, University of Puerto Rico Río Piedras Campus; Marta Rivero Méndez, DNS, University of Puerto Rico Medical Sciences Campus

Evidence-Based Practice (EBP) is one of the clinical competencies that professional nurses must develop to improve the quality and safety of care offered. Nursing faculty knowledge and attitudes toward EBP is significant in the teaching process and to the development of EBP as an essential competence in the nursing profession. The purpose of this research was to explore, describe and analyze the experience of a group of nursing faculty that teach Evidence-Based Practice (EBP) in an undergraduate nursing program in Puerto Rico. The research method was a qualitative approach and case study design. Two semi-structured interviews, two non-participatory observations and document analysis provided by the nursing program participants from a nursing program were used for information collection. The findings and analysis were based on categories. Conclusion: research participants consider important the development of EBP in their students, because it enables them to make clinical decisions aimed to achieve patient care outcomes. In order to develop this competency in their students, faculty use a variety of teaching strategies to foster effective student performance. The main difficulty and challenge that nursing faculty face when integrating EBP is to enhance students perception of EBP relevancy, because in most practice settings EBP is not carried out, nor is there a culture that supports its use. A key suggestion from the participants was that collaborative links be established between the nursing schools and the health agencies in order to promote the implementation of the EBP. This is highlighted as a need for EBP implementation. Acknowledgements: None

O-18 Validation of questionnaire assessing preventive care and risk assessment among pregnant Hispanic women living in Puerto Rico

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Objectives: Preventive care and risk assessment are vital for optimizing fetal health. Strategies seem to be challenged by the fact that more than half of pregnancies in Puerto Rico (PR) are unplanned. This may be due to knowledge and access to contraceptive methods, which could also encompass risk in sexual behaviors. The aim of this first phase was to validate the questionnaire to be used during our second phase. A culture sensitive questionnaire is crucial to assess the preventive care knowledge and risk awareness. **Methods:** In this validation stage, the questionnaire was administered to 30 pregnant women attending Adults University Hospital prenatal clinics. Pregnant women, over 21 years and able to consent were included. Descriptive statistics were employed to analyze the data. IRB approval was received. **Results:** In total, 79 questions were evaluated. Of the 30 participants, 6 (20%) gave recommendations, and only 3 questions (3.8%) were deemed confusing due to their wording. Misunderstandings were on questions regarding timing of pregnancy, professional referred on prenatal consults and/or frequency of Tdap vaccination. The questionnaire was modified per the participants' suggestions. Other 11 questions (14%) were further clarified to prevent future confusion. **Conclusion:** Most questions were identified as clear. However, misunderstandings were clarified, optimizing the quality of data to be gathered. We are currently on the second phase, and clarifications made seem to be valid. Our culture sensitive questionnaire will aid in identifying areas of need, thus facilitating the development of strategies for improving primary prevention among the Hispanic population. **Acknowledgments:** None.

O-19 Juego, disfrute y autoeficacia parental: Experiencias de pa/madres de niños en el espectro autista

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Trasfondo y objetivos: Para muchos padres de niños con Trastorno del Espectro Autista (TEA) es un gran reto relacionarse con ellos a través del juego. El propósito de este estudio fenomenológico fue explorar las experiencias de juego de los padres de niños con TEA y comprender el significado de estas experiencias desde sus perspectivas de auto-eficacia parental. Los objetivos fueron: (1) examinar cómo sus narrativas reflejan una experiencia de disfrute, según define el Modelo de "Playfulness" de Bundy, y (2) examinar cuán competentes se sienten los pa/madres al jugar con sus hijos. **Metodología:**

Se utilizaron entrevistas semi-estructuradas y la técnica de elicitación mediante fotos con cuatro parejas de pa/madres de niños con TEA. El proceso de análisis siguió el método de comparación constante. **Resultados:** Las narrativas de los participantes reflejaron los elementos de disfrute incluidos en el Modelo de "Playfulness": Motivación intrínseca, Control interno, Marco y Suspensión de la realidad. El sentido de autoeficacia de los pa/madres al jugar parecía modificarse de acuerdo con la motivación de éstos. Los padres se percibieron más eficaces y comunicaron que su motivación principal al jugar era poder relacionarse/sintonizar con sus hijos. Las madres se percibieron menos eficaces e identificaron el promover el desarrollo de destrezas como su motivación principal para jugar. **Implicaciones:** Intervenciones dirigidas a educar a los pa/madres de niños con TEA acerca de qué es el juego, cuáles son sus componentes y la importancia de éste como una actividad conjunta; pueden impactar su sentido de disfrute y de autoeficacia parental.

O-20 Supercritical Fluid Chromatography-Tandem Mass Spectrometry Method Development for the Detection of the Rac/Cdc42 Inhibitor MBQ-167 in Mouse Plasma

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Background & Objectives: Metastasis is the principal cause of death for most cancer patients; however, effective treatment options are limited. We developed the small molecule MBQ-167, as new Rac/Cdc42 inhibitor, which inhibits mammary tumor growth and metastasis in immunocompromised mice by ~90% and is ten times more potent than other currently available Rac inhibitors. However, further studies are needed to determine the pharmacokinetic (PK) parameters of MBQ-167 in a mouse model. Hence, it is necessary to develop a sensitive method to quantify MBQ-167 in plasma. The objective of this study was to develop and validate a method for the quantification of MBQ-167 in mouse plasma using Supercritical Fluid Chromatography (SFC) coupled with electrospray ionization tandem mass spectrometry (SFC/MS/MS). **Me-**

thods: Plasma samples were subjected to protein precipitation. Separation was performed on an ACQUITY UPC2™ BEH (3.0 × 100 mm, 1.7 μm) column at 40°C with a mobile phase consisting of CO₂ and methanol 0.01% formic acid (95:5, v/v). Results: Method was sensitive with a lower limit of quantification (LLOQ) of 1.5 ng/mL. Linearity was observed over the concentration range of 1.5–1000 ng/mL. Preliminary validation results demonstrate precision and accuracy of the method in detecting MBQ-167. Conclusion: The data obtained supports the use of SFC/MS/MS as a highly specific method to evaluate the pharmacokinetics of MBQ-167 in mice. Acknowledgements: This research was supported by MBRS-RISE grant G12MD007600 (to MdM) and the Puerto Rico Science, Research and Technology Trust (to SD).

O-21 Desarrollo de una intervención en asistencia tecnológica para el auto-manejo de los impedimentos de adultos mayores que viven en la comunidad.

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Trasfondo & Objetivos: El uso de asistencia tecnológica (AT) previene o elimina los impedimentos y aumenta la seguridad y la participación en las actividades diarias. Sin embargo, el desconocimiento, la falta de prescripción por los proveedores de salud, y los costos, son algunas de las barreras expresadas por los adultos mayores en Puerto Rico que impiden el uso de estos equipos. Objetivo: Desarrollar una intervención manualizada en AT basada en evidencia para el auto-manejo de los impedimentos de los adultos Hispánicos que viven en la comunidad. Método: Ocho adultos mayores y tres expertos en AT participaron del estudio. Se utilizó el diseño de método en dos fases. La Fase I consistió en el desarrollo de la intervención basado en los cuatro pasos del Proceso de Implementación de Intervención Basado en Evidencia. La Fase II desarrolló el manual de intervención utilizando la guía recomendada por Carroll y Nuro, en donde se llevaron a cabo dos grupos focales. Se utilizaron estadísticas descriptivas para el análisis de datos sociodemográficos y un análisis de contenido temático para los datos cualitativos. Resultados: Se desarrolló la versión experimental del Programa y el manual de intervención VIVE-AT, consistiendo de principios de auto-manejo, ocho módulos en AT para diferentes actividades del diario vivir,

administrado en formato grupal por facilitadores de la comunidad y utilizando estrategias de aprendizaje activo. Conclusión: El proceso de desarrollo del manual de intervención adaptada culturalmente permite a otros terapeutas ocupacionales desarrollar intervenciones en AT. Agradecimiento: Esta investigación recibió el apoyo de NIH grant R25MD007607.

O-22 Percepción de la preparación ante emergencias y desastres a nivel individual y comunitario en un área a riesgo de inundaciones y tsunamis.

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Trasfondo: En la preparación personal para los desastres naturales se consideran las condiciones de vulnerabilidad a nivel social e individual y la capacidad con las que puede contar la comunidad para mitigar o enfrentar las consecuencias. Objetivo: Se examinó la percepción a riesgo y la preparación ante emergencias y desastres, a nivel individual y comunitario. Método: Un estudio cuantitativo de diseño descriptivo transversal. Se utilizaron bloques censales del área estudiada con una muestra de 182 viviendas, seleccionando personas de 21 años en adelante bajo el enfoque “Community Base Participatory Research”. Se utilizó cuestionarios estructurados con preguntas sobre características demográficas, sobre la preparación ante emergencias y desastres. Resultados: El 91.5% de las féminas, reportaron estar preocupadas ante un desastre. Igualmente, el 88.1% de las mujeres reportaron sentir preocupación ante un terremoto ($p = 0.053$). Participantes con un nivel de educación mayor a Escuela Superior reportaron estar preocupados por los tsunamis (97.3%), el 94.5% por los terremotos ($p = 0.008$) y un 82.2% por las marejadas ciclónicas. Los participantes con un ingreso menor de \$1,999, indicaron sentir preocupación ante un tsunami (91.1%), un 87.9% indicó preocupación por los terremotos y 79% por las marejadas ciclónicas. Entre las personas que no poseen seguro médico, un 88.2% presentó preocupación ante los tsunamis, 82.4% ante los terremotos y 76.5% ante las marejadas. Conclusión: Es evidente la preocupación ante posibles desastres, lo cual conlleva al desarrollo de planes de

emergencias a nivel comunidad e individual. Es imprescindible desarrollar resiliencia individual y comunitaria para responder a emergencias.

O-23 Title V Cooperative Program Entices Awareness and Interest in Clinical and Translational Research in Students and Faculty of Undergraduate Programs

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Background and Objectives: The Medical Sciences Campus of the University of Puerto Rico and the Universidad Central del Caribe joined efforts to devise training and mentoring programs with the purpose to pipeline undergraduate students and faculty into clinical and translational research (CTR). An introductory educational intervention (IEI) was designed to promote potential participants' awareness of CTR and stimulate their interest in this new program. **Methods:** Participants (N=159) were surveyed prior to and after attending a presentation and panel discussion about CTR and its relevance for health sciences professionals. **Results:** Most participants, 134 (84.3%) were students. Fifty-eight (58, 36.5%) participants completed the post IEI survey. Of these, 53.4% satisfactorily defined the CTR concept in their own words, in contrast to only 31.0% that could define CTR in the pre survey. Forty-seven (47, 81.7%) were unable to identify a CTR researcher, 45 (78.3%) expressed interest in learning more about CTR and 41 (71.7%) indicated interest in participating in a CTR project. Additional indicators of the interest generated by the project were: the high level of attendance to the IEI (80.4% of those who pre-registered) and the enthusiastic discussion. **Conclusion:** The IEI demonstrated to be an effective strategy to promote participants' awareness of CTR and their interest in pursuing this new program. In addition, the results obtained through the survey, provided valuable baseline information for the planning and development of subsequent activities of this innovative program. **Acknowledgements:** Supported by the US Department of Education: Title V Grant Award # P031S160068

O-24 Discovery of the Dengue Virus 5: Genomic and Immune Characterization in Rhesus Macaques

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Dengue virus (DENV) is the most prevalent mosquito-borne human pathogen in tropical/subtropical regions causing ~400 million infections annually worldwide. DENV sylvatic strains have been implicated in the maintenance of circulation and prevalence of DENV in urban areas. A sylvatic strain was recently isolated from a human during an outbreak in Malaysia. Several phylogenetic/immunological studies demonstrated that this strain may represent a newly emerged DENV serotype (DENV-5), genetically/antigenically distinct from the other four serotypes (DENV-1,-2,-3,-4), but most closely related to DENV-4 clusters. Our objective is to prove the usefulness of a non-human primate (NHP) model to characterize the immune response induced by DENV-5. We hypothesized that DENV-5 infection will induce a robust immune response and its characterization will support the distinction of DENV-5 against the other 4 serotypes; emphasizing the distinction from DENV-4 strain clusters. Four NHP-rhesus macaques (*Macaca mulatta*) were infected with DENV-5 and 6 months post-infection a heterotypic challenge was performed, two with human-DENV-4-(LF32) and two with sylvatic-DENV-4-(P75-514) strains. Serum samples were collected sequentially and analyzed by ELISA (IgM/IgG antibodies), qRT-PCR (viral RNA) and PRNT (Neutralizing-antibodies). Results show that DENV-5-infected NHP serum induces a 4-fold increase or more in neutralizing-antibody titers to DENV-5 but cross-low levels to other serotypes. After DENV-4 challenge NHPs developed an IgM/IgG profile compatible with a human-secondary infection with a different serotype. In summary, results suggest that NHPs-immune system detect DENV-5 as a new serotype. A fifth DENV-serotype will bring new challenges in vaccine development, clinical diagnosis and vector control. This research was supported by:NIHODP40OD012 217,2U42OD021458-15,R25GM061838.

O-25 La adaptación inicial del paciente a la colostomía permanente en un hospital del área noreste de Puerto Rico

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Antecedentes: El paciente que recién obtiene una colostomía permanente, a menudo presenta dificultades de adaptación. Para las personas que viven con una colostomía permanente, es pertinente que puedan rehabilitarse para recobrar progresivamente las actividades que realizan en su vida diaria. **Objetivos:** 1) Describir las experiencias vividas de un grupo de participantes que poseen una colostomía permanente. 2) Explorar la adaptación inicial del grupo de participantes a una colostomía permanente. **Método:** El estudio fue uno tipo cualitativo fenomenológico descriptivo. La muestra consistió de ocho participantes que llenaron una hoja de datos demográficos y participaron de una entrevista. **Hallazgos:** Los participantes comunicaron uniformemente que el proceso inicial de poseer una colostomía resulta perturbador en todas las dimensiones de adaptación física, psicológica y social. La dificultad del proceso de manejar la bolsa colectora y materiales en o fuera del hogar fue mayormente provisto. Características predominantes en las experiencias de los participantes fueron la aceptación/negación de su condición, postura positivista y de superación, y como un proceso de aprendizaje y de costumbre. La participación familiar dentro de la vida del paciente se encontró ser de gran pertinencia para la adaptación positiva. **Conclusión:** El proceso de poseer una colostomía genera grandes problemas en las áreas emocionales en el periodo inicial del paciente, se recomienda que los profesionales de enfermería brinden especial atención a las necesidades psicológicas del paciente durante el periodo inicial y que se motive a la participación familiar y de seres significativos en el proceso de cuidado del paciente. **Reconocimiento:** Ninguno.

O-26 Liver Ultrasound detects Liver changes produced by Diabetes Mellitus II

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Background & Objectives: The liver is affected in the pathophysiology of Diabetes Mellitus II (DMII). This study aims to accurately evaluate the anatomy of the liver with ultrasound imaging to determine the effect of DMII in liver size and texture. **Methods:** Right liver lobe (RLL) ultrasound was used to measure organ length among diabetic and non-diabetic patients (n = 20/group) along midclavicular line (MCL) and mi-

daxillary line (MAL) in anteroposterior (AP) and craniocaudal (CC) planes with the patient in left oblique position. Two-dimensional ultrasound measurements were compared with measurements obtained in panoramic views. Shapiro-Wilk test and one-way ANOVA followed by Tukey post hoc test, paired t-tests, regression and correlation analyses were attained with significance at $p < 0.05$. **Results:** Statistical differences were detected among the following measures: non-diabetic MAL-CC and diabetic MAL-CC ($p = .026$), non-diabetics MCL CC and MAL CC ($p = .005$), diabetics MCL CC and MAL CC ($p = .039$). The strongest positive correlation was noted among diabetic MAL CC and Panoramic CC measurements of RLL length ($r = 0.86$). Diabetic patients showed a higher percentage of hepatomegaly (35%) and grades 2-3 of fatty infiltration (70%). **Conclusion:** Moderate and severe fatty infiltration and hepatomegaly are relatively frequent among DMII patients. Ultrasound is a cost-effective tool for the evaluation of liver that can be maximized for the early detection of liver size and texture changes as predictors of liver disease among DM II patients. **Acknowledgements:** Images Center of School of Medicine, UPR; Endocrinology Clinics at Hospital Universitario, UPR.

O-27 IGF2 Regulates Mitochondrial Cell Energy Phenotype And Biogenesis In Tnbc Cells

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African American (AA) women suffer higher incidence and mortality of triple negative breast cancer (TNBC) due to expression of high levels of Insulin Growth Factor 2 (IGF2) which promotes tumor progression, metastasis, and chemo resistance. Mutations and/or reductions in mitochondrial DNA (mtDNA) copy number that alter the Oxidative Phosphorylation are present in TNBC. We have demonstrated that mtDNA is lower in CRL-2335 AA TNBC cell line when compared to CRL-2335 IGF2 knockout cell line. We propose that IGF2 regulates the mtDNA content. Therefore, we wanted to demonstrate if IGF2 regulates mitochondrial genes to determine the cell energy phenotype. An XFp analyzer measured the OCR (Oxygen Consumption Rate/Mitochondrial Respiration) and ECAR (Extracellular Acidification Rate/ Glycolysis) in the wild type and knockout cell line. Real Time PCR studied the gene expression pattern of IGF2, PGC1 and PGC1. PGC1 and PGC1 are critical genes in the regulation of the mitochondrial biogenesis, thus, important in the cellular metabolic phenotype. Utilizing the Seahorse metabolic system, we assessed cell energy phenotype and alterations in terms of OCR % and ECAR %. Our preliminary results showed that the overall OCR and ECAR of the stressed wild type was altered according to the levels of IGF-II expressed. Furthermore, there was a metabolic shift in the IGF2 knockout towards the glycolytic pathway and higher

gene expression rate of PGC1. This confirms that IGF2 plays a critical role in determining the cell energy phenotype. Research was supported by National Institute of General Medical Sciences of the National Institutes of Health under award numbers 2 R25 GM060507.

O-28 Risk factors and profile of pediatric patients admitted to an Intensive Care Unit due to an acute asthma exacerbation

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Background & Objective: It is estimated that the asthma rate among Puerto Ricans is 113% higher than non-Hispanic white people. Exacerbation could be prevented with adequate medical treatment and control of environmental stimuli but the burden of childhood asthma continues to rise. This prospective observational cohort study aims to evaluate patient's and caregiver's recognition of uncontrolled asthma and what factors are associated to Pediatric Intensive Care Unit (PICU) admissions. **Methods:** Asthmatic patients from 4-21 years old admitted to PICU from July 2016 to February 2017 were recruited. Once parents and/or patient's consent to participate, they answered a standardized Asthma Control Test (ACT) and questionnaire. Clinical Respiratory Score (CRS) was used to classify patients' asthma severity. Data was expressed as mean \pm SD and percentages. **Results:** 44 patients were recruited, 52% males (mean age: 77.5 ± 30.2 months (~ 6 years)) and 48% females (mean age: 108.9 ± 43.6 (~ 9 years)). 57% of patients had Medicaid. 57% of patients acknowledged their uncontrolled asthma; 68% patients were classified with moderate persistent asthma. 30% had a PICU admission last year, 38% of them had 3 or more admissions to PICU. 48% had a Pediatric Pneumologist for fo-

llow-up care. Among risk factors that may exacerbate patients' asthma that parents associated it with were: dust (59%), emotional stress (46%) and tobacco smoke (18%). **Conclusions:** It is necessary to develop an educational plan based on asthma symptoms and its management for patients and their caregivers to help recognize asthma exacerbation and reduce hospitalizations and PICU admissions.

O-29 Developing Dual Gold-Liposomal Particles for an Effective Targeting of MicroRNAs in Brain Tumors

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Background and objectives: Glioblastoma multiforme (GBM) is the most malignant type of primary brain tumor leading to an overall survival of 15 months with standard of care treatment. Currently, there are no optimal therapies for GBM. Therefore, novel multi-targeting modalities are urgently needed. MicroRNAs (miRNAs) have shown to be involved in GBM initiation, progression and tumor maintenance. In vitro studies from our laboratory have shown the therapeutic potential of targeting upregulated miRNAs in GBM cells by using anti-microRNA oligonucleotides (AMOs). To translate these studies to the clinic, we are developing nanodelivery systems that can increase AMOs stability in circulation and delivery into brain tumors. **Methods:** In this study we designed two different nanocarrier models: AMOs-AuNPs and AMOs-AuNPs-Liposomes. Here, 15 nm AuNPs were functionalized to AMOs by a PEG-Assisted technique and then incorporated into DOPC-PEG-Liposomes. Afterwards, each nanoparticle size, surface charge, AMOs loading capacity and encapsulation efficiency was evaluated. **Results:** For our AMOs-AuNPs we obtained conjugates with a 25 nm size, a surface charge of -6 mV, and an AMOs to AuNP molar ratio of 64 to 1. On the other hand, for our AMOs-AuNPs-Liposomes, we obtained nanocarriers with a 40 nm size, a slightly positive charge and a 90% encapsulation efficiency. **Conclusions:** This study shows the feasibility and importance of developing novel nanoparticles for an effective delivery of oligonucleotides into GBM tissue. **Acknowledgements:** This research was supported by MBRS-RISE Program R25-GM061838, NIMHD (8U54MD 007587-03), Puerto Rico Science, Technology & Research Trust, and the University of Puerto Rico Comprehensive Cancer Center.

O-31 Habilidad y disposición de pensamiento crítico en los estudiantes de Bachillerato en Enfermería de un sistema universitario privado de Puerto Rico

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Antecedentes y objetivos: La educación superior persigue formar pensadores críticos. Por este motivo se hace imprescindible el evaluar si las instituciones están cumpliendo con el desarrollo de profesionales de la enfermería con las competencias necesarias para trabajar y llevar a cabo toma de decisiones acertadas mediante el uso de pensamiento crítico. Esta competencia es requerida por agencias acreditadoras como Accreditation Commission for Education in Nursing. Este estudio cuantitativo, no experimental con un diseño transeccional tuvo como propósito examinar cuáles son las disposiciones y las habilidades de pensamiento crítico de estudiantes de enfermería. Además se determinó si existe relación entre la disposición y la habilidad de pensamiento crítico de estos estudiantes. **Método:** La muestra fue por disponibilidad y constó de 69 estudiantes que cursan el último año del Programa de BSN en tres recintos de un sistema universitario privado de Puerto Rico. Se usó los instrumentos Inventario de Disposiciones del Pensamiento Crítico de California (CCTDI) y la Prueba de Razonamiento para Ciencias de la Salud (HSRT) los cuales fueron desarrollados por Facione. **Resultados:** Existe disposición positiva hacia el pensamiento crítico (CCTDI, 303.6). También se demostró que el 82% del grupo de estudiantes no manifiestan la habilidad de pensamiento crítico (HSRT=11.5). Por último, se determinó que existe una relación débil estadísticamente significativa entre la disposición y la habilidad de pensamiento crítico ($r=0.271$, $p < 0.05$). **Recomendaciones:** Repetir este estudio con una muestra mayor de estudiantes de enfermería que comprenda sistemas universitarios privados y públicos del país.

O-32 Educational experiences of clinical practice preceptors of medical technology students

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Background & Objectives: Education through clinical practice is part of the structure of medical technology programs. This experiential learning period is developed in laboratories whose professionals assume the role of clinical preceptor. The research aimed to explore, document and compare the educational experiences of four medical technologists who collaborate as preceptors for medical technology students. **Methods:** Based on the qualitative research paradigm, the information was collected through interviews, observations of the educational management organized by the preceptors and through the examination of the artifacts that mediate in the teaching-learning processes that they develop. **Results:** The practice guided by the participants promotes: clinical reasoning, integration of knowledge, effective communication, organization and management of priorities in the workplace scenario, critical thin-

king, intellectual curiosity, self-direction, lifelong learning and problem-solving ability. Despite the emphasis on the quality of the practice, the participants' testimonies reflect that they do not participate in projects that promote the development of skills and knowledge that can help improve their performance as preceptors. It is also evidenced that they do not receive support to face the diverse challenges that emerge when assuming a teaching role, nor is it recognized their collaboration in the training process of future medical technologists. **Conclusion:** The clinical preceptors complete a fundamental management for the development of the students. Collaboration with the training of future medical technologists promotes the development of the teaching identity of the participants, a matter that they value because recognize that this is an important dimension for their professional development. **Acknowledgements:** Any.

O-35 Macroscopic Energy Criteria for Fracture of Variably Plastic Materials

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Background & Objectives: A longstanding problem in fracture mechanics has been lack of a general energy criterion for crack growth in variably plastic materials. The greatest successes have been achieved for linear or non-linear elastic materials, in form of the Griffith-Irwin LEFM theory and the Chera-pov-Rice J-integral theory, respectively. These approaches can be extrapolated to elastoplastic or quasi-brittle materials exhibiting small scale plasticity near crack tips, but are inapplicable under highly ductile conditions. It is demonstrated here that a new energy criterion for crack growth, based on measurable macroscopic parameters, may be derived for highly ductile materials that exhibit linear elastic unloading behavior. **Methods:** The methodology is simply to write down well known mathematical functions describing constitutive properties of cracked elastoplastic bodies with linear elastic unloading behavior, and compare derivatives of these functions. **Results:** Under the new criterion, crack growth occurs for loading conditions such that the potential mechanical energy release per unit crack growth is equal to energy dissipated by plastic flow and material rupture. Instability occurs when the rate of release of potential energy exceeds the rate of increase of dissipated energy. **Conclusions:** Any elastoplastic material satisfying the specified constitutive properties also satisfies the fracture criterion. Possible candidates are diverse materials such as metals, moist soil and soft bone tissue. **Acknowledgements:** This research was supported by the US-Israel Binational Agricultural Research and Development Fund (BARD).

O-36 Placenta Acreta: Descriptive study of risk factors, management and fetal outcomes in a tertiary hospital in P.R.

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Introduction: The reported incidence of placenta accreta has increased 10 fold. Cesarean section has been described as one of the most prevalent risk factors. In 2012 the CDC reported a C-section rate of 48.5% in Puerto Rico (PR). Placenta accreta has been implicated to increase morbidity/mortality in the maternal population as well as to the fetus. The objective of the current study is to describe the population and outcomes of puertorrican women diagnosed with abnormal placentation in a tertiary hospital in Puerto Rico. **Methodology:** We performed a retrospective descriptive study of medical records identified with an abnormal placentation from 2009-2015. The records were obtained from the record room of the University District Hospital of Centro Medico of PR. Data regarding patient demographics, risk factors, maternal and fetal outcomes were recorded using EPI INFO statistical software. **Results:** 20 medical records were analyzed. The mean maternal age was 31 years, mean gravity 3.8 and mean gestational age at delivery was 28 weeks. All but one had previous cesarean sections and 1 patient had more than 4 previous cesarean sections. Mean neonatal weight was of 2417g. 11 patients had an estimated blood loss of more than 2L and 10 patients received post op blood transfusions. 11 bladder injuries were reported and 17 patients had cesarean hysterectomies performed. **Conclusions:** We emphasize the importance of evaluating risk factors and recommend management of suspected cases of abnormal placentation to be done in an interdisciplinary manner and in a setting where immediate access to blood transfusions is available.

O-37 Mental health outcomes of a stigma management intervention with HIV-positive gay, bisexual and other men who have sex with men in Puerto Rico

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In Puerto Rico (PR), the HIV epidemic disproportionately affects gay, bisexual and other men who have sex with men

(GBMSM). HIV-positive GBMSM are vulnerable to a double stigmatization due to their sexual orientation and HIV status. HIV-positive GBMSM are more likely to experience depressive symptoms and anxiety. Despite the negative impact of HIV-related stigma in mental health, little has been done in PR to improve mental health among this population. The current secondary data analysis aimed to assess mental health outcomes of a stigma-management intervention with HIV-positive GBMSM in PR. Data were collected from the assessment of a stigma-management intervention targeting HIV-positive GBMSM in PR (n=109), consisting of three encounters over a period of six weeks using motivational interviewing techniques. Mental health indicators were assessed through a standardized anxiety and depression scales (PHQ-9 and EADG) to compare depression and anxiety levels at baseline, 6, and 12 weeks. Minor depression symptomatology was experienced by 18.3% of all the participants at baseline. Reduced levels were observed at 6 weeks (p=0.041), and remained marginally significant after 12 weeks (p=0.064). Regarding anxiety symptomatology, 72.2% reported anxiety symptomatology at baseline and showed marginal reductions at 6 and 12 weeks follow-up (p=0.110 and p=0.061, respectively). Results suggest that the intervention had a positive impact at reducing depressive and anxiety symptoms, which held at least marginally significant at follow-ups. Stigma management interventions may improve mental health outcomes in HIV-positive GBMSM. Further interventions should be conducted to yield permanent improvement in mental health outcomes.

O-38 Co-Morbidities in a Sample of HIV-positive Adults in Puerto Rico: Considerations by Age and Sex

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Puerto Rico (PR) has one of the highest rates of people with HIV in the United States (US). There is a lack of information to understand the co-morbidities of people with HIV in PR. The objective of this study was to describe common co-morbidities among HIV+ adults who attend treatment clinics in PR. An exploratory, retrospective, cross-sectional study was conducted at five HIV clinics in PR. A random

sample of medical records was reviewed from HIV+ adult patients. Descriptive statistics were used to summarize patient demographics, morbidity, and clinical characteristics. Multivariate analyses were conducted to explore differences by age and sex. 250 (179 men;71 women) medical records were reviewed. Mean age was 47.9 years and most had been living with HIV for 9 years. Almost all (97.6%) had at least one co-morbidity. The most common co-morbidities were dyslipidemia (men:60.8%;women:69.0%) and hypertension (men:39.6%;women:46.5%). Men were more likely to have alcohol misuse while women were more likely to have obesity, HPV, hypothyroidism, and osteoporosis. Younger participants (<50years) were more likely to have alcohol misuse while older individuals (50>) were more likely to have dyslipidemia, hypertension, and diabetes mellitus. Controlling by sex and age, women were more likely to have obesity and depression. This is one the first studies to assess co-morbidities among HIV+ adults in PR, and one of few among Latino/Hispanics within the US. Findings support the need for awareness and evidence about the co-morbidities of people with HIV when offering HIV treatment. These analyses were partially supported by Merck & Co. Puerto Rico.

O-39 Health Beliefs in cancer: Are we able to communicate health beliefs?

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Cancer therapy requires the attention of basic, clinical, and population-based research professionals to bring the best health outcomes. Commonly these teams provides a structure to achieve these common goals, leaving behind the patient beliefs. This work is a composite of fundamental beliefs of patients and how often patients disclosure these beliefs to their health practitioners including the reasons not to. A cross-sectional study was performed using a survey technique for data collection; STATA 13.0 was used for data analysis. Results showed that 51.05% (n=73) of participant reject to inform to health practitioners their beliefs regarding CAM. Reasons included avoiding being scolded, consider CAM deedless, health practitioners are careless about CAM, there has not been chance to talk about among others. Logistic regression showed that females, those more educated and those who have ever smoke were more likely to talk about their health beliefs than their counterparts (p < .05). In conclusion, from the discourse of cancer patients can be inferred that hegemony is a problem that needs to be worked among health practitioners. Also, males those less educated are facing greater health disparities in terms of patient health practitioner communication which is a health barrier.

O-40 More Than Just Face Swelling: 7-year-old Girl with Cervicofacial Actinomycosis

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Purpose: Actinomycosis is a rare disorder in children, with few cases reported annually. Most commonly it presents as soft tissue swelling that can easily misdiagnosed as cervical adenitis. We report a case of cervicofacial actinomycosis in a 7-year-old girl which was misdiagnosed for a long time. Case Description: 7-year-old female patient presented with non-tender, indurated mass at right mandible eight months prior to admission. Dental evaluation revealed dental caries but patient refused treatment. The mass persisted and 6-months later patient developed face swelling and fever. CT-scan failed to reveal significant pathology. Later on patient developed marked face swelling, pain, trismus and a thick yellow exudate at the oral mucosa requiring urgent hospital admission. Clinical Approach: ENT evaluation was done and fine needle aspiration and biopsy was performed with the recovery of Actinomyces sp. Repeated CT scan revealed a subperiosteal abscess with right periapical abscess (tooth#32) and erosive changes of the bone compatible with osteomyelitis. Clinical Findings: The affected tooth was removed and surgical cleaning with abscess drainage was performed. Patient was started on intravenous penicillin treatment for 8 weeks with plans to continue oral treatment for 6 months to avoid recurrences. Patient improved markedly. Hypothesis: Cervicofacial actinomycosis is uncommon in children and early diagnosis is difficult. Prompt diagnosis is critical to initiate appropriate antibiotic therapy and to prevent extensive local tissue destruction. High index of suspicion is vital because the treatment is different from that of routine cervical adenitis and it requires prolonged treatment to prevent recurrences and complications.

O-41 The use of Toxic Substances and Female Adolescent Risky Sexual Behavior

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Background & Objectives. Risky sexual behaviors are defined as sexual activities that may compromise an individual's health or that increase the chance of unwanted pregnancy. The aim of our study is to describe the use of substances and sexual behavior in patients seen in the Adolescent Clinic in the San Juan City Hospital between the years 2012-2017. The hypothesis of this study states that adolescents that use toxic substances (alcohol and drugs) are more prone to exhibit risky sexual be-

havior. Methods. This is a Cross-sectional Descriptive study, where we evaluated the medical record of 300 female adolescent between the ages 11 and 21 years. The subjects were divided in use of alcohol and drugs and without toxic habits. Results. We found that 24% refers using alcohol and 27% drugs. The mean of the 1st sexual intercourse was 15.78 y/o. There were the same percentages (36%) of adolescents in both groups that use condoms during sexual intercourse. The percentage of sexual transmitted infections and abortions were 58% vs 17%; and 51% vs 25% on the adolescents that use alcohol and drugs versus without toxic habits. Conclusion. Our results suggest that sexual transmitted disease and non medical abortions were more frequent on female adolescents that use alcohol and drugs versus female adolescents without toxic habits. No differences were observed in the use of condoms or number of sexual partners. Adolescents should be encouraged to avoid toxic habits and oriented about risky sexual behaviors and their implications. Acknowledgements. None.

O-42 The Impact of Stigma on Adherence to HIV Care in a Sample of Gay, Bisexual, and Men Who Have Sex with Men in Puerto Rico: A Mixed-Method Approach

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Antiretroviral treatment (ART) has improved the quality of life and the life expectancy of people with HIV. Adherence to ART and proper HIV care are essential to achieve viral suppression and well-being. However, HIV and gay stigma continue hindering healthcare efforts. Reducing HIV and gay stigma can improve adherence while suppressing viral load, thus preventing HIV transmission. In this analysis, we describe the impact of HIV and gay-related stigmas on adherence to HIV care in a sample of HIV-positive gay, bisexual, and other men who have sex with men (GBMSM) in Puerto Rico. An exploratory sequential mixed-method study was conducted. Data was obtained from 19 life-history interviews and a sample of 161 HIV-positive GBMSM who completed a computer-assisted/interviewer-mediated survey. Discourse and descriptive statistical analyses were conducted. Participants identified experiences of felt or perceived discrimination due to their HIV-status as a barrier to properly use their medication. Further, they reported that revealing their identity as gay or bisexual was a challenge in health encounters and to comply with the recommended care. Statistical

analyses evidenced high levels of internalized homonegativity and felt HIV stigma and at least marginally statistically significant associations with detectable viral load. Data suggests that HIV and gay-related stigmas negatively impact the access to and retention in HIV care. Comprehensive approaches to understand stigma and a combination of individual, community and structural interventions to reduce social stigma are recommended, including capacity building with healthcare providers and policy changes in HIV-related services. This analysis was partially supported by Grants Num. U01PS003310&5R25MH083617.

O-43 Academic and Research Networking: the Information, Knowledge and Innovation Network

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Background & Objectives: The development of an Information, Knowledge and Innovation Network (ICI Network). A formal network to share, cooperate, communicate, access, use and exchange information and knowledge of creative work and scientific production. The objectives of the project are: 1) optimize and expand information resources, 2) contribute to increase the visibility of creative work and scientific production UPR, 3) to improve the interaction of colleagues through communities of practice and communication mechanisms, and 4) encourage research results to be marketed in new products and services. Methodology: The creation of a virtual space where resources and information service are integrated by means of technological mechanisms to facilitate interaction and contribute to the investigative work of the UPR. It has four basic components outlined that develop the various strategies and activities that contribute to the development and operation of the network. Results: The ICI Network portal has been developed where it has the strategies already developed that are: unification of resources and services, restructuration UPR Libraries Homepage, Institutional Repository, UPR Journal Homepage, UMAIPUR - Dissemination of scientific production and UPR Marketing Center. Conclusion: Its development contributes to organizing and providing a space to promote innovation, integrate information technologies, interact with other people and expose what is produced in the UPR. The results of the investigation are presented, disseminated and provide mechanisms for marketing. Acknowledgements: Project funds are UPR President's Office assigned to the vice-president of Research and Technology

O-44 A Comprehensive Analysis of Awareness Of and Access To PrEP as A HIV Prevention Method In Four Samples of Men Who Have Sex With Men in Puerto Rico

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Pre-exposure Prophylaxis (PrEP) is an HIV prevention method recommended for populations at increased risk, especially gay, bisexual, and other men who have sex with men (GBMSM). Adequate use of PrEP can reduce the risk of HIV infection by up to 95%. Despite its efficacy and availability for over 4 years, awareness and accessibility of PrEP are limited. This comprehensive secondary data analysis was aimed to assess PrEP awareness and access among GBMSM in Puerto Rico (PR). Databases used for the analysis were: a survey with users of a geosocial-networking app (n=421), a male couples study (n=230), participants of prevention services at a community-based organization (CBO, n=54), and an intervention research with HIV-positive GBMSM (n=160). Overall, awareness of PrEP was 50.8%, with higher rates among CBO service participants (79.6%), and lowest rates in HIV-positive participants from an intervention study (19.1%). Interest in using PrEP ranged from 70.9% among users of the geosocial-networking app to 84.9% among participants of CBO services. PrEP use was reported mostly among participants of the male couples study with nearly 19.1% reporting using PrEP at some point in their lives. PrEP awareness remains limited among participants. Despite low rates of use, there is significant interest in utilizing PrEP. These findings suggest gaps in knowledge and challenges for PrEP implementation. Further actions are needed to properly position this HIV prevention method as part of the options available for populations at increased risk for HIV infection in PR. These analyses were partially supported by Gilead and Grants Num. U01PS003310&5R25MH083617

O-45 Concerning Low Rates Of Fully Immunized Children With End Stage Renal Disease In Puerto Rico

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Background: End Stage Renal Disease(ESRD) children have impaired immune systems, increasing their risks for vaccine preventable diseases. Low immunization rates have been reported among these patients in US, yet studies evaluating immunization rates among minority groups are scarce. Objective: Describe the immunization rates among children with ESRD in Puerto Rico(PR) from 2001-2015. Methods: Chart review of ESRD children in PR from 2001-2015. Variables included: age at ESRD diagnosis, primary renal disease and immunizations (HepB, Hib, DTaP, PCV13, PPSV23, Rotavirus, HepA, IPV, MMR, varicella, influenza and meningococcus). Median/ranges and frequencies/percentages were used. Results: 99patients had ESRD from 2001-2015. 74patients had immunization charts available(53% female, age 13[7-15] yrs). Common causes of ESRD: congenital anomalies (43%) and steroid-resistant nephrotic syndrome(23%). %patients receiving full-vaccine series: DTaP (65%), Hib (57%), PCV13 (35%), PPSV23 (32%), meningococcus(5.4%), HepA (16%), varicella (25%), Rotavirus (4%). %patients receiving at least one dose: DTaP (85%), Hib (85%), meningococcus (25%), HepA (27%), varicella (57%), Rotavirus (12%). 11% patients received influenza during the first year of ESRD diagnosis (national rate:60-70%, Healthy People 2020 goal: 90%). Conclusion(s): Despite high first dose rates for most vaccines among ESRD children in PR, full-series administration is infrequent. Low rates may be due to cultural vaccine misconceptions, ineffective immunization monitoring systems or complex immunization regimens. Interventions to improve full-immunization rates in this minority group are needed.

O-46 Prevalence and Risk Factors Associated with Homelessness among Injection Drug Users in Puerto Rico
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Injection drug use is an important topic in public health due to its relationship with premature mortality, HIV, and hepatitis C virus infection. Homelessness has consistently been associated with injection drug use. At the same time, a number of factors associated with homelessness are also related to injection drug use. This study aimed to determine the association between years of drug injection and homelessness among drug users in Puerto Rico. Respondent-driven sampling methods recruited a sample of 315 intravenous drug users in rural Puerto Rico. Information about demographics, drug use patterns, homeless-

ness and risk behaviors was obtained through structured interviews. HIV and HCV statuses were assessed via rapid antibody tests. Frequency distributions were used to describe the study sample. Bivariate analyses and multivariate logistic regression were used to assess covariates of homelessness. The study received IRB approval through the University of Nebraska-Lincoln and the University of Puerto Rico. Almost 91% of study participants were males. The mean age was 41.7 years old and the majority had not completed high school (47.6%). The prevalence of homelessness was 21.9%. After controlling for sociodemographic characteristics, homelessness was strongly associated with number of years of injection. The odds of IDUs with more than 10 years of drug injection being homeless was almost 3 times higher than the odds of IDUs with less than 10 years of injection (OR = 2.7 95%; CI=1.1, 6.9). Strengthening policies and interventions that prevent injection drug use may reduce homelessness among injection drug users in Puerto Rico.

O-48 Clinical Research Information Procedures to Increase Subject Recruitment for Cancer Clinical Trials

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Background & Objective: Participation in clinical research contribute greatly with advancing disease knowledge and improving patient outcomes. HIMA•San Pablo Oncologic Hospital is a Comprehensive Community Cancer Program, accredited by the Commission on Cancer (CoC) of the American College of Surgeons. As a requirement for CoC accreditation, the institution should provide cancer-related clinical research information to patients in order to accrue patients to cancer-related clinical research studies. The objective of this presentation is to share clinical research information procedures to increase public awareness and subject recruitment for cancer clinical trials. **Methods:** The institution's Policy on Cancer Clinical Research Information is implemented through the following methods: an oral presentation to cancer patients and caregivers on clinical research, general public education at a community health fair, and e-mail and bulletin board-based clinical research education including a list of current cancer clinical trials in Puerto Rico. **Results:** The oral presentation to cancer patients and caregivers was well received, with a 97% satisfaction score. Our information table at the health fair was visited by 24 persons who received clinical research education and expressed interest in learning more and considering enrollment in clinical trials. The e-mail and bulletin board-based clinical research education and the list of current cancer clinical trials in Puerto Rico provide continuous on-demand sources of information. **Conclusions:** Cancer patients and caregivers should be aware

of clinical research opportunities that may potentially benefit themselves, their family, and future patients, while advancing the knowledge and understanding on this deadly public health concern.

O-49 Disposiciones de ley e implementación de estándares para disminuir la exposición en los trabajadores agrícolas en el Poblado de Castañer

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Política pública analizada: Se analiza el Estándar Federal de Protección de Trabajadores Agrícolas y la Ley de Plaguicidas de Puerto Rico. **Disciplina o teoría:** Los trabajadores agrícolas son considerados como una de las poblaciones de mayor riesgo ocupacional. Aunque recientemente la Agencia de Protección Ambiental revisó su estándar de Protección de Trabajadores de Agricultura; existen algunas limitaciones podrían afectar a las poblaciones más vulnerables. Esta investigación se fundamenta en la implementación de programas de adiestramientos con miras a identificar limitaciones en la política pública ya establecida. **Fuentes de información:** Se analizaron las leyes y reglamentos relacionados al uso de plaguicidas y protección de trabajadores agrícolas. Se analizaron los datos demográficos de la población estudiada y la información toxicológica de los plaguicidas. **Método:** Se identificaron las poblaciones con exposición potencial a plaguicidas. A raíz de los adiestramientos ofrecidos a esta población, se identificaron las limitaciones dentro de las políticas públicas establecidas y la posible sobre exposición por mal manejo de los plaguicidas. **Hallazgos:** Existen serias limitaciones en las disposiciones de este estándar estudiado en relación a la industria agrícola en Puerto Rico. También, a raíz de los adiestramientos se pudo observar un conocimiento limitado de las medidas de control requeridas por la ley. **Implicaciones:** La exposición de los trabajadores agrícolas pudiera verse exacerbada por las limitaciones y falta de implementación de los estándares de protección ocupacional. Además, las disposiciones de adiestramientos y material informativo no toman en consideración limitaciones en literacia y aspectos socio-demográficos de la población afectada. **Reconocimientos:** Ninguno.

O-50 Voces de Hombres Universitarios: Contribuciones a la Salud Pública en el Oeste y del Proyecto YPREV

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El 'Youth Prevention Program (YPREV)' es un programa desarrollado bajo alianza con una organización de base comunitaria y un esfuerzo interdisciplinario en la Universidad de Puerto Rico, Recinto de Mayaguez (RUM). El objetivo del mismo es desarrollar un programa comprensivo para el monitoreo de prácticas de alto riesgo en hombres jóvenes del área oeste, proveer capacitación y alcance comunitario en temas de prevención de VIH, prevención en el uso y abuso de sustancias, vacunación del Virus de Papiloma Humano (VPH) y salud mental. El estudio de necesidad siguió una metodología mixta, empleando grupos focales, entrevistas a personas claves, observación etnográfica y cuestionarios a universitarios de 18-24 años que se identifica como hombres que tenían sexo con hombres (HSH). Esta presentación resaltará el análisis de los datos cualitativos (grupos focales y entrevistas) completadas en 2016 en Mayaguez. Dialogamos con personas claves en servicios de salud a hombres y comunidad LGBTTQI: organizaciones de base comunitaria, profesores, universitarios proveedores de salud, hombres HSH y líderes de la comunidad LGBTTQI. Los resultados señalaron las necesidades y recursos existentes que enlazan la universidad y la salud de los estudiantes hombres de 18 a 24 años y comunidades vecinas al entorno universitario del RUM. Los y las participantes recomendaron atender tres aspectos primordiales: mejorar y fortalecer el sistema de ayuda social y económica, atender asuntos de micro/violencia, expandir servicios a otros grupos en el RUM. Los resultados también reflejan bajo conocimiento y percepción al riesgo de VIH y actitudes favorables a las pruebas de VIH.

O-51 Imaging associated radiation trends in our pediatric surgical population

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Objectives: It is known that cumulative radiation exposure is detrimental to our health and that the pediatric population is more susceptible to its effects. A study demonstrated that repeated pediatric exposure to radiation via medical imaging could confer a threefold increased risk of developing hematogenous and central nervous system malignancies. This study assesses how non-tertiary centers assess pediatric patients for suspicion of abdominal pathology and compare it to the imaging practices at our University Pediatric Hospital (HOPU). **Method:** A single surgeon's experience was revised retrospectively identifying all patients that were operated for appendicitis. All imaging studies were reviewed and stratified as performed in our tertiary vs. non-tertiary centers. Subgroups were created, taking into consideration, which was the first imaging modality used to assess the pathology in question. **Approved by IRB. Results:** 84 patients evaluated. 62 CT scans were completed of which 75% were performed in non-tertiary referral centers. A total of 40 ultrasounds were done of which 85% were performed at HOPU. The first study of choice was a CT scan in 90% of the patients evaluated initially in a non-tertiary center, while HOPU performed ultrasound as imaging modality of choice in 69.9% of patients. **Statistical significance (P<0.001).** **Conclusion:** Puerto Rican pediatric population with appendicitis has an increase risk of receiving a CT scan if they go first to a non-pediatric health care institution, in comparison to those treated in a tertiary pediatric hospital. Educational strategies are needed in order to decrease the unnecessary radiation burden in our pediatric population.

O-52 Estudio multidimensional sobre las necesidades de bienestar de los adultos mayores de Puerto Rico

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Trasfondo & Objetivos: El aumento acelerado de la población de adultos mayores en Puerto Rico, el empobrecimiento de nuestros adultos mayores y la crisis en el sistema de servicios de salud son tendencias actuales que atentan contra el bienestar de los adultos mayores que viven en Puerto Rico. Sin embargo, se desconoce cuáles son las necesidades de esta población en las diferentes dimensiones de bienestar definidas por los puertorriqueños. **Objetivo:** Identificar las necesidades en las diferentes dimensiones de bienestar en una muestra de adultos mayores Hispánicos que viven en Puerto Rico. **Método:** Treinta y dos adultos mayores y nueve expertos y proveedores de servicios a adultos mayores participaron en el estudio. Se

utilizó un diseño descriptivo cualitativo en donde se llevaron a cabo cuatro grupos focales con adultos mayores de diversos niveles socio-económicos y un grupo focal con expertos. Se analizaron los datos a través de un análisis de contenido temático. Resultados: Se identificaron necesidades predominantemente en las dimensiones de bienestar emocional, social, financiera, de salud, de medioambiente y ocupacional. Conclusión: Este estudio evidencia la necesidad de explorar las necesidades de bienestar de los adultos mayores más allá de las dimensiones de salud. La diversidad de agencias, iniciativas comunitarias, y programas de servicios que aspiran al bienestar de los adultos mayores deben potenciar la multidimensionalidad de las necesidades de este grupo. Agradecimiento: Esta investigación recibió el apoyo de Centro de Investigaciones Sociales de la Universidad de Puerto Rico Recinto de Río Piedras.

O-53 Descriptive Analysis of ER+, HER2-Negative, Early-Stage Invasive Female Breast Cancer Patients with or without Gene Expression Testing in Puerto Rico

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Background & Objectives: Breast cancer is the most commonly diagnosed and the leading cancer type in deaths for women in Puerto Rico. Gene expression profiling tests can predict whether an early-stage breast cancer is likely to recur after initial treatment or not. However, potential cancer health disparities may influence the ability to have these tests done or not. Therefore, the objectives of this study are: 1) to assess whether estrogen receptor-positive (ER+), HER2-negative (HER2-), early-stage invasive female breast cancer patients who undergo gene expression testing are different from those who do not and 2) to study the influence of the Oncotype DX Breast Recurrence Score profiling test (assay) results in treatment decisions. **Methods:** An IRB-approved retrospective and descriptive case analysis of sociodemographic and clinical-pathological variables was done at a cancer hospital in Puerto Rico for 2011-2016. **Results:** A total of 324 ER+, HER2-, early-stage invasive female breast cancer patients were identified: 27% underwent gene expression testing, 51% did not, and 22% had unknown testing status. For both comparison groups, all women had health insurance and most had stage I infiltrating ductal carcinoma and received no chemotherapy. In addition, most of the patients who underwent the assay had a low risk of re-

currence if treated with hormone therapy alone and eventually did not receive chemotherapy. **Conclusion:** A low percentage of patients have gene expression testing done and the result of the assay influenced their treatment decisions. A future analysis will further assess for differences and cancer health disparities between both groups.

O-54 Role of Soy Isoflavone Metabolite Equol in Protein Synthesis of Metastatic Breast Cancer Cells

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Background: The soy isoflavone metabolite Equol has been associated with both anticancer and pro-cancer effects in breast cancer. Although it has shown that it can reduce non-metastatic breast cancer cell growth and proliferation, and reduced breast cancer risk at high concentrations, our laboratory has shown that at low physiological dietary concentrations, Equol increases cell proliferation, tumor growth and metastasis in metastatic breast cancer cells. Also, equol increases the expression of the eukaryotic initiation factor 4G (eIF4G), increasing the cap-independent protein synthesis of pro-cancer molecules. **Methods:** To elucidate the role of equol in the regulation of protein synthesis in metastatic breast cancer cells, a polysome profile assay using an Affymetrix microarray was conducted in cells treated with Equol letting us know which are the mRNAs that were actively translated for each experimental condition. **Results:** This analysis demonstrated that >1000 protein coding and non-coding RNAs were differentially associated with polysomes in response to treatment. Ingenuity Pathway Analysis for mRNAs with a log2 fold change <2, demonstrated significant changes in mRNAs of cancer invasion proteins like MMP1, chromatin remodeling proteins like Histones, and cancer-associated microRNAs (miRNAs) like miR21 and miR590. **Conclusions:** Therefore, our data has identified critical targets of equol involved in breast cancer metastasis regulation that are differentially expressed via translational control. **Acknowledgements:** This research was supported by grants from NIH/NIGMS SC3GM094824 to SD, RCMI G12RR03051 to UPR MSC, and MBRS RISE (R25GM061838) to UPR MSC (AC).

O-55 Kennedy's Disease: Case report

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Purpose: Kennedy's disease, is a rare X-linked motor neuron disease presenting in early adulthood. Trinucleotide (CAG) repeats result in androgen receptor gene mutation. Presents clinically with slowly progressive weakness, and bulbar symptoms, along with androgen insensitivity manifestations. Elevation of creatine kinase is also commonly seen. The most common form of motor neuron disease in adults is Amyotrophic Lateral Sclerosis (ALS), and these patients can also have similar clinical symptoms, electrophysiologic findings, and transitory increases in creatine kinase but life expectancy is markedly reduced in ALS patients. It is estimated that probably one in 25 individuals diagnosed with ALS actually have Kennedy's disease. **Case description:** 42-year-old male patient with history of diabetes mellitus, presents with a one year history of progressive proximal arm weakness. No sensory changes, nor swallowing difficulties. No family history and no problem with fertility. **Examination:** proximal strength arm= left 3-4/5, right 4/5, fasciculations in arms and periorally, areflexia, no gynecomastia. **Clinical Approach:** Laboratories: creatine kinase 1478, increased liver function tests. **Electrodiagnostic study:** compatible with motor neuron disorder. Genetic testing positive (40 CAG repeats). **Clinical Findings:** 1 year follow up patient continued with weakness restricted to arms and perioral fasciculations. No specific treatment available. **Hypothesis:** Persistently high creatine kinase, slowly progressive weakness and perioral fasciculations should prompt evaluation for Kennedy's disease. Proper identification of these cases, even in patients that do not present with all the manifestations of androgen insensitivity, is important since treatment and prognosis differs from ALS. **Acknowledgments:** No conflict of interest

• Poster Presentations •

P-01 A Training Curriculum In Developmental Disabilities Issues For Service Providers Of The Puerto Rico Public Housing Administration

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Background & Objectives: Quality and affordable housing is a social determinant of health for people with intellectual and developmental disabilities (IDD). About 48.6 % of people with disabilities is found below 100 percent of the poverty level, unable to pay for a place to live (ACS, 2014). Title VIII of the Civil Rights Act of 1968 (Fair Housing Act), as amended in 1988, prohibits disability discrimination during the sale or rental of housing. In collaboration with the Puerto Rico Public Housing Administration, the Institute on Developmental

Disabilities designed a training curriculum. The related skills model used in this curriculum originates from The Ontario Developmental Services. The objective of this training program was to increase awareness and skills about housing needs and people with IDD. **Methods:** This evaluation study followed an observational descriptive design. The period of training was from February 2016 through April 2016. Participants were administrators and staff of the Puerto Rico Public Housing Administration. Twenty four (24) training sessions reached a total of seven hundred seventy three (773) participants. **Results:** Participation was composed of 62.2% female and 37.8 % male. About 66.7 % of participants indicated strongly agree and 31.6 % agree that they increased knowledge. A 60.5% strongly agree and 38.5% agree to be satisfied with the training offered. Evaluation report indicated more training needs in topics such as: Autism, Cerebral Palsy, Reasonable Accommodation and American Sign Language. **Conclusions:** The training helped to create awareness about the housing needs of people with intellectual and developmental disabilities (IDD).

P-02 Clinical Correlates and Outcomes in a Group of Puerto Ricans with Systemic Lupus Erythematosus Hospitalized due to Severe Infections

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Background/Objectives: Infections are a major cause of morbidity and mortality in systemic lupus erythematosus (SLE). Clinical outcomes of SLE patients hospitalized due to infections vary among different ethnic populations. We determined the outcomes and associated factors in a group of Puerto Ricans with SLE admitted due to severe infections. **Methods:** Records of SLE patients admitted to the Adult University Hospital, San Juan, Puerto Rico, from January 2006 to December 2014 were examined. Demographic parameters, comorbidities, pharmacologic treatments, in-patient complications, length of stay, readmissions, and mortality were determined. Patients with and without infections were compared using chi-squared and Mann-Whitney tests; normal distribution was assessed using the Shapiro-Wilk test. **Results:** A total of 204 admissions corresponding to 129 SLE patients were studied. The mean (SD) age was 34.2 (11.4) years; 89% were women. The main causes for admission were lupus flare (45.1%), infection (44.0%), and initial presentation of SLE (6.4%). The most common infections were complicated urinary tract infections (47.0%) and soft tissue infections (42.0%). Patients admitted with infections were more likely to have diabetes mellitus (18.9% vs. 7.9%,

$p=0.019$) and higher mortality (13.3% vs. 5.3%, $p=0.044$) than those without infection. Conversely, those with infections were less likely to receive intravenous methylprednisolone pulse (10.0% vs. 24.6%, $p=0.007$). Conclusion: In this population of SLE patients, 44% of hospitalizations were due to severe infections. Patients with infections were more likely to have diabetes mellitus and higher mortality. Prevention and control measures of infection could be crucial to improve survival in these patients.

P-03 Intracuff Alkalinized Lidocaine to Reduce Cough During Emergence

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Clinical Question: In adult patients undergoing endotracheal intubation for general anesthesia for procedures lasting more than 90 minutes (P), how does the use of intracuff-alkalinized-lidocaine (I) compared to usual care affect (C) cough during emergence of general anesthesia (O). **Scope:** Cough during emergence of general anesthesia is often accompanied by detrimental complications. Currently, there is no standard protocol to reduce its incidence during extubation. **Literature Review:** Evidence about the use of intracuff-alkalinized lidocaine was searched, including 9 randomized controlled trials and 1 systematic review/meta-analysis. Major findings concluded that intracuff-alkalinized lidocaine used in patients receiving general anesthesia with endotracheal intubation, significantly reduced the incidence of cough at extubation. **Project Implementation:** Adult participants scheduled for elective surgeries under general anesthesia for more than 90 minutes were included. The endotracheal tube cuff was filled with 2mL of lidocaine 2% plus the necessary volume of 8.4% sodium bicarbonate until a pressure of 30 cm H₂O was achieved. The total volume applied was recorded. The presence or absence of cough was evaluated at the immediate moment after extubation. A three-category scale was applied to those who presented cough on emergence. **Results:** Thirty patients participated, including six men and twenty-four women with a median age of 49. Results show that 87% of patients did not cough after extubation. **Practice Implication:** The implementation of this project offers an additional advantage for the patients and prevents complications related to cough that could lead to cost increases, complications, and prolonged hospital stay.

P-04 Extranodal Marginal Zone B-Cell lymphoma of Thyroid Gland with Prominent Plasma Cell Differentiation: A Case Report and Review of Literature

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Purpose: We present the case of a primary extranodal marginal zone B-cell lymphoma (EMZBCL) of the thyroid gland. Primary thyroid Lymphoma (PTL) accounts for 2% of all extranodal lymphomas and 2-5% of thyroid malignancies. EMZBCL is the second most frequent primary thyroid lymphoma (after diffuse large B-cell lymphoma). Hodgkin lymphoma is extremely rare. Thyroid lymphoma presents most commonly in women over 60 years of age (female to male ratio of approximately 5:1) and shows strong association with Hashimoto's thyroiditis (HT). **Case description:** We report the case of a 59-year-old woman, without history of HT (normal laboratory tests for TSH and thyroid hormones), who presented with hoarseness and a non-palpable thyroid nodule. **Clinical approach:** The patient underwent a fine needle aspiration biopsy which suggested diagnosis of a Hurthle Cell neoplasm. In order to correctly classify the nodule, a left thyroid lobectomy was performed. **Clinical findings:** A primary thyroid EMZBCL lymphoma was diagnosed based on histopathology, immunohistochemistry and absence of other lesions on PET/CT scan. A plasmacytoma was considered in the differential diagnosis. The patient is currently receiving chemoradiation therapy. **Hypothesis:** Even though PTL is a rare entity, it should not be excluded from the differential diagnosis of thyroid neoplasms even in patients without history of inflammatory conditions.

P-05 Comparative Study of Hip Arthroscopy versus Conservative Management after Simple Traumatic Hip Dislocation

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Background & Objectives: Hip dislocations are rare injuries that commonly occurred by high-energy trauma in young patients. Our study aims to assess if hip arthroscopy after a simple hip dislocation improves patient functionality. Secondary aim is to evaluate those who underwent arthroscopy for loose bodies. **Methods:** With IRB approval, a prospective cohort of 14 patients that suffered a traumatic simple hip dislocation wi-

thout radiographic evidence of loose bodies was conducted. Patients were divided into two groups: Group 1 consisted of (8) patients that were assigned to undergo diagnostic hip arthroscopy and group 2 were (6) assigned to the conservative management. Clinical outcome evaluation was made using the Harris Hip score. Diagnostic arthroscopy was used to assess loose bodies in the surgical group. Results: The average Harris Hip score for Group 1 at 2 weeks post management, 3 months and 6 months are as follow: 79.4, 91.5 and 96.2. For group 2 Harris Hip score are as follow: 77, 85, 89.3. At 2 weeks and 3 months there was no statistical significance. Only at 6 months there was a statistical significant result ($p=.036$). Diagnostic arthroscopy showed loose bodies in 87.5% of the cases. Conclusion: Short term outcomes show similar results except at 6 months follow up. There was a high frequency of associated loose bodies in the arthroscopic evaluation. Further follow up time and larger sample size are needed to make a clear decision on the use of diagnostic arthroscopy for acute simple hip dislocation. Acknowledgements: No Funding Sources or Disclosures

P-06 Providing 3D Printed Prosthetic Hands to Socio-economically disadvantaged and Underrepresented Puerto Rican Children

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Background & Objectives: The BioInnovation Suite, at the UPR, strives to apply new technologies and approaches to biomedical research. Three-dimensional printing (3D printing) is one of these cost-efficient technologies and is executed globally with a unique impact on biomedical applications. Collaboration has been established with the Hand Challenge Organization, a non-profit organization in South Carolina, to provide 3D manufactured functional hands to address the needs of economically disadvantaged children. The objective of our project was to demonstrate that we could produce 3D printed prosthetic hands at low cost. Methods: Utilizing the 3D WOX Sindoh Printer, three prosthetic design files were selected for evaluation based on the hand-closing capacity and cost-efficiency. The Netfabb Basic program was employed to correct any slicing errors in the STL design files and 3DWOX Sindoh Desktop program was used to enter the machine parameters into the G.CODE files used to control the printer. The hands were printed using filaments of Polylactic Acid (PLA). Results: We successfully printed three hand designs: the “Snap-Together Robohand”, the “K-1 Hand” and the “Raptor” prosthetic hand. Each hand design required 10-13 hours to print completely. Arrangements are in progress to identify Puerto Rican children who could be-

nefit from the 3D prosthetic hands produced at the BioInnovation Suite. Conclusion: We have demonstrated our capacity to produce functional prosthetic hand designs. It is our intention to provide free prosthetic hands to Puerto Rican children, especially those from economically disadvantaged areas. Acknowledgements: RCMI Program G12-MD 007600, Deanship School of Medicine, UPR Medical Sciences Campus.

P-07 Dietary patterns and risk of colorectal neoplasia in Puerto Rican Hispanics: A case-control study.

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Background and Objectives: Colorectal cancer (CRC) is the leading cause of cancer death in Puerto Rico. It is well accepted that modifiable lifestyle habits contribute to CRC development. A healthy diet could reduce up to 70% of CRC cases. Puerto Rican Hispanics (PRH) have been shown to have a distinct diet compared to US non-Hispanic Whites (NHW). The objective of this study was to describe the association of specific food groups consumption with colorectal neoplasia risk in PRH. Methods: The validated Colon Cancer Family Registry food frequency questionnaire was administered to healthy individuals and individuals with CRN recruited through the Puerto Rico Colorectal Cancer Registry. Models adjusted for age, gender, educational attainment and family history of CRC were fitted to estimate the odds ratios (OR) with 95% confidence intervals (CI) through a polytomous logistic regression models comparing cases and controls. Results: A total of 254 controls, 50 polyps, and 273 CRC were included. Adjusted models showed that a higher consumption of fruits and full-fat dairy were associated with decreased risk of polyps ($p<.05$). Also, a frequency of consumption of 2-4 times per week, when compared to ≤ 1 per week of full-fat dairy, seafood, and red meats were associated with a decreased risk of CRC ($p<.05$). Conclusion: Educational interventions for cancer prevention in PRH should incorporate nutritional information tailor to our community. Acknowledgements: This work was partially supported by the National Institute on Minority Health Disparities Award Number 8U54MD 007587-03 and U54MD007587. The authors report no conflicts of interest.

P-08 Prevalence and main causes of mortality in a teaching Pediatric Intensive Care Unit in Puerto Rico: a 30 years overview

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Background: Recent studies show that mortality rate in Pediatric Intensive Care Units (PICU) in the United States has decreased through decades. The overall mortality rate is 2-5%. **Methods:** An observational retrospective study was conducted to evaluate mortality and its main causes. Data was collected from PICU logbooks from 1980-2016. Demographic information, cause of death, admission and deceased date, PICU length of stay and mechanical ventilation was collected. The inclusion criteria for any patient of 0 to 21 years of age. **Results:** PICU statistics revealed that mortality rate has decreased in the last years, being lower than the national mortality rate. This reduction has been due to advances in Public Health in Puerto Rico, epidemiological changes (vaccines), prevention measures, health care patterns (hospital infrastructure), and funds for the acquisition of new medical advances. The main causes of death were sepsis and traumatic brain injuries. **Conclusions:** It is essential to understand which are the leading causes of death to create measures and public policies that can cause an impact on the disclosed problems. By understanding how the course of mortality has been unfolded in pediatric patients in Puerto Rico, we can help determine how future deaths can be prevented and how can chronic complex conditions be better treated. **Acknowledgements:** We want to thank all the personal of Pediatric Intensive Care Unit of UPR School of Medicine for provide the statistical of those years and Jose Teron for print the poster of this investigation.

P-09 Family presence during CPR Policy Acceptance: A Quality Improvement Initiative

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Background:The American Heart Association (AHA) advocates for family witnessed resuscitation (FWR) and recommends that family members be allowed to witness Cardio Pulmonary Resuscitation (CPR) attempts when appropriate. Mixed thoughts amongst health care providers (HCP) still exist today. Our aim was to developed a FWR policy for the Hospital UPR Emergency Department (ED), train the nursing staff, and then assess their support. We hypothesize that FWR policy will be an accepted practice among ED staff after policy development and staff training. **Method:** A policy for

FWR was developed and approved by the ED Medical Director. Then, we reached out to the nursing staff and provided a short presentation with the definition, data about the practice, and explained the policy. A survey was administered to assess if, through education, acceptance of the policy was able to be promoted. **Results:** We were able to give the education and survey to 36/40 Emergency Department Nurses. 72% were females and 28% were males. 66.7% of the surveyed nurses were unaware of the AHA recommendations for FWR. After the education was given, none of them were opposed to the FWR policy. 11% were ambiguous and 89% were in favor. **Conclusions:** FWR is an accepted practice that also promotes patient and family centered care. Through nursing education, we were able to increase awareness, clarify misconceptions and promote the practice for appropriate patients and family members. Ultimately, this efforts promote better ED quality of care during resuscitations. **Acknowledgement:** No funding or conflict of interest to disclose.

P-10 Preparation of curcumin analog nanoparticles and determination of their anticancer activity in prostate cancer

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Prostate cancer is the most frequently diagnosed cancer and the second cause of cancer-related deaths in American men. Bioavailability of therapeutic agents is important for the treatment effectiveness. Previous studies have shown that the development of nanoparticles (NPs) drug delivery vehicles offers an opportunity for targeted drug delivery to tumor cells. Natural compounds such as curcumin have shown decreased bioavailability and stability when used as anticancer agents. Therefore, the purpose of this study is to synthesize the curcumin analog m-nitrochalcone (3bNChalc) encapsulated into poly (lactic-co-glycolic acid) (PLGA) NPs and determine the anticancer activity against prostate cancer cell lines. In our approach, 3bNChalc were encapsulated into PLGA NPs in the presence of PVA using the single emulsion-solvent evaporation method.

3bNChalc loading, encapsulation efficiency, and drug release was determined by spectrophotometric techniques. Physico-chemical properties such as zeta potential, particle size, polydispersity index (PDI), and morphology was measured using a combination of Dynamic Light Scattering (DLS) and Scanning Electron Microscopy (SEM). Cell viability and proliferation of PC3 and 22RV1 prostate cancer cell lines treated with 3bNChalc NPs and control were assessed using the MTS assay. 3bNChalc PLGA NPs were found to have a particle size of 250 nm, smooth spherical shape, and negatively charged. Moreover, PC3 cells treated with 3bNChalc PLGA NPs showed decreased in viability and proliferation when compared to control, suggesting that PLGA improves the delivery of 3bNChalc inside the cell. Results of our study will impact broadly the field by developing more effective and less toxic PLGA NPs based therapies.

P-11 Madres Primerizas de Treinta Años o más y sus Características Sociodemográficas en Puerto Rico: 1995 -2014.

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Trasfondo/Objetivos: La fecundidad en Puerto Rico ha disminuido, los últimos años, sin embargo el número de madres teniendo su primer hijo a edades mayores ha experimentado un incremento. Este estudio describe la tendencia y las características sociodemográficas de las primíparas de treinta años o más en Puerto Rico entre 1995, 2005 y 2014 y se compararán con las menores de 30 años. Metodología: La investigación que se llevó a cabo fue de tipo descriptiva. La información utilizada procede de los archivos de los certificados de nacimiento provistos por el Registro Demográfico del Departamento de Salud. Resultados: En 1995 el 11.1 por ciento de los primeros nacimientos provenían de mujeres de 30 años o más. En 2014 esta proporción aumentó a 16.5 por ciento. Mientras en estos grupos de edades se redujeron las mujeres casadas casi se duplicaron las que no viven con el padre de la criatura (8.9% en 1995; 13.2% en 2014) y las que conviven (16.2% en 1995; 25.5% en 2014). En 1995 la escolaridad de las primerizas de 30 años o más disminuía con la edad mientras que en 2014 se acrecentaba. Conclusión: Las mujeres solteras y más educadas parecen postergar la maternidad y comienzan su prole en su tercera década de vida. Los datos examinados además sugieren que la institución del matrimonio ha perdido fuerza en la sociedad puertorriqueña. Además de la disminución de la fecundidad sobresale aún más el desinterés de oficializar las uniones indistintamente de la edad.

P-12 Perfil de las características sociodemográficas y de salud de las madres y los nacimientos concebidos fuera de matrimonio en Puerto Rico: 1981 a 2014

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Trasfondo/Objetivos: En las últimas décadas, 1981 al 2014, en Puerto Rico se ha observado una merma en la fecundidad. Actualmente, la proporción de nacimientos extramaritales representa dos terceras partes de los nacimientos. La fecundidad no conyugal se divide en: fecundidad de cohabitación y de madres solteras. Este estudio pretende describir desigualdades con respecto al estado conyugal y cómo influyen en los nacimientos. Método: Esta investigación es descriptiva. Se utilizaron los nacimientos del Registro Demográfico. Las bases de datos abarcan el total de nacimientos ocurridos cada año. Esta contiene características sociodemográficas y de salud referente a los nacimientos y sus progenitores. El estado conyugal de la madre, la edad, la educación y el peso del niño al nacer, entre otras, se presentan como variables de interés. Resultados: En el 2014, las casadas son mayores (28.8 años) que las unidas consensualmente (24.9) y que las solteras (23.6). Casi la totalidad de hijos de madres que conviven con su pareja fueron reconocidos por sus padres (98.7%) comparado con 82.4% de los hijos de madres solteras. Esta proporción se acerca a una quinta parte en las adolescentes y añosas (40 años o más). El 14.9% de casadas recibieron un cuidado prenatal inadecuado comparado con 23.6% de las unidas consensualmente y 14.9% de las solteras. Conclusión: El hecho de que las parejas hayan restado interés por la formalización de sus uniones no necesariamente tenga implicaciones en el estado jurídico del niño, puesto la proporción de niños no reconocidos en parejas que conviven es reducida.

P-13 A Center for the Rapid Analysis of Clinical-grade Biologics: The Biophysical Characterization of HIV-1 Env Protein as a Vaccine Candidate

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Background: The development of a vaccine against the human immunodeficiency virus (HIV) is of paramount importance to halt the spread of the virus. Hurdles associated with production

yield, purification strategy and in vitro stability hinder the vaccine candidates' development as a biopharmaceutical. Objective: Our goal is to streamline the vaccine development pipeline from a promising lead to the clinic, in part by developing state-of-the-art analytical tools to characterize and to quickly monitor the quality of HIV-1 Env protein, a new vaccine candidate. Methods/Results: The purity of HIV-1 Env glycoprotein was determined by capillary electrophoresis, which provides a higher sensitivity of detection of impurities and better resolution than regular gel electrophoresis. Host cell protein content was measured using bilayer interferometry, which has a greater precision and linear range than available ELISA-based assays. Imaged capillary isoelectric focusing results highlight the charge heterogeneity of HIV-1 Env protein. The binding affinity of the broadly neutralizing antibody, 4E10, to HIV-1 Env protein was determined by bilayer interferometry. The glycan profile obtained by MALDI mass spectrometry showed that recombinant HIV-1 Env protein glycans are distinct from HIV-1 BaL native virion glycans. Our analytical tools are implemented to ensure that protein expression and purification conditions do not change the integrity, bioactivity, and therapeutic properties of a vaccine. Conclusion: Good manufacturing practices-compliant experimental tools were developed to monitor the quality of HIV-1 Env protein with the goal of boosting production yields to expedite its success onto clinical trials. Acknowledgements: Supported by NIH-NIAID R01AI22935 and by NIH-NIMHD 8G12MD007600.

P-14 Comparison between Levetiracetam and Phenobarbital in the treatment of neonatal seizures: A Retrospective Study.

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Neonatal seizures affect 1.5% of all newborns and may be associated with poor neurodevelopmental outcomes. Previous studies suggest that Levetiracetam (LVT) may be as effective as Phenobarbital (PHB) in the treatment of neonatal seizures, however, no studies have described treatment outcomes when either drug is used as initial therapy. Medical records of neonates (≥ 28 to 40 weeks' gestational age (WGA)) treated with either LVT or PHB for neonatal seizures, were retrospectively reviewed. Treatment outcomes included seizure freedom 24 hours after initial treatment, requirement for additional antiepileptic drugs (AEDs), length of hospital stay, and need of continued AEDs upon discharge. A total of 64 neonates met inclusion criteria, with 33 receiving LVT and 31 receiving PHB as initial therapy. Compared to LVT, the PHB group showed

a lower gestational age (33WGA vs. 36WGA $P=0.029$) and birthweight (2.2kg vs. 2.7kg $P=0.038$), however, there were no significant differences in APGAR scores, seizure etiology, neuroimaging, electroencephalogram or neurological exam findings. Seizure freedom was achieved 24 hours after initial therapy in 68% of neonates treated with PHB and 61% treated with LVT ($P=0.79$). Of the neonates treated initially with PHB, 23% required additional AEDs to control events vs. 30% of those treated with LVT ($P=0.48$). There were no significant differences on number of days to achieved seizure cessation, length of hospital stays or need of AEDs upon discharge between both groups. Adverse reactions were not reported on either groups. Our findings suggest that LVT is an equally effective and safe treatment option for neonatal seizures.

P-15 Motivation for active aging: A pilot project among retired workers of Puerto Rico

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Background and Objectives: Active aging is a process to optimize opportunities for a better health, participation, and security, leading to improved quality of life for older adults. This pilot study explored life satisfaction and motivation for active aging among retirees. Methods: Participants of this cross-sectional study were 125 adults aged ≥ 50 years who were members of the Employees Retirement System of the Government of Puerto Rico. A structured self-administered questionnaire collected data on sociodemographic characteristics, health status, and engagement in paid work, volunteer work, family caregiving, and leisure activities. The Life Satisfaction Index for the Third Age (12 items) and Motivation for Active Aging (motivation for paid work, volunteer work, family caregiving, and leisure activities) scales were adapted prior to use in the study. Results: Nearly two-thirds of retirees were women, with a median age of 70 years. Over two-thirds (67.2%) of retirees reported overall satisfaction with their life. Most retirees (79.2%) engaged in leisure activities, 48% participated in voluntary work, 45.6% engaged in family caregiving, and 21.6% in paid work. The percentage of retirees that engaged in paid work was significantly higher for males ($p=0.006$) and those with annual incomes $> \$3,000$ ($p < 0.001$); however, vo-

luntary work was significantly more frequent among women ($p=0.015$). Retirees engaged in family caregiving were significantly younger than those who did not engage in this activity ($p=0.033$). Conclusion: Confirmation of these findings are needed prior to establishing a life-long learning policy with prevention strategies and awareness-raising programs for this growing segment of the population. Acknowledgements: The authors disclose no conflict of interests.

P-16 Analysis of Association of Body Mass Index to Endometrial Cancer Staging in a Cohort of Hispanic Women Living in Puerto Rico

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Background & Objective: Endometrial cancer is the 4th most common type of cancer among women in Puerto Rico and the United States. Most cases of endometrial cancer are associated to unopposed estrogen, being obesity a strong risk factor for this development. Prevalence of obesity in Puerto Rico is about 66.1% and is in increasing trend, which correlates with the increase in endometrial cancer rate noted in the past few years. The aim of this study is to determine the association between BMI and worsening endometrial cancer staging in a group of Hispanic women in Puerto Rico. Methods: A retrospective record review of women diagnosed with primary endometrial cancer at the Gynecologic Oncology Clinic of the Department of Obstetrics and Gynecology at the University Hospital. Eligible case subjects were patients over 21 y/o with diagnosis confirmed histologically. Results: A total of 153 patients diagnosed with adenocarcinoma of endometrium between years 2009-2013 were included in our study. Of this patient group, 96 patients had stage I disease and 31 patients had stage II, the remaining patients had advanced disease. When comparing the results obtained for staging and BMI there was no significant association between BMI and worsening staging of disease. Our Puertorrican patients do not seem to have more aggressive disease with increasing BMI, as has been reported with other Hispanic populations. Conclusion: There is no true association between higher BMI levels and worsening stage of disease. Acknowledgment: No conflict of interest.

P-17 Co-loading as a Prevention Strategy for Spinal Induced Hypotension in C-Sections

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Clinical Question: In full term pregnant women undergoing C-Section with spinal anesthesia (P) how does co-loading with crystalloids and phenylephrine therapy (I) compared to traditional crystalloid hydration (C) reduce episodes of hypotension (O) in the intraoperative phase? Scope: Spinal-induced hypotension (SIH) is the most common complication associated with spinal anesthesia for cesarean delivery, with an incidence ranging from 25% to 75%. There are no fluid management guidelines and patient care is relied on healthcare provider's knowledge and skills. Literature Review: Co-loading of crystalloids and vasopressors significantly reduces the incidence of SIH, and is the newest approach since preloading has proven ineffective. Among vasopressors, recent evidence establishes that phenylephrine is the agent of choice because of its reduced complications in the parturient and fetus. Project Implementation: In this project, 8 gravid patients who underwent elective C-Section were selected to receive Co-loading of IVF's with a phenylephrine infusion. Results: None of the participants showed SIH. There was no decrease in blood pressure below the accepted 20% deviation from baseline. Following spinal administration, participants' blood pressures and heart rates remained within normal limits (60-120/min) until delivery. None presented nausea or vomiting. Reported Apgar Scores varied between 8 and 10, usually 8 at one minute and 10 at five minutes. Implication: By implementing this clinical management CRNAS and anesthesia providers will have greater control of clients hemodynamics and volume status because they will be the ones providing the fluids and vasopressor based on patients requirements.

P-18 Life-Threatening Hyperkalemia: When Dialysis is not an Option

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Purpose: Hyperkalemia is a clinical electrolyte abnormality associated with electrophysiological disturbances. It has been reported mostly in patients with chronic kidney disease, and could be exacerbated with predisposing factors leading to medical emergencies. Case description: An 86-year-old man comes to the emergency room complaining of nausea, and vomiting the previous day. Upon interview, he became unresponsive; advanced cardiac life support was required, mechanical ventilatory support was started, and an external pacemaker was inserted due to a complete heart block. Clinical approach: Laboratories revealed potassium of 8.8 mEq/L, creatinine of 8.9 mg/dl,

arterial blood gases with pH of 7.105, lactic acid 8.8 mmol/L, and an INR of 4.4. He received intravenous calcium gluconate, insulin with hypertonic glucose, sodium bicarbonate in dextrose water, and sodium polystyrene sulfonate. Emergent dialysis was considered; however it was delayed until the INR was corrected. Within 24 hours intermittent and continuous dialysis was performed for removal of Metformin, electrolyte disturbances, and acidosis. Clinical findings: On day 2 after hemodialysis, serum potassium lowered to 4.2 mEq/L and lactic acidosis improved from 8.8 to 3.5 mmol/L. By day 3 to 5 lactic acidosis was resolved, and patient was extubated; on day 8 the patient was transferred to the internal medicine ward. Hypothesis: Prompt and aggressive management to reduce electrophysiological disturbances and toxicity are the cornerstone among medical settings. Physicians need to be well informed of non-invasive therapies as invasive potassium removal therapies may not be readily available.

P-19 An Atypical Presentation of an Uncommon Diagnosis: Epidural Abscess

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Purpose: Spinal epidural abscess (SEA) is an uncommon disease with a variety of clinical presentations. The disease's triad of back pain, fever and neurological deficits is seldom present. SEA incidence has risen from 0.2/10,000 to 3/10,000, but it's still missed in 75% of cases. Delay in diagnosis may lead to permanent neurological damage and mortality from 2-20%. Case Description: We present the case of a 35 y/o diabetic male who walks into Emergency Department (ED) with 1 week of chest pain. He also reported mild back pain irradiated from chest onto bilateral trapezius muscles. Clinical Findings: Physical examination was remarkable for tachycardia at 115 bpm without fever. All labs, chest X-ray and CT scan were normal. Patient was consulted for intractable chest pain and tachycardia, eventually being discharged. He returned 2 days later with mild jaundice in addition to pain. During admission, he developed lower extremity weakness and urinary retention. Thoracic MRI showed a T3-T8 SEA. Patient was managed medically due to the extent of irreversible damage. Hypothesis: This patient had rare presentation of SEA since chest pain and tachycardia were the predominant initial complaints. Increased awareness is essential for rapid recognition especially when other more common diagnosis were excluded. ESR is the only laboratory found elevated in approximately 95% of cases, therefore, while unspecific, it is clinically useful. Emergency Physicians can use ESR and CT myelogram in settings where MRI is not available. However, awareness is key in order to provide early diagnosis and decrease its potentially catastrophic consequences.

P-20 Pacemaker Insight: Slight Physiological Changes after Permanent Pacemaker Implantation

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Puerto Rico, as well as worldwide, has a high incidence of cardiovascular diseases. Permanent pacemakers are known to be beneficial for many patients with cardiovascular diseases; however, it is not known if the permanent pacemaker implantation (PPM) has a physiological impact after its placement. A retrospective medical record was made at an Interventional Cardiologist Office located at Centro Cardiovascular de Puerto Rico y del Caribe to compare clinical and laboratory indicators before and after PPM. One-hundred and two records of patients receiving a permanent pacemaker during the period 2000-2014 were reviewed. Clinical indicators and laboratory test results were collected the year before and the year after PPM. We use standard values and laboratory reference to flag the results as normal, high, and low. In case that a year before/after was unavailable, we used the next available year, up to five years. Descriptive statistics and comparison between groups were done using paired t-test and Pearson Chi-square. P-values below 0.05 were considered statistically significant. Only four laboratory indicators showed significant improvements: BUN, FBS/glucose, glomerular filtration rate and triglycerides. Five laboratory indicators showed significant negative changes: T7, TSH, hemoglobin, glucose, and AST. No significant differences were found in other clinical indicators. We conclude that permanent pacemaker implantation may cause several positive and negative physiological changes in patients with cardiovascular disease. Further studies are necessary to assess the impact of these changes. This study was supported by the UPR School of Medicine Endowed Health Services Research Center, Awards: 5S21MD000242 and 5S21MD000138. Approved by IRB.

P-21 Nivel de Conocimiento y Actitudes en la Mujer sobre el Parto Vaginal Después de Cesárea

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Trasfondo y Objetivos: El parto vaginal después de cesárea, mejor conocido en inglés como VBAC (vaginal birth after cesarean), es un modo de alumbramiento por el cual una mujer embarazada, con historial médico previo de cesárea, es sometida a un trabajo de parto para lograr un parto vaginal. El mismo le

provee una recuperación pos parto más rápida, permite el inicio temprano y la continuación efectiva de la lactancia y fortalece el apego entre la madre y el neonato. Por lo tanto, este estudio tiene como propósito determinar el nivel de conocimiento y describir las actitudes que poseen las mujeres sobre el parto vaginal después de cesárea. Métodos: Se realizó una investigación cuantitativa, descriptiva y correlacional. Este estudio se realizó en El Programa WIC en distintas clínicas de la región de San Juan. La muestra estuvo compuesta por 81 mujeres con historial previo de cesárea en algún embarazo. Hallazgos: Los hallazgos de este estudio indican que el 71.6% de las mujeres poseían un alto nivel de conocimiento sobre el parto vaginal después de cesárea. Las mujeres que habían recibido orientación anteriormente sobre el parto vaginal después de cesárea mostraron tener mayor conocimiento y una actitud más positiva hacia el mismo versus las que no habían recibido orientación previa. Conclusiones: Los resultados sugieren que la mayoría de las participantes poseían un buen nivel de conocimiento sobre el parto vaginal después de cesárea. A su vez, esto fomenta una actitud positiva hacia dicho modo de alumbramiento. Reconocimientos: Ninguno.

P-22 Psychometric Properties of the Child Behavior Checklist Externalizing Scales among Adolescents from Puerto Rico with Type 1 Diabetes

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Background and Objectives: Adolescents' aggressive and rule-breaking behaviors (externalizing problems) complicate the already difficult Type 1 Diabetes (T1D) treatment regimen. The Child Behavior Checklist (CBCL) is the most commonly used parent-rated measure of externalizing problems. No published study has tested the psychometrics of CBCL-Externalizing scales (ES) with T1D adolescents from Puerto Rico, which is our current goal. We expected a reliability coefficient $\geq .75$ for these scales, and significant correlations with other measures, supporting its validity. Methods: Participants were 51 T1D youth (aged 12-17 years), enrolled in a depression treatment study (IRB#1112-005). Adolescents and one parent each completed several measures. We used Cronbach's alpha to estimate the internal consistency of CBCL-ES, and Pearson's correlation to assess its concurrent and construct validity. Results: The internal consistency for Total-ES scores was .91. Coefficients of .79 (Delinquency) and .88 (Aggressive Behavior)

were found for its subscales. Supporting its concurrent validity, externalizing scores correlated ($p \leq .05$) with parent-rated family conflict and adolescent hostility-resistance. Evidencing its construct validity, externalizing scores converged with youth self-reports of interpersonal, helplessness, death thoughts, cognitive-related, self-esteem/guilt, and quality of life problems. These scores also converged with parental burden and ratings of children internalizing behaviors, depression, and barriers to T1D adherence. CBCL-ES scores diverged from youth global functioning, self-efficacy for depression (Thoughts subscale), adherence to diet, family cohesion and expressiveness, and diabetic-specific family support. Conclusions: Our findings document the reliability and validity of these measures when used with youth with T1D from Puerto Rico. Acknowledgements: This study was funded by NIDDK (R03DK092547).

P-23 Reliability and Validity of Type 1 Diabetes Self-Efficacy Ratings among Adolescents from Puerto Rico

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Background and Objectives: Diabetes self-efficacy (DSE) is the confidence in one's ability to appropriately conduct self-care behaviors. Adolescents with Type 1 Diabetes (T1D) are particularly in need for developing self-efficacy given their difficult treatment regimen and the usual demands of adolescence. Although a diabetes self-efficacy scale has been previously used with Puerto Rican youth, there are no published studies available examining its psychometric properties, which is our current goal. We expected a reliability coefficient $\geq .80$ for the scale, and significant correlations with other measures, supporting its validity. Methods: Participants were 51 T1D youth (aged 12-17 years), enrolled in a depression treatment study (IRB#1112-005). Adolescents and one parent each completed several measures. We used Cronbach's alpha to estimate the internal consistency of the measure, and Pearson's correlation to assess its concurrent and construct validity. Results: The internal consistency of the Self-Efficacy for Diabetes Scale was .91 for its standard 35-item version, and .89 for its 25-item version (Diabetes Self-Efficacy Scale). Supporting its concurrent validity, DSE scores correlated ($p \leq .05$) with youth self-efficacy for depression. Evidencing its construct validity, these scores converged with youth self-reports of satisfaction with life and perceived diabetes-specific family support, and parent-reports of adolescents' adherence to T1D self-care. DSE scores diverged from youth self-reports of negative mood and self-esteem, anxiety, helplessness, cognitive alterations, death thoughts, and quality of life problems.

Conclusions: Our findings document the reliability and validity of this measure when used with youth with T1D from Puerto Rico. Acknowledgements: This study was funded by NIDDK (R03DK092547).

P-24 University of Puerto Rico Emergency Medicine Residency Program: Its Footprint in Puerto Rico and the United States

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Background and Objectives: The University of Puerto Rico Emergency Medicine (UPREM) Residency program is the first emergency medicine program founded in Puerto Rico. It has been training physicians since 1994, and is currently based in the Hospital UPR Dr. Federico Trilla in Carolina, Puerto Rico. The main purpose of this study is to determine where are the UPREM alumni working in Puerto Rico and the United States (US). Methods: A telephone survey was performed to UPREM residency graduates from 1995-2016. We inquired about current practice, working location and board certification status. Certification status was verified using the American Board of Medical Specialties website. Data was organized and tabulated using Microsoft Excel. Results: Of 185 UPREM graduates, the gender distribution is 54.3% male and 45.7% female. 40.2% work in Puerto Rico. Of those; 64.3% work in the San Juan, Humacao and Carolina senatorial districts, and 35.7% in the remaining five. Among those in the US, 64.5% are practicing in either Florida or Texas. 70.6% graduates are currently board certified by the American Board of Emergency Medicine (ABEM). Conclusion: Most of Puerto Rico UPREM alumni are working in 3 of the 8 senatorial districts leaving a significant percent of the population underserved. Motives for alumni district preference and relocation to mainland US need to be addressed through further research. Acknowledgements: No conflicts of interests. No funding was used for this study.

P-25 Burden of Diseases versus GDP per Capita: An International Panel Data Analysis

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Background: The Preston curve shows a positive but non-linear relationship between national income per capita and life expectancy at birth which implies that as countries become richer marginal increases in life expectancy tends to decrease. The objective of this study is to validate if a similar relationship exists between disability-adjusted-life-year rates (DALYs) rates for general causes, communicable and non-communicable diseases, and injuries with the gross domestic product per capita (GDPPC) of a country. Methods: A panel data set for

182 countries by quinquennial years from 1990 to 2015 was used to performed panel regression analyses to estimate the elasticity of DALYs rates with respect to GDPPC controlling for the age structure and size of the population, secular trends, intrinsic characteristics of the countries, and the endogeneity of GDPPC. Results: The results show, an inverse Preston curve and the estimated average elasticity was $-.1572$ [95% CI; $-.2048, -.1095$] which means that a 10.0% increase in GDPPC is associated with a decrease of -1.6% in the DALYs rates for all causes. However, the average elasticity for communicable diseases ($-.3009$) was larger than non-communicable diseases ($-.1316$) and injuries ($-.1670$). Conclusion: Economic growth seems to have a negative and nonlinear association with the burden of diseases by type of disease but the challenge for policy makers is to maintain a healthy economy which also provides the resources for strengthening the proactive and protective role of the health system and to implement health for all policies. Acknowledgements: This research was not funded by any grant.

P-26 Isolated Fallopian Tube Torsion in the presence of a Paratubal Cyst

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Purpose: Isolated fallopian tube torsion is an unusual with an estimated incidence of 1 in 1,500,000 women. Presents similarly to ovarian torsion, and seldom a diagnosis is made before surgical exploration. High index of suspicion is crucial since rapid detorsion can help prevent ischemic tubal injury. Case description: A 10 year old perimenarchial female with BMI 29.4 presents with one day history of acute, constant right pelvic pain without radiation, and associated nausea. Physical exam revealed tenderness to palpation in right lower quadrant without guarding or rebound. Vital signs show mild tachycardia. Clinical Approach: Laboratories revealed leukocytosis. CT scan showed normal appendix and suspected right adnexal cyst. Pelvic ultrasound demonstrated right adnexa of 9.4 cm, with a cystic septated area of 7.8 cm and blood flow surrounding in right ovary. Left ovary and uterus were normal. Clinical findings: Exploratory laparoscopy revealed torsion of right necrotic fallopian tube with an adnexal cystic structure and normal right ovary. Detorsion performed with no improvement of necrosis. Clear liquid was drained for the cystic mass. Partial salpingectomy with fimbriectomy and cyst removal was performed. Right ovary was left in place. Left fallopian tube and ovary found within normal limits. Patholo-

gy was consistent with fallopian tube and paratubal cyst with wall hemorrhage. Hypothesis: How to suspect tubal torsion in patients with sonographic findings of normal ovarian blood flow? Conclusion: High suspicion of isolated tubal torsion despite sonographic findings of ovarian blood flow is crucial to preserve fertility and avoid ischemic necrosis of the fallopian tube.

P-27 Atypical Hand Foot and Mouth Disease: Case Presentation

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Purpose: Hand foot and Mouth Disease is a viral infection characterized by fever, malaise, herpangina and small blisters on the genital area, hands and feet. The most common agent is Coxsackievirus A16. Enterovirus 71 has had an increase incidence in large outbreaks on recent years. It is frequently more severe and associated with cardiopulmonary involvement and neurologic complications. Usual dermatologic manifestation has also been described, such as eczema coxsakium, petechia, purpura, and mucocutaneous reaction mimicking Stevens-Johnson syndrome. Case Description/ Findings: We report a healthy 10-month-old boy who presented with a rash characteristic of hand foot and mouth disease 6 months prior to admission, worsening at 3 months and then 1 week before hospitalization. The rash was associated with pruritus 1 week before admission. At initial evaluation at the hospital, he had an erythematous papular rash with vesicles, throughout the body including lips and gums. The rash was more prominent on legs, hands, feet, inguinal area and gluteal folds. Some crusted lesions ranging from yellow to black was also observed. Clinical Approach: Patient was admitted for further evaluation and consulted to dermatology service due to unusual progression and presentation. They agreed with the diagnosis of atypical hand foot and mouth disease. Hypothesis: Due to increased incidence of this disease, it is important to know about the unusual presentation of hand foot and mouth disease and to be aware of the possible recurrence in atypical Hand foot and mouth disease and severe presentation and complications, especially with enterovirus 71.

P-28 Analysis of Serum anti-Müllerian Hormone Values for Puerto Rican Women presenting to a Fertility Center.

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Introduction: The role of antimüllerian hormone (AMH) has been extensively studied with the intent to discover measures of ovarian dysfunction and reserve. AMH is a glycoprotein secreted by the gonads. Based on decreased AMH levels with aging, it has been proposed as a biomarker to assess ovarian reserve. Studies have been conducted to describe the tendency and age-specific rate of decline of AMH in different populations. It has been determined that hormone levels might vary depending on ethnicity. There are no studies done among Puerto Rican women describing such hormone. Methodology: In this study, we retrospectively analyzed medical records and documented antimüllerian hormone values from 250 Puerto Rican women presenting to a university-affiliated, fertility clinic. Using statistical analysis, we established an AMH nomogram to understand the age related decline of AMH in this population. Results: AMH values were represented as single point determinations in relation to age. Median, mean and standard deviation were calculated for the following age groups. For women aged 25-29 years, AMH mean value was 4.94 STD 3.2; 30-34yrs: 4.3 STD 5.7; 35- 39yrs: 2.5 STD 4.9; and 40+: 1.29 STD 1.5. The change in AMH levels for each age group was calculated as a percentage. Results showed a reduction of 47.7% and 73.8% when values of AMH were calculated for ages 35-39 and 40+ and compared to 25-29 years, respectively. Conclusion: Our results support that the rate of AMH decline increases with advancing age among Puerto Rican women. Acknowledgements: No conflict of interest.

P-29 Predictors of Depressive Symptomatology in Caregivers of Adolescents with Type 1 Diabetes and Depression

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Background and Objectives: Taking care of youth with Type 1 Diabetes (T1D) is related with increased burden and risk for emotional problems. Caregivers must deal with the loss of their child's health, hospitalizations, episodes of hypo/hyperglycemia, and further complications. The emotional demands of caring for a youth with T1D are higher if the adolescent presents depression. We assessed correlates and predictors of depression in caregivers (aged 32 to 58) of Latino adolescents (aged 12 to 17) with T1D and depression. Methods: Adolescents and their

parents were recruited for a youth depression treatment study (IRB# 1112-005). Caregivers completed the Beck Depression Inventory-II (BDI-II). We used Pearson's product-moment coefficient to examine correlates of parental depression, and multiple regression analysis to identify significant independent predictors of this symptomatology. Results: Adolescent's diagnostic status, T1D-related hospitalizations, parental ratings of their child's emotional/behavioral problems, caregivers' assessments of family functioning and adolescents' barriers to insulin-regimen adherence, and self-reports of parental burden and anxiety, were related to BDI-II scores ($p \leq .05$). Caregivers' ratings of youth depression, T1D-related hospitalizations, family functioning, and parental burden and anxiety were independent predictors of parental depression. Conclusion: Our findings suggest that the severity of adolescents' depression and T1D-related complications, lower family support, and higher parental anxiety and burden are important predictors of parental depression in this Latino population, irrespectively of family residential area and adolescent's biological sex. This study could inform the development of psychosocial interventions for caregivers of Latino adolescents with T1D and emotional problems. Acknowledgements: This study was funded by NIDDK (R03DK092547).

P-30 Pathways to Leadership: Exploring my Academic and Administrative skills in Dentistry

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The purpose of this study is to discover the pathways of leadership in a context of a Faculty-Student Partnership Model. Mentoring experiences are very meaningful in terms of providing effective accreditation in relation to professional skills development (Field & Philpott, 2000). It is known that a professor with two roles, administrative and academic, has a big commitment with the students, faculty, and academic community. To assume this role, it is essential to develop the necessary skills that influence in the quality of work at each level of the system. In order to learn and improve my skills to be a competent leader, the research stand out the characteristics for a successful teaching process and managing development of the Dental School as an institution. These two roles, academic and administrative, comprise a lot of different levels that I was exposed through a systemic observational process. This qualitative research used various techniques, such as, in-depth interviews, group discussions, shadowing in courses and the preparation and presentation at a lecture. The results revealed four basic characteristics of an academic leader. These are: 1.preparation, 2.passion, 3.initiative, and 4.balance. The results of this research provide to dental students quality information to improve and develop the key characteristics of a good academic leader should be characterized by.

P-31 Estimated Fetal Weight and Trial of Labor after Cesarean Section

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Objective: To determine if there is a relationship between the estimated fetal weight and the success of trial of vaginal birth among women with a previous cesarean delivery. 66 patients who underwent trial of labor after cesarean section (TOLAC) from 2013 to 2014 was selected for this study. A simple linear regression test was performed in order to establish the correlation between the estimated fetal weight (EFW) and TOLAC success. Analyzed data determined if there was a correlation between the EFW and the success of a vaginal birth after cesarean section. Results: The EFW in grams (g) on average was 3259g with a minimum 635g to a maximum 4,264g range. We found that 50% of the EFW was < 3,357 g and the other 50% > 3358 g. The AGA of all patients was of 39 weeks, of which 54.5% were found to have a gestational age of < 40 weeks and a 45.5% to have a gestational age > 40 weeks. The actual newborn weight on average of 3,291 g with a minimum of 635g and a maximum of 4,763g. A 53% had a weight < 3,357 g and a 47% had a weight > 3,357 g. At birth a 42% of cases were female and 58% were male. 21% of cases were unsuccessful and a 79% had a successful post cesarean birth. Conclusion: In carefully selected cases, TOLAC is safe and often successful. We found that there was a significant correlation between the EFW and TOLAC success.

P-32 Can Medical School Performance Serve As An Early Predictor Of Passing The American Board Of Pediatrics Certification Exam?

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Background: Early recognition of residents who struggle with medical knowledge (MK) competency provides ideal opportunities for developing early individualized learning interventions. However, data on pre-residency elements associated with suboptimal performance is limited. Objective: Identify elements of resident's school of medicine (SOM) academic record that may indicate risk of failing the American Board of Pediatrics (ABP) certification exam for first time takers. Metho-

dology: Retrospective review of residents completing pediatric residency from 2001-2015. SOM academic data included SOM attended, number of classes repeated in SOM, GPA Score, pediatrics rotation score and USMLE Steps pass or fail. Residency's MK competency outcome variable was ABP certification exam pass or fail on a first attempt. Mean/standard deviation, frequencies/percentages, Chi-Square/Fisher exact, t-test and logistic regressions were employed. Results: 171 residents were included, mean age 26.4 years (SD 2.7) and 82% females upon admission to pediatrics residency. 70% passed the ABP on a first attempt. 81% attended LCME-accredited SOM in Puerto Rico. Preclinical GPA > 3 (OR 5.2, CI 1.7-16.3) and not repeating a class in medical school (OR 0.2, CI 0.3-0.9) were associated with passing the ABP on residents' first attempt. Conclusion: To our knowledge, this is the first study that aims to identify predictors of ABP board exam pass in a predominantly native Spanish speaking population. Preclinical GPA < 3 and repeating a class in medical school were associated with failing ABP certification exam on a first attempt. Further data is necessary to see if findings are similar for other ACGME-accredited Pediatric Residency Programs.

P-33 Prophylactic Dexamethasone for Reduction of Postoperative Sore Throat after Tracheal Intubation
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Clinical Question: In adult patients requiring endotracheal intubation in the prone position (P), how does the use of prophylactic dexamethasone (I) compared to no treatment administered (C) affect the incidence postoperative sore throat (O) within the 1st, 6th, and 24 hours after extubation (T)? Scope: Postoperative sore throat (POST) has an incidence varying from 40-90% in patients undergoing general anesthesia, which results in an uncomfortable post anesthesia period. Currently, there is no established protocol for prevention of POST in our clinical setting. Literature Review: The evidence included 3 meta-analysis and 7 randomized control trials that stated Dexamethasone was effective at reducing incidence and severity of POST. Upon comparing the dosing regimens of all studies, 0.2 mg/kg of Dexamethasone was found to be the most effective. Project Implementation: Dexamethasone 0.2 mg/kg IV was administered preoperatively. Patients were asked to rate the severity of pain due to POST at 1, 6 and 24-hour intervals post-extubation using a 0 to 10 numeric rating scale in the post anesthesia care unit and/or ward. Results: Twenty-six patients, with a median age of 53, participated. Results show that 3.8%, 26.9%, and 15.4% of patients reported pain scores greater than

three at 1, 6, and 24 hours, respectively. Practice Implications: POST is one of the 10 outcomes that are important for patients to avoid after surgery and can increase the medical costs and duration of stay. Therefore, the prophylactic administration of Dexamethasone would increase patient satisfaction and possibly decrease medical costs.

P-34 Risk factors for Cervical Cancer among Hispanic Women living in Puerto Rico attending Colposcopy Clinics

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In Puerto Rico, cervical cancer is the seventh most commonly diagnosed cancer in women. HPV is the most common cause of cervical cancer. Risky sexual behaviors, reproductive factors, STD's, use of OCP's and other cofactors are associated with an increased risk of HPV infection and cervical cancer. The purpose of this study is to assess the risk factors for cervical cancer among women attending colposcopy clinics in San Juan and to compare them to those previously described in the medical literature. Descriptive analysis including X2 and logistic regression models was used to analyze the data collected. Overall, 34.4% was aged between 21 to 34 years old, 25.4% had a cervical cancer diagnosis, 39.9% were single, and 71.2% had an annual income of less than \$25,000. Four or more lifetime sexual partners was reported by 40.4%, whereas 44.4% represents women which had their first sexual intercourse between 17 to 20 years old. Approximately, 40.4% of women who reported that have been pregnant, had four or more full-term pregnancies, whereas 34.7% of those had their first pregnancy between 17 to 19 years old. A large amount of the sample reported no to use of oral contraceptive and no to use of condoms during sexual relations. However, the incidence of sexually transmitted diseases, such Gonorrhea and Chlamydia were very low. The variables with statistical significance were found between age, educational level, increased number of pregnancies, and diagnosis of cervical cancer. Further are needed to identify risk factors for cervical cancer in our population.

P-35 Media Use By Infants And Toddlers Without Direct Adult Supervision Increases The Risk Of Language Delay

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Introduction: Negative outcomes have been associated with media use in preschool and school-aged children. However, studies associating their effects in children younger than 2 years of age are limited. Frequent use of media can decrease time with their caretakers, important for language development. **Objective:** To assess media exposure and risk of language delay in young children. **Methods:** Self-administered questionnaire about media exposure and the Communication and Symbolic Behavior Scales Developmental Profile - Infant/Toddler Checklist to mothers of children 6-24 months old visiting a primary pediatrician. **Results:** Study subjects included 59 mothers. Children's mean age was 13 months. Risk of language delay was associated to male sex ($p=0.0308$), media use without adult supervision ($p=0.0391$) and poor daily interaction with adults ($p=0.0386$). No association was found with maternal age, gestational age, child age, more than 2 hours media use, background media use, or admission to NICU. **Conclusion:** The use of media in children 6 months to 24 months without direct adult supervision increases the risk of language delay. Parents need to be aware that while media use is very common in this era, its use by small children as an alternative to adult interaction might put them at risk of delayed language skills.

P-36 Chlamydia trachomatis infection in an infant delivered by Cesarean Section

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Purpose: Chlamydia trachomatis vertical transmission is expected in infants born via vaginal delivery to infected women. There are a few reported cases of transmission in infants delivered by cesarean section. C. trachomatis infection must be considered in all infants presenting compatible signs and symptoms independently of their delivery route. **Case description:** We report the case of a 1 month old female patient born at 36 weeks by cesarean delivery that presents with a 1 week history of purulent eye secretions, persistent cough and respiratory distress that required admission to the Pediatric Intensive Care Unit (PICU). **Clinical approach:** Patient was started on respiratory support with nasal continuous airway pressure (CPAP) and empiric antibiotic therapy. **Clinical findings:** Workup done for Chlamydia infection in both mother and patient showed positive immunoglobulin levels. Also, our patient was found positive for respiratory syncytial virus. Azithromycin was administered and patient improved without complications. **Hypothesis:** Chlamydia infection is not commonly reported in patients born by cesarean section. As pediatricians, we cannot overlook the possibility of this common

sexually transmitted infection in a patient that presents with cough, and even so when the course of infection differs from that of the common causes of cough, such as the respiratory syncytial virus or is present in association with other infection, as in our patient.

P-37 Case Report of IgM Multiple Myeloma: Diagnosing a Rare Hematologic Entity

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Purpose: IgM multiple myeloma is a rare hematologic entity comprising only less than 0.5% of multiple myeloma cases. Its rarity makes it a challenge to differentiate from more prevalent hematologic disorders like Waldenström's macroglobulinemia. Both have the common finding of an IgM monoclonal gammopathy and distinguishing between them is of great importance given that therapy and prognosis differ. **Case description:** We present a case of IgM multiple myeloma in a 64 year-old man who presented with low back pain, unexplained anemia, elevated total protein and L1-L3 compression fractures. **Clinical approach:** Serum and urine protein electrophoresis, Immunotyping, bone marrow biopsy, fluorescence in situ hybridization and gene mutation analysis were performed. **Clinical findings:** Electrophoresis revealed an elevated beta globulin and M-spike. Immunotyping showed monoclonal gammopathy with IgM lambda. Bone marrow biopsy revealed increased number of plasma cells and lymphocytes, flow cytometry and immunohistochemistry analysis revealed CD20 (-) CD56 (-) CD117 (-), fluorescence in situ hybridization was positive for t(11;14), MYD88 (L265P) gene mutation analysis was negative, lytic bone lesions were observed on x-rays and PET scan showed no organomegaly. These results are consistent with the rare diagnosis of IgM multiple myeloma. **Hypothesis:** Diagnosing IgM multiple myeloma is an extremely difficult task which requires a high index of suspicion and more accurate diagnostic methods. It should be considered early in the diagnosis of any patient with an IgM monoclonal gammopathy. By using this approach, more cases of IgM multiple myeloma will be diagnosed early which will lead to earlier treatment and better prognosis.

P-38 Effect of Compliance with the Enhanced Recovery After Surgery (ERAS) Protocol in the Outcomes of Colorectal Surgery Patients

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Background/Objective: The ERAS Protocol for Colorectal Surgery is a set of recommendations to guide all phases of the operative management of these patients. Our study focuses on the effect that compliance with this protocol has on the patient outcomes. **Methods:** A retrospective chart review was performed for all patients undergoing laparoscopic colectomy with primary anastomosis at Hospital Episcopal San Lucas, Ponce between July 2014 and September 2016. **Results:** A total of 68 laparoscopic colectomies were performed, with five (7.3%) requiring conversion to open procedure. Patients were stratified into 3 different groups according to their percent of compliance with the ERAS protocol criteria: Group 1: 0-25% (N=5), Group 2: 26-50% (N=25) and Group 3: 51-75% (N=38). There was no significant difference among the groups with respect to age, sex, BMI, or ASA score. The mean postoperative length of stay was: Group 1= 7.6 days, Group 2 = 4.6 days, and Group 3 = 3.3 days ($p < 0.001$). Meanwhile, the overall rate of complications for each group was: 100% for Group 1, 48% for Group 2, and 18.4% for Group 3 ($p < 0.001$). Anemia requiring transfusion and uncontrolled glycemia were the most frequent of these complications. There was only one death in the entire cohort. **Conclusion:** The implementation of the ERAS protocol in our institution has proven to be effective. Adherence to protocol criteria correlates directly to outcomes. Significant reduction occurred in the patient's length of stay, rate of complication, and return of bowel function.

P-39 Resveratrol enhances insulin-induced glucose uptake in human neuronal cells

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Purpose: Resveratrol, a compound found in a large number of plant species, has received considerable attention by improving insulin sensitivity and glucose metabolism in many disease states. Although these effects have been evaluated in different cells and tissue models, its role in human neuronal cells have never been explored. We hypothesized that Resveratrol will improve insulin-induced glucose uptake (GU) in human neuronal cells

by increasing their membrane-bound insulin receptors (IR). **Objective:** This study sought to analyze the effects of insulin and resveratrol concentrations on GU by human neuronal cells and quantify their IR levels. **Methods:** Human neuronal cells (SH-SY5Y; 5×10^5 cells) were cultured in the presence of insulin (1nM-1 μ M) at different incubation times (10-60min). Glucose uptake was measured by incubating cells with fluorescent glucose (10 μ M) and analyzed by flow cytometry (FC). In addition, cells were pretreated with resveratrol (100nM-1mM) for 24hrs and GU was measured by FC. The levels of IR in cells exposed to resveratrol were quantified by FC using an anti-IR-antibody followed by FITC-secondary antibody. **Results:** Insulin was able to induce maximal GU at a concentration and incubation time of 100nM and 30min, respectively. A significant increase ($p < 0.05$) in GU was observed when cells were pretreated with increasing resveratrol concentrations. The IR levels in the membrane significantly increased ($p < 0.05$) with resveratrol concentrations. **Conclusion:** Our results support that resveratrol enhances GU induced by insulin in neuronal cells. These effects are related to increased levels of IR induced by the compound. This research was supported by R01NS099036, R21MH095524, U54MD007587, G12MD007600.

P-40 Análisis comparativo de los derechos sexuales en las legislaciones referidas a las personas de edad avanzada en Puerto Rico y Estados Unidos

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Política pública analizada: Ley 121-1986 Carta de los Derechos de las Personas de Edad Avanzada en Puerto Rico que surge para asegurar la calidad de vida de estas personas. **Disciplina o teoría:** La salud pública tiene entre sus principios promover la justicia social, participación ciudadana y apoderamiento de las personas, para promover el bienestar general de la población a través del ejercicio de los derechos humanos. Un aspecto fundamental para esta acción es el disfrute de los derechos sexuales en esta población. **Fuentes de información:** Ley 121-1986, Ley 244 - 2003 para la Creación de Proyectos de Vivienda de "Vida Asistida" y reglamentos afines, "Older Americans Act of 1965, Title 42: Public Health, Part 483 Requirements for States and Long Term Care Facilities" y "Declaration of Sexual Rights de la World Association of Sexual Health". **Método:** Análisis de

contenido de estas leyes en relación a la Declaración. Hallazgos: Se presentan los derechos humanos en general; sin evidencia explícita de los derechos sexuales excepto el llamado al código penal: delitos sexuales. En Puerto Rico, los reglamentos afines contemplan algunos aspectos de estos derechos como capacitación profesional del personal y residentes en temas de sexualidad, autonomía, seguridad, no discriminación y privacidad en general. En Estados Unidos, se incluye, además y explícitamente, derechos a matrimonios del mismo género. Implicaciones: Es importante hacer explícitos los derechos sexuales en estas leyes y reglamentos y crear protocolos de manejo de situaciones relacionadas a la expresión sexual de esta población. Reconocimiento: Lcdo. José E. Andino Delgado

P-41 Effects of Hydrogen Peroxide and Calcium Blockers on the Response of the Isolated Rat Trachea to Electrical Field Stimulation in Low Temperature Condi

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Background and objectives: Low ambient temperature is a well-known trigger for asthma. Studies have shown that contraction of airway smooth muscle is enhanced by low temperature and depends on the presence of extracellular calcium. Reactive Oxygen Species (ROS) are a component of inflammatory reactions such as those involved in asthma but their role during low temperature conditions is unknown. We investigated how peroxide (H₂O₂) alters the response of the Electrical Field Stimulated (EFS) "in vitro" rat trachea (RT) at normal (37°C) and low (18°C) and the role of extracellular calcium in this effect. Methods: RTs from male Sprague Dawley rats were mounted in an isolated organ system and stimulated with EFS (40V, .5ms at 2Hz) at 37°C and 18°C in the presence and absence of H₂O₂ (.3mM) and after incubation with Diltiazem (Di 10uM) a calcium channel blocker. The data was recorded with a Grass FT.03 transducer, Grass FB7 amplifier and National Instruments recording program. Paired t statistics were used to analyze the data. Results: The presence of H₂O₂ reduced the EFS induced RT contraction at 37°C and 18°C. This effect was lower at 18°C. The tracheal responses to EFS were equally reduced by Di at 37°C and 18°C in the presence and absence of H₂O₂. Conclusion: The experiment suggests that in asthma the high levels of ROs derived from peroxides may enhance the response of airway smooth muscle to low ambient temperature with extracellular calcium playing a role in this mechanism. Acknowledgements: Supported by the UPR School of Medicine.

P-42 Inflammatory Myofibroblastic Tumor of the Urachus: Report of a case

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Purpose: Inflammatory myofibroblastic tumor is a lesion composed of spindle cells with predominant plasma cell inflammatory background. It occurs mainly in children and young adults, and is usually seen in lung, mesentery and omentum. The tumor usually behaves as a low grade sarcoma with a recurrence rate of 25% and metastasizes in less than 5%. We report a rare case located in the urachus. Case description: This is the case of a 46 year old man without previous illnesses who presents with persistent urinary tract infection. Urine cytology was suspicious for malignancy. An abdominopelvic CT scan presented a 4x3x2 cm mass associated with the urachal ligament. Clinical approach: The urachal mass was resected along with a biopsy of the urinary bladder. Immunohistochemistry was consistent with an inflammatory myofibroblastic tumor which presented areas of necrosis. The urinary bladder biopsy was negative for malignancy. Clinical findings: The neoplastic cells were positive for actin, vimentin and pankeratin (AE1-AE3). The ki67 (MIB1) proliferation index was 10-15%. The tumor was also positive for ALK1, with strong cytoplasmic staining, which led to the diagnosis of inflammatory myofibroblastic tumor. Hypothesis: The urachus is a fibrous remnant of the allantois, a canal that drains the urinary bladder of the fetus and runs within the umbilical cord. Different types of epithelial and non-epithelial cells remain within the urachus which give rise to many types of benign and malignant lesions, which include cysts, benign myofibroblastic proliferations, carcinomas and sarcomas. Inflammatory myofibroblastic tumor in this area is very rare. Acknowledgement: None.

P-43 Unclassified Sarcoma with Epithelioid Features of the Shoulder with Pulmonary Metastasis: A Case Report and Review of Literature

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Purpose: There are over 50 histological subtypes of soft tissue sarcomas. Epithelioid sarcoma (ES) is a soft tissue neoplasm affecting mainly young adults; frequently located in the fingers, hands, and forearms. The proximal-type ES is an aggressive subtype with a high rate of local recurrence, metastatic spread

and mortality; arising in deep tissues of proximal extremities, limb girdles or truncal locations. Unclassified or undifferentiated sarcoma with epithelioid features (USEF) is histologically similar to ES, presenting a different immunophenotype. Case description: We report the case of a high grade USEF localized on the shoulder with lung metastasis. This case is a recurrent USEF, diagnosed and treated three years before this biopsy, with poor response to Doxorubicin chemotherapy. Clinical approach: The recurrent tumor histology was consistent with proximal-type ES; immunohistochemistry (IHC) of the tumor was performed to confirm the diagnosis. Clinical findings: A large IHC panel revealed diffuse positivity for vimentin, cyclinD1, CD56, CD99 and INI-1; focal positivity for desmin, CK7 and CK8/18. Negativity for EMA, CA125 and CD34, which are usually positive in ES cases; with positivity for INI-1, which is usually negative in ES. IHC results supported a final diagnosis of USEF. Hypothesis: The important aspect of adequately subtyping sarcomas is to facilitate the evaluation of their response, as subtypes, to new therapeutic regimens. At this moment, chemotherapeutic agents for sarcomas with metastasis are scarce; a recent report shows Pazopanib, a multikinase inhibitor, as a therapeutic agent for sarcomas. In this case, treatment with Pazopanib will be implemented. Acknowledgements: None.

P-44 Primary infrarenal Inferior vena Cava leiomyosarcoma: A case Report

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Purpose: Primary tumors of the inferior vena cava are rare. Leiomyosarcoma is a malignant tumor that develops from smooth muscular fibers of the tunica media. Account for approximately 0.5 % of all sarcomas affecting adults. Surgical excision of tumor and affected inferior vena cava with negative margins is the only treatment shown to improve survival. Case Description: We report the case of a primary infrarenal inferior vena cava leiomyosarcoma; in a 61-year-old man, with a 3 day history of left leg swelling and left calf pain. Clinical Approach: CT-angiography of abdomen and pelvis revealed a lesion in the retroperitoneum that involved the inferior vena cava distal to the renal veins that measured

4 x 2 cm in diameter. Deep vein thrombosis throughout the entire distal iliac, common iliac and common femoral vein was also identified bilaterally. CT guided biopsy of the lesion was performed, immunohistochemical analysis, confirmed the diagnosis of leiomyosarcoma. Clinical Findings: Exploratory laparotomy was performed, retroperitoneal tumor involving inferior vena cava below renal veins was observed. Therefore resection of the infrarenal inferior vena cava, with en-bloc resection of tumor and ligation of infrarenal inferior vena cava was performed. Inspection of the specimen revealed tumor inside inferior vena cava with thrombus. Hypothesis: Primary infrarenal inferior vena cava leiomyosarcoma is an extremely rare tumor which presents a diagnostic and therapeutic challenge. However it is a treatable malignancy, inferior vena cava ligation may be offered as a therapeutic option to patients who present with extensive lower extremity deep vein thrombosis.

P-45 Risks related to the use of cough and cold medications in children under 6 years of age

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Background and Objectives: Cough and cold medications are widely used in the pediatric population to treat upper respiratory symptoms, despite the lack of evidence regarding the benefits of these medications for young children. There are various preparations available on the market to treat colds and each of these contain different dosages and ingredients that include antihistamines, antitussives, expectorants, analgesics and antipyretics; thereby increasing the risk of poisoning due to exposure to multiple drugs. This study aims to describe the demographic and clinical characteristics of intoxicated children who were reported to the Puerto Rico Poison Control Center. Methods: This is an ongoing cross sectional study in which a secondary data analysis from the Puerto Rico Poison Control Center will take place. We will include children under 6 years of age who have been reported with a cough and cold medication intoxication from January 1st, 2009 to December 31st, 2014. Results: We have collected data from 218 patients. Preliminary data shows: By sex Female 94 (43%), Male 124 (57%), By age 1 year old 29 patients(13.3%), 2 years 70 patients (32.%) , 3 years 61 patients (28%), 4 years: 33 patients (15%), 5 years: 11 patients (5%), 6 years: 14 patients (6%). Conclusion: Preliminary result show that use of cough and cold medication continue to be widely use to treat common cold despite de lack of indication. The population at more risks based on preliminary data were patient less than 4 years.

P-46 Retrospective Analysis of the Outcomes of Treatment for Acute Psychosis in a Psychiatric Stabilization Unit

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Background/Objective: Acute psychosis is considered an emergency due to increased risk of either danger to themselves or danger to others, it is also associated with a high socio-economic burden. Patients with psychosis cannot be discharged until they are stable and safe. Stabilization within Psychiatric Stabilization Units minimize unnecessary inpatient stay, providing treatment in the least restrictive setting and reducing the costs of treatment. Acute psychosis usually requires inpatient treatment and is associated with prolonged stays. We hypothesize that a stabilization unit intervention limited to 23 hours is not enough to achieve remission in the majority of acute psychosis cases. Our main goal is to evaluate the rate of success of a stabilization unit to avoid hospitalization. We aimed to identify factors associated with hospitalization. **Methods:** Retrospective analysis of data obtained from 115 consecutive patients with psychosis at the "Unidad Estabilizadora de Psiquiatría de Adultos" (UEPA) from January to June 2016. The primary outcome is discharge from UEPA. Descriptive and univariate statistics were used to compare characteristics by outcome, and to determine risk factors and the magnitude of the relationship with failure of UEPA in avoiding hospitalization. **Results:** The intervention was successful in 15% of the cases, 39% of this cases were substance induced psychosis compared to 10% in the hospitalized. Poor medication compliance was significantly associated to admission ([OR] 37.82, 95%CI4.67-306.02). Presence of delusions and hallucinations are also independent risk factors for hospitalization. **Conclusions:** The stabilization unit is not an adequate intervention for preventing hospitalizations for psychosis. **Acknowledgements:** None.

P-47 Synergistic Effect of Dantrolene and Nimodipine in Reducing PHE-Induced Vasoconstriction in Type-1 Diabetic Rats

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Diabetics have a high risk of developing cerebral vasospasms (CVSP). The current treatment of this condition is similar for diabetics and non-diabetics, and includes the use of the calcium channel blocker nimodipine. Concomitant administration of the ryanodine receptor (RyR) blocker dantrolene with nimodipine may be beneficial to diabetic patients, knowing that this combination reduces vasoconstriction in non-diabetic patients. We evaluated the effects of dantrolene (50 μ M), nimodipine (50 nM), and both drugs in combination, on the phenylephrine (PHE)-induced contraction of aortic rings from streptozotocin (STZ)-induced Type-1 diabetic rats. Age-matched non-diabetic rats were used as controls (CT). PHE-induced concentration response curves from 0.1 nM to 10 μ M were performed in the presence and absence of dantrolene, nimodipine, or their combination. After a 30-minute incubation period with dantrolene, the PHE-induced contraction was reduced by 11% (N=8, P>0.05) in diabetic and by 24% (N=10, P>0.05) in non-diabetic rats. Dantrolene increases significantly EC50 values in both groups. Nimodipine, however, reduced PHE-induced contraction about 53% (N=7, P<0.05) in CT without affecting this parameter in diabetic rats. The combination of these drugs reduced the PHE-induced contraction by 80% in both groups (P<0.05 when compared with untreated groups). In addition, endothelium-independent relaxation with 10 μ M sodium nitroprusside (SNP) was not affected by dantrolene or nimodipine in either diabetic or CT rats. Our results suggest that the combination of dantrolene and nimodipine may have beneficial effects in both diabetics and non-diabetics with CVSP by decreasing arterial tone more than either drug alone. Supported by RCMI Grant G12-RR03051.

P-48 Microarray and Pathway Analysis of Prostate Cancer Tumors Treated with Andrographolide

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Background & Objective: Prostate cancer is the most frequently diagnosed non-cutaneous cancer and the second cause of cancer-related deaths in American men. Andrographolide, a labdane diterpenoid that is a component of the medicinal plant *Andrographis paniculata*, has been reported to have a wide range of biological activities including anticarcinogenic

properties. In previous studies, we found that Andrographolide inhibits cell growth, cell migration and tumor growth in prostate cancer. The objective of this study is to examine the gene expression profile of prostate cancer tumors treated with Andrographolide. Methods: For this, we conducted microarray analysis of tumors treated with Andrographolide 10 mg/kg and their vehicle. Tumors were developed using a xenograft model in which the prostates of SCID mice were injected with 22RV1, and mice were treated three times per week with Andrographolide 10 mg/kg. Tumor tissues were collected and snap frozen. Gene expression was identified and analyzed using the Affymetrix GeneChip® Human Gene 2.0 array. Results: Microarray studies showed that a total of 537 genes were upregulated and 138 were downregulated in tumors treated with Andrographolide 10 mg/kg when compared to their vehicle. By using Ingenuity Pathway Analysis (IPA) we found that Andrographolide 10 mg/kg altered molecular and cellular functions including “DNA Replication, Recombination and Repair”, “Cell Cycle”, “Cellular Compromise”, “Cellular Assembly and Organization” and “Post-Translational Modification”. Conclusions: Understanding these biological pathways and networks is essential to determine possible targets of Andrographolide in prostate cancer. Acknowledgments: This research was supported by NIH K01 CA140711 and MBRS-RISE R25GM061838.

P-49 Clinical Course Of Traumatic Brain Injury Pediatric Patients Admitted To An Intensive Care Unit: A 19 Years Overview

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Introduction: According to the CDC, 500,000 children with TBI visit emergency rooms every year. These patients arrive with a primary insult; one of the main goals is to prevent a secondary insult like increased intracranial pressure or hypoxia. Objective: Evaluate clinical course of patients admitted to PICU due to moderate-severe TBI. Methods: Retrospective observational cohort study of TBI patients admitted to PICU (UPR-Medical Sciences Campus) from July 1997 to June 2016. Demographic data (sex, age), clinical data (diagnosis, trauma cause, treatment) and clinical outcome (MV days, PICU LOS, mortality) were analyzed using medians, percentiles and logistic regression to determine association between sex and age with clinical outcomes. Results: 898 patients with median age of 96 months spent 5.1 days in PICU (median) and 3 days with

MV support. Mortality rate was of 8.2%. Of those patients, 9.4% died in less than 24 hours and 14.2% were declared brain dead. A logistic regression showed an association between sex and mortality were the mortality was higher in males (OR: 0.56 (0.34-0.91), p = 0.02). Conclusion: The 19 years evaluation of TBI patients admitted to PICU found that males were at higher risk of mortality after a TBI. TBI Mortality (8.4%) was higher than our PICU mortality (2-5%).

P-50 An atypical combination as etiology of asymptomatic Hypercalcemia: Familial Hypocalciuric Hypercalcemia and Parathyroid Adenoma

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Purpose: Familial hypocalciuric hypercalcemia (FHH), an autosomal dominantly inherited atypical form of primary hyperparathyroidism, is characterized by moderate hypercalcemia and relative hypocalciuria. Familial Hypocalciuric Hypercalcemia results from inactivating mutations of the calcium-sensing receptors. Familial hypocalciuric hypercalcemia occur 1 in 10,000 persons. Case description: A 82 y/o female patient with PMH of DM II, HTN, A-FIB and Hyperlipidemia, presented to clinics for health maintenance. Patient arrived with labs ordered previously. Labs with findings of hypercalcemia, hypomagnesemia and hypophosphatemia but albumin, renal function, electrolytes, and vitamin D are within normal limits. Patient denies polyuria, polydipsia, renal insufficiency, gastrointestinal complaints, nephrolithiasis or neuropsychiatric complaints. Physical examination was unremarkable. Clinical Approach: PTH level was markedly elevated (183.30 pg/ml) and 24 hrs urine calcium showed hypocalciuria (100 mg/24hrs), Dexa scan with findings of osteopenia, T score: -2.1 (left femur), T score: -1.9 (right femur) and T score: -1.6 (spine). Clinical Findings: Parathyroid scan was ordered to rule out additional parathyroid disorder and was found with: hyperactive foci in the region corresponding to lower pole of the right thyroid lobe as well as in the upper pole of the left thyroid lobe highly suggestive of parathyroid adenoma. Hypothesis: This case is an example of a patient with an uncommon combination diagnoses Familial Hypocalciuric Hypercalcemia and concomitant parathyroid adenoma. There have been a small number of similar cases reported in the literature to date. The case is an example of a rare phenomenon (1 in 10 million cases) when a parathyroid adenoma develops in patients with FHH.

P-51 Health care expenditures for diabetes among the insured population in Puerto Rico

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Background and Objective: Diabetes is the third leading cause of death in Puerto Rico, accounting for 10.7% of all deaths in 2013. The growing prevalence of diabetes has led to a rise in health care expenditure. This study compared the prevalence and health care expenditures among insureds with diabetes in the private and public sectors in 2013. **Methods:** A secondary analysis of an administrative claims database detailing health service utilization of 96% of the insured population aged 18-64 years was performed. Cases with diabetes were defined as adults with ≥ 2 outpatient services or ≥ 1 hospitalization and emergency department visits. Poisson regression was used to estimate the rate and intensity of health services' use. A gamma generalized linear model was employed to compare the average medical expenditures between sectors. **Results:** Of 1,503,424 adults, 6.8% met the case definition of diabetes. Prevalence was significantly higher (11.8%) in the public than in the private sector (3.5%). Total health care expenditure for adults was \$388,536,735, of which, 58% occurred in the private sector. While the largest expenditure in the public sector was related to hospital services (53.8%), outpatient services (54.6%) were highest in the private sector. Costs per service (hospitalization, emergency room, and outpatient) claim were significantly ($p < 0.05$) higher for insureds in private than in public sectors. **Conclusions:** These findings suggest a disparity in access to primary health services for diabetes between public and private insureds. This information is essential for creating public policies aimed at reducing the burden of diabetes and its disparities.

P-52 Conductas responsables en la investigación: Desarrollo de destrezas para trabajo colaborativo integrando conceptos de promoción de la salud

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Trasfondo La investigación sobre el VIH se encuentra en un momento histórico en el cual se necesitan más investigadores que se identifiquen como parte de las poblaciones minoritarias y enfoquen sus trabajos en la promoción de la salud. El Mentoring Institute for HIV and Mental Health Research afiliado al Centro de Estudios Materno Infantiles (CEMI) del Recinto de Ciencias Médicas tiene como meta aumentar las habilida-

des de investigación y el interés en trabajos colaborativos. Esto requiere un desarrollo paralelo de destrezas de conductas responsables de investigación con énfasis en la colaboración. Se diseñó un estudio de necesidades con fines de diseñar un programa de desarrollo. **Metodología** Se administró un cuestionario estructurado el cual auscultó aspectos de autoría, manejo de conflictos, compartir datos y derechos de los participantes. Se entrevistaron los mentores para conocer asuntos prioritarios y posibles estrategias educativas. **Resultados** Los encuestados han recibido adiestramiento previo en conducta responsable de la investigación. Sin embargo, muy pocos han participado en actividades formales sobre manejo de datos compartidos, procesos de autorías y posibles conflictos y asuntos de derechos humanos relacionados a la población con VIH y los nuevos adelantos terapéuticos. El proyecto incluye múltiples técnicas como formación a distancia, actividades grupales e individuales y ejercicios de auto-reflexión. **Discusión** CEMI ha dedicado sus esfuerzos a aumentar la cantidad y la calidad de investigadores. Es necesario continuar con la creación de espacios para el desarrollo de conductas responsables de investigación que vayan a la par con los enfoques de investigación transdisciplinaria y colaborativa.

P-53 Extending Avoidance Conditioning Disrupts Extinction Learning and Increases Persistent Avoidance

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Obsessive-compulsive disorder (OCD) is characterized by compulsive urges resembling avoidance of perceived danger, and is treated with extinction-based therapies. OCD compulsions have been correlated with habit formation that can occur following excessive repetition (Gillan et al., 2015), but little is known about the effects of repetition on extinction of avoidance. We used an active avoidance task, in which rats are trained to avoid a tone-signaled foot shock by stepping onto a platform. The tone-shock association is then extinguished by preventing access to the platform with a barrier (Extinction with Response Prevention, Ext-RP). We previously reported that a minority of rats persists in their avoidance following Ext-RP (Rodríguez-Romaguera et al., 2016). A possible factor contributing to persistent avoidance is the development of response habits over extended periods of training. To investigate this, we trained two groups of rats with either 8 days (8d) or 20 days (20d) of avoidance conditioning, followed by four days of Ext-RP and a subsequent test without the barrier. Our preliminary results show that the 20d group was impaired in its extinction of freezing during Ext-RP (repeated measu-

res ANOVA; $F(1, 58) = 17.25, p=0.001$). Furthermore, rats in the 20d group showed a higher percentage ($75\% \pm 4.5$) of persistent avoidance at test, compared to the 8d group ($44\% \pm 6.8$; t-test; $t_{58} = 4.18, p<0.0001$). Together, these results suggest that repeated expression of avoidance-like compulsions could reduce the effectiveness of extinction-based therapies, and suggest that the necessity of better and early clinical interventions for OCD.

P-54 Choreathetoid movement as presentation of cavernous malformation in a young adult patient

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Purpose: Cavernous malformations are clusters of dilated vessels that do not intervene with brain parenchyma. These are the most common occult vascular malformations among adult and pediatric population. Basal ganglia CM's are the rarest among this group. Due to its location, severe neurological impairment can be seen, if not treated adequately. **Case Description:** A 20 years old female patient with history of pituitary adenoma who presents with 2 weeks history of right side choreoathetoid movements and speech difficulties. She had been recently diagnosed with a left basal ganglia cavernoma by brain MRI and conservatory management was performed. **Clinical Approach:** Two week later, patient had significant worsening of right side choreoathetoid movements, affecting her daily activities for which repeated brain MRI revealed an interval enlargement of left frontal basal ganglia cavernoma without associated bleeding. Risperidone was started, and surgical excision was performed. **Clinical Findings:** After initiation of medical management and excision of lesion, choreoathetoid movements showed significant improvement. **Hypothesis:** Basal ganglia CM's are rare in pediatric population. Management is base upon lesion size and medically treatable symptoms. Our patient presented with a growing lesion that was surgically resected resulting in symptoms improvement. Treatment must be individualized. If medical approach is chosen, high suspicion must be kept for possible worsening scenarios. In rare occasions, even small lesions can show rapid progression and neurological impairment severely affecting patient's quality of life.

P-55 Differential Activation of the CWI Signaling Pathway in Single Sensor-Deletion Mutants of the Budding Yeast *Saccharomyces cerevisiae* upon Amphotericin

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Background and Aims – The Cell Wall Integrity (CWI) Pathway of *S. cerevisiae* is a well-known mechanism for the up-regulation of genes associated with cell wall stress, the plasma membrane, or its components. In this pathway, five transmembrane sensors are key players by sending a signal to a series of cytoplasmic effectors after sensing the applied stress. Often, the exposure to antifungal drugs induces the up-regulation of response genes by activating the mitogen activated protein kinase (MAPK) module of the pathway. We tested the relative importance of the sensors in signaling through this pathway upon exposure to the drug Amphotericin B at 27°C by studying the effects of this exposure on the activation of the pathway for single-deletion strains of *S. cerevisiae* corresponding to the five sensors. We also made susceptibility tests to the drug on solid growth medium. **Methods –** The activation of the pathway was evaluated by measuring the phosphorylation status of the Mpk1 (Slp2p) with Western Blots. Drug susceptibilities of the strains were assessed using serial dilution spot assays. **Results –** When exposed to Amphotericin B only the WT, *wsc1Δ*, *wsc2Δ*, and *wsc3Δ* strains showed increased Mpk1p phosphorylation relative to the WT without drug. **Conclusions –** The transmembrane sensors Mid2p and Mtl1p are important for activation of the CWI Pathway in response to Amphotericin B.

P-56 Lipid Nanostructured Hydrogels for Topical Delivery of Anti-inflammatory Drugs: Preparation and Characterization

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Background & Objectives: Diclofenac sodium is a nonsteroidal anti-inflammatory drugs (NSAID) used to treat pain, sign and/or symptoms of osteoarthritis and rheumatoid arthritis. However, its clinical usage is limited to some extent due to its toxicity and systemic side effects, including gastrointestinal lesions. The development of Diclofenac sodium lipid nanostructured hydrogel for topical application will solve the problems of drug short half-life, low solubility, first pass metabolism, systemic side effect of the anti-inflammatory drugs and offer controlled release abilities. **Methods:** This lipid nanostructured hydrogels contains two phases: aqueous surfactant solution added to the lipid mixture containing the Diclofenac sodium. Nanostructured lipid carrier is prepared by high pressure micro-fluidizer technology avoids the use of organic solvents. To characterize the physicochemical properties of Diclofenac sodium lipid nanostructure hydrogel we consider: particle size and particle size distribution, zeta potential, kinetic models, entrapment

efficiency, and in vitro diffusion. Results: The high pressure micro-fluidizer technology significantly decreases particle size of the mixture. A higher percentage of the gelling polymer increases the entrapment, the viscosity and the in vitro drug delivery. Conclusions: The level of gelling polymer and ratio of drug to lipid affect rheological properties, physicochemical properties of the hydrogel and drug release. The use of liquid lipid with solid lipid leads us to imperfection in the matrix which can give more space for the accommodation of the drug and therefore we obtain a better design in the development of the transdermal system drug. Acknowledgements: This research was supported by Parenteral Drug Foundation.

P-57 Internal Hernia: Rare Cause of Small Bowel Obstruction in the Pediatric Population

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Purpose: Internal hernias (IH) are a rare cause of small bowel obstruction in children occurring when there is protrusion of an internal organ into the retroperitoneal fossa or a surgically created foramen in the abdominal cavity. Case description: We report the case of an 8-year-old-male with past medical history of familial polyposis and total colectomy at age five years that presented with diffuse abdominal pain of three days of evolution. Clinical Approach: A KUB was performed that along with the physical examination findings a mechanical intestinal obstruction was suspected. Patient was brought to the operative room for exploratory surgery. Clinical Findings: Adhesive bowel obstruction with an IH of the ileum underneath causing obstruction. Hypothesis: IH are rare cause of small bowel obstruction in the pediatric population with a variable spectrum of sign and symptoms. Pre-operative diagnosis is difficult. It is important pediatricians develops high clinical index of suspicion of mechanical small bowel obstruction in patients with abdominal pain, especially in those that are high risk such as our patient. Surgery is the therapy of choice, for which immediate evaluation by the surgeon is necessary due to the associated high mortality rate. Acknowledgment: none.

P-58 Posible efecto de la colaboración entre Cuba y Puerto Rico en las tasas de Mortalidad para los años 2009 a 2013

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Trasfondo: El sistema de salud de Cuba es uno gratuito, accesible y universal con énfasis en la promoción y prevención primaria a nivel comunitario. En Puerto Rico, se enfatiza el tratamiento de la enfermedad y la prevención primaria no es prioridad. Es un sistema fragmentado donde co-existen un sector público y un sector privado. Objetivos: Comparar las tasas de mortalidad cruda y ajustada en Cuba y Puerto Rico para 2009-2013 para identificar aspectos de semejanzas o diferencias; plantear posibles explicaciones a los hallazgos y sugerir posibles vías de colaboración para mejorar sus indicadores de salud. Metodología: Se identificaron las tasas de mortalidad general para ambos países entre 2009 y 2013. Se calcularon y compararon las tasas de mortalidad específica ajustando por una población mundial estándar para el 2001 de la OMS. Se identificaron posibles diferencias y se determinaron las significancias estadísticas. Se aplicó el modelo de Markov y la simulación de Monte Carlo para determinar el potencial de mortalidad prevenible para ambos países. Resultados: Al ajustar las tasas de mortalidad las tasas de Cuba superan a Puerto Rico para cada uno de los años y para el periodo en total. En la población más joven, la tasa de mortalidad en Cuba fue significativamente menor que en Puerto Rico, excepto para el 2010. Mientras que para la población vieja la tasa de mortalidad en Puerto Rico fue menor. La simulación de Monte Carlo sugiere que un acuerdo de colaboración beneficiaría a ambos países, particularmente a Cuba en la población vieja.

P-59 First Case of Hemophilia A associated with Gastroschisis in Puerto Rico

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Purpose: Gastroschisis is a congenital abdominal wall defect. Risk factors include young maternal age, prematurity, low birthweight, and the use of aspirin, tobacco and/or alcohol during pregnancy. It is usually an isolated birth defect, and is one of the most common in Puerto Rico. Hemophilia A is an X-linked, recessive disorder caused by deficiency of functional plasma clotting factor VIII, which may be inherited or arise from spontaneous mutation. Case description: We present the case of a premature infant born with gastroschisis, concomitantly found to have severe hemophilia A. Clinical Approach: A 32 weeks' gestational age very low birth weight preterm was born with gastroschisis to a 22-year-old mother. The abdominal defect was repaired at 6 days of life without

complications and minimal bleeding. Clinical Findings: The premature infant presented persistent elevated Partial thromboplastin time (PTT) at 2 weeks of age, even after multiple administrations of fresh frozen plasma (FFP) and shortly after presented profuse blood loss after venipuncture requiring blood products transfusions. Mixing studies confirmed severe Hemophilia A with less than 1% of factor VIII. Hypothesis: To our knowledge there have been no other cases reported of patients with gastroschisis and hemophilia A. The disruption of the blood supply to the developing abdominal wall from the omphalomesenteric duct artery by the eighth week of gestation may be associated to inadequate fetal clotting producing a thrombotic event as the etiology of this gastroschisis. Acknowledgement: No conflicts of interest.

P-60 Diabetes and colorectal cancer survival in Hispanic adults

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Background: Epidemiologic studies examining the association between diabetes and colorectal cancer (CRC) survival have provided mixed results. It is unclear the extent to which diabetes affects CRC survival among Hispanics living in Puerto Rico, a population disproportionately affected by diabetes and CRC. Objective: We linked the Puerto Rico Central Cancer Registry database with medical insurance claims to assess the associations between pre-existing diabetes on survival among adults with CRC. Methods: Data from incident CRC cases diagnosed between 2008 and 2012 were extracted and prospectively followed through the date of death or the end of 2014, whichever occurred first. Diabetes status was determined on the basis of at least two medical claim diagnosis with ICD-9 code of 250.xx during the interval beginning two years before and three months after CRC diagnosis. Cox proportional hazards models were used to estimate the hazard ratio (HR) for overall mortality adjusting for demographics, tumor stage, and Charlson comorbidity index. Results: A total of 4,471 incident CRC cases were identified, of which, 1077 (24.1%) had pre-existing diabetes. CRC adults with diabetes had a 12% increased risk of all-cause mortality (adjusted HR: 1.12, 95% CI: 1.01-1.23) compared to CRC cases without diabetes. Relative to CRC cases without diabetes complications, all-cause mortality was higher among those who had diabetes with complications (adjusted HR: 1.36, 95% CI: 1.02-1.81). Conclusions: Individuals with pre-existing diabetes have worse disease-free survival compared to those without diabetes. Future studies are needed to determine the long-term effects of diabetes and its treatment dosage and duration in CRC survival.

P-61 Spinal cord myelitis in a patient with AIDS: Toxoplasma vs Histoplasma?

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Purpose: High suspicion and early recognition of infection and treatment, especially in the AIDS population is critical for internists to ensure patient's survival, avoid further complications and decrease morbidity. Case Description: A 36 years old male patient, with toxic habits, was taken to the ED after 4 consecutive episodes of seizures. Head imaging was performed, where a right frontal lobe mass was found and later surgically resected due to suspicion of malignancy. After a 3 day-stay in the hospital, patient had significant clinical improvement and was discharged home. Three days later he was taken to ER again due to lower extremity weakness that progressed to paraplegia. Review of symptoms was significant for episodes of unquantified fever and urinary retention of 2 days evolution. Clinical Approach: Physical examination was remarkable for difficulty to arouse patient and inability to follow commands. A neurological examination revealed hypertonicity of extremities and bilateral lower extremity paraparesis. Clinical Findings: Biopsy proven CNS toxoplasmosis established the definitive diagnosis for admission. Brain MRI revealed interval development of multiple lesions. A spinal MRI also showed nonspecific myelitis from cervical spine through T9. However, after 2 weeks of therapy, incomplete clinical improvement was noted, for which further infectious work-up was pursued. HIV test came back positive, as well as elevated urine Histoplasma antigen, and appropriate therapy was started. Hypothesis: A concomitant opportunistic myelitis was present in this newly diagnosed HIV patient.

P-62 The conundrum of Type II hypospadias repair: number of surgeries and satisfaction with surgical outcome

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Background & Objectives: Hypospadias is a urogenital birth defect that is expressed as a displaced urethral opening in the

underside of the penis of newborn males. The appearance of the condition may vary per severity (Type I, II & III), the latter been the most severe and Type II between extremes. The aim of this study was to examine whether the number of surgical repairs affects the level of satisfaction for both parents and pediatric urologist and to report a clinical algorithm for treatment. Methods: Parents of children with hypospadias (n=57) were interviewed using a series of questionnaires. Severity, number of surgeries and parent's satisfaction was confirmed in the clinic. Physician's satisfaction was self-reported. Chi-square test was employed for statistical analyses between satisfaction and number of surgeries according to severity. Results: Parents of Type I (n=21) hypospadias cases were 81% satisfied with one-stage repair outcome. Parent's satisfaction for Type III (n=19) hypospadias cases increased with the number of surgeries. On the contrary, parent's satisfaction for Type II (n=17) hypospadias cases decreased with number of surgeries and in two-stage repair cases parent's satisfaction decreased significantly, from 78% (one-stage repair) to 40% (two-stage repair). Number of surgeries and percentage of satisfaction were statistically significant (p 0.0001) for Type II cases. Conclusion: This data supports current standards of care that recommend one-stage repair. Unfortunately, the level of satisfaction decreases for both parents and physician as a function of number of surgeries for repair.

P-63 Possible New Variation of Hunter McAlpine in newborn with Unusual Odor, First Case Reported in Puerto Rico

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Purpose: Hunter McAlpine is a rare genetic condition characterized by microcephaly, craniosynostosis, characteristic facies, skeletal anomalies, short stature, developmental delay and intellectual disability. Inheritance can be in an autosomal dominant manner, caused by a de novo mutation, or through a parent who has a balanced translocation ending up in a duplication of chromosome 5. Case description: We report the case of a baby boy born term to parents with consanguinity presenting multiple anomalies including microcephaly, cleft palate, dysmorphic facies, skeletal abnormalities, congenital heart disease, non clinical seizures, and a peculiar odor. Clinical Approach: Chromosomes in blood revealed an unbalanced translocation between chromosomes 5 and 15, resulting in a partial trisomy for the terminal segment of 5q. [46XY, der(15) t(5;15) (q33;p11.2)]. Clinical findings: Patient had a complicated clinical course, presenting metabolic acidosis, electrolyte disturbances, and respiratory distress. Echocardiography revealed complex congenital heart di-

sease and EEG ictal activity. Nutrition was adjusted with protein restriction (2g/kg/day) and 120kcal/kg/day due to suspected coexistent metabolic disorder. Unfortunately, the patient continued to deteriorate and expired on 21st day of life. Hypothesis: Few cases of Hunter McAlpine syndrome have been reported but the particular mutation sequence of our patient has not been previously described in literature searched. It is of interest if our patient's mutation may be a new variation of Hunter McAlpine syndrome with an associated metabolic disorder stemming from affection of genes located where the translocation occurred. Acknowledgements: No conflicts of interest.

P-64 Alarming Rates of Central Obesity Among Hispanic Childhood Cancer Survivors

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Introduction: Central obesity has emerged as superior predictor of cardiovascular disease. Increasing rates of obesity have been reported in childhood cancer survivors, yet data regarding central obesity remains limited. Objective: Describe the pattern of general and central obesity in a sample of Puerto Rican childhood cancer survivors. Methods: Cross-sectional study of childhood cancer survivors (remission for >6mo), attending a Pediatric Oncology Clinic in Puerto Rico from May-October 2016. Variables included: sex, age, age at diagnosis, weight, height, waist and hip circumference, cancer type, steroid therapy, radiotherapy. General obesity defined as BMI >85th percentile. Central obesity defined as waist-to-hip ratio >0.85 in females and >0.9 in males. Medians/range, frequencies/percentages, Chi-Square/Fisher exact and logistic regressions were used. Results: 82 subjects, 51%female, age 13[3-21]yrs, age at diagnosis 5[0.5-17]yrs, and time on remission 15[6-201]months. 38%subjects had leukemia/lymphoma and 23%CNS tumors. 56% received steroids and 26% radiotherapy. 48%subjects had general obesity and 52% had central obesity. Sex was associated with central obesity (males: OR 0.33 [0.12-0.88]). Conclusion(s): Hispanic children surviving cancer had alarming rates of general and central obesity. Females had higher rates of central obesity. Further studies are needed to determine if central obesity is a superior indicator of cardiovascular risk in this growing population.

P-65 Reading profile of parents and/or caretakers of children less than 3 years old: Promoting reading in the Neonatal Intensive Care Unit (NICU)

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Background: Infants admitted to the NICU have multiple challenges including parent-infant bonding issues and higher risk for neurodevelopmental delays. Interventions encouraging parents to read to their infant in the NICU has been found to have a positive effect on parents, infants and parent-infant interactions. Parents report that reading to their infants helped them achieve a greater sense of control and intimacy with their babies. This simple activity can provide comfort to parents and infants, and also provide the infant with neurodevelopmental benefits for a lifetime if reading continues once the infant is discharged from the NICU. Methods: Observational descriptive study. An anonymous survey was designed and administered to 173 parents of patients less than 3 years old at the University Pediatric Hospital and Pediatric Resident's ambulatory clinics to determine the reading profile of this population. Results: A total of 68% of parents read to children less than 3 years old at home, while a 28% of parents read at NICU. When subdividing the children ages and parents reading, the following was obtained: from 0-6 months 41% parents read, 6-12 months 81% read, 1y/o 86% read and at 2 y/o 100% of parents read. Conclusion: There is a greater likelihood that parents read to children while at home, than while admitted to NICU. The frequency of readers shows an increasing trend as the child age increases. Health professionals have an important role in encouraging parents to read to their sick infants to stimulate development and strengthens parent-child relationships.

P-66 Associations between Chronic Disease and Experiences of Sexual Violence in Adults Aged 18 or Older in Puerto Rico, 2010

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Sexual violence is a public health issue of substantial importance in Puerto Rico. In 2015, the Puerto Rico Police Department received 1,481 reports of sexual violence; according to the Youth Risk Behavior Surveillance System, 11,295 public high school students reported having been raped. Research indicates that sexual violence experiences can negatively impact a victim's overall health. Associations have been shown to exist between assault and several chronic health conditions. The objective of this study is to examine the relationship between sexual assault and chronic health conditions in Puerto Rico. Secondary data analyses were conducted using the 2010 Behavioral Risk Factor Surveillance System (BRFSS) and optional

sexual violence module. BRFSS is a yearly random-digit-dialed telephone survey. Frequency distributions and crude and adjusted prevalence odds ratios were calculated. Within the weighted sample of respondents (n=2,849,766), 46.9% were men and 53.1% were women. 2.9% reported having experienced sexual violence at some point in their lives. Crude odds ratios of asthma, stroke, and diabetes prevalence among sexual violence survivors were calculated to be 1.371 (1.347-1.396), 2.824 (2.738-2.914), and 1.183 (1.160-1.207), respectively; odds ratios adjusted for age, education level, and gender were found to be 1.362 (1.337-1.387), 2.778 (2.701-2.879), and 1.175 (1.150-1.200), respectively. Sexual violence is associated with asthma, stroke, and diabetes, illustrating the burden of sexual violence both on the healthcare system and on the lifelong health of individual victims. This highlights the importance of development of chronic disease prevention for sexual violence victims. This research was supported by CDC Grant 5NUF-2CE002441-04-00.

P-67 Sexual orientation and condom use in a sample of Puerto Rican women.

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Background and objectives: Sexually active women are a high risk population for contracting sexually transmitted diseases (STDs) and if left untreated may develop further complications. Few research studies have studied variations in condom use based on women's sexual orientation. This study aims to describe patterns of condom use among heterosexual, homosexual and bisexual women living in Puerto Rico (PR). Methods: The sample included 476 heterosexual, homosexual and bisexual Puerto Rican women between 21 and 65 years of age living in PR. Descriptive statistics and frequencies were employed to describe condom use behavior among sexual minority women. A Chi-square test was used for categorical variables and a Mann-Whitney test was used for quantitative variables. A p 0.05 was considered statistically significant. Results: In this study, the majority of heterosexual (75.7%), bisexual (71.4%) and homosexual (75.0%) women reported to be in a relationship. More bisexual women reported to use condoms "always" and "almost always", in a lifetime, during sexual activity with men as compared to their heterosexual counterparts (p=0.028). However, more bisexual women reported a history of HIV and Genital Herpes diagnosis as compared to homosexual and heterosexual women (p=0.037 and p=0.040, respectively). Conclusions: Although bisexual women reported more condom use when engaging in sexual activity with men, the frequency of condom use in the sample of women was low as a whole. Thus, placing these women at a higher risk of STD con-

tagion. Acknowledgements: This research was supported by Post-doctoral Master's in Clinical and Translational Research Grant # HCTRECD R25MD007607.

P-68 C2-C3 AVF: A Case Report. Maintaining stability & preserving neurologic function applying intraoperative evaluation with endovascular techniques.

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Purpose: Spinal vascular malformations can result in spinal cord dysfunction and disability. A high index of clinical suspicion after correlating the patient's history, physical exam, and imaging is necessary to establish diagnosis and further therapeutic options. Early recognition and treatment can halt progression of the disease and minimize permanent and possibly irreversible spinal cord injury. A variety of treatment modalities exist, including endovascular embolization or open surgery. Our surgical approach used in this case represents a recently described therapeutic modality, which could be implemented in similar cases. Case description: 75-years-old female who presented to the Emergency Department with sudden, severe headaches and nuchal rigidity. Patient denied any history of trauma. Posterior fossa cerebral subarachnoid hemorrhage was diagnosed on non-contrast head computed tomography. Clinical Approach: Subsequent DSA demonstrated a C2/3 left perimedullary arteriovenous fistula in the anterolateral cervical cord. Clinical findings: The AVF was supplied by left C2/C3 radiculomedullary artery feeders from the vertebral artery, with an associated arterialized venous varix. Drainage was via the anterior median spinal vein cranially. The patient underwent delayed treatment with laminectomies at C1 to C3, posterior transpedicular approach involving the C2 pedicle and C3 lateral mass with subsequent sectioning of the feeders and coagulation/occlusion of the perimedullary draining venous varix. Successful recovery with no neurologic sequelae was observed. Hypothesis: We present this rare entity and describe the diagnostic and surgical techniques utilized. Further discussion and review, the most appropriate time for management, possible approaches, and different classification systems are emphasized in our discussion.

P-69 Outcome of Preterm Infants Born from Multiple Gestation Pregnancies.

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Introduction: Multiple gestation pregnancies have increased in the last decades, mostly due to increase in fertility treatments. The most common complication associated to these pregnancies is preterm delivery, which is associated to increased risk of morbidity and mortality. Objective: To compare outcomes of very low birth weight (VLBW) infants born at less than 32 weeks gestation from single versus multiple gestation pregnancies. Methods: Retrospective analysis of data recorded for the Vermont Oxford Network from VLBW infants admitted to the University Pediatric Hospital NICU from 2002-2014. Results: There were 2,146 singletons and 419 multiples admitted during the study period. Multiples were more likely to be born by cesarean section (78% vs 57%, $p < 0.01$). No difference was found in birth weight, gestational age, APGAR score, complications or survival. Singletons were more likely to have birth defects ($p = 0.0490$), require endotracheal intubation at birth ($p = 0.0071$), and have a longer LOS ($p = 0.0132$). Conclusions: The comparable outcome of multiples might be the result of the improvement in prenatal care in high-risk pregnancies, as well as technological advances available today for the detection of multiple gestations and complications. The fact that there are more birth defects in singletons could explain the difference in the requirement of intubation and longer LOS.

P-70 Have All Newborns With Congenital Hypothyroidism in Puerto Rico Been Diagnosed and Treated Within Two Weeks of Life?

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Background: Diagnosis and treatment of congenital hypothyroidism (CH), within two weeks of age as recommended by American Academy of Pediatrics (AAP), prevents development of neurocognitive impairment. Objectives: assess whether newborns in Puerto Rico (PR) with positive CH newborn screening (CHNBS) are evaluated and treated within two weeks of life and explore factors associated with delayed diagnosis. Methods: We reviewed PR Newborn Screening (PRNBS) 2003-2013 database. Data on positive CHNBS, birthplace, sex,

and time to: (a) screening sample collection, (b) results reporting, (c) endocrinologist evaluation and (d) thyroxine initiation were analyzed using descriptive statistics. Results: 93 newborns had positive CHNBS. Sample was collected at median age of 2 days and results were reported at 4 days of age. Evidence of a confirmatory test was not found in the PRNBS database in 66% (n=62) of newborns with positive CHNBS. Of 31 patients with evidence of a confirmatory test, 90% (n=28) had confirmed CH. 50% (n=14) with confirmed CH had evidence of endocrinology evaluation; median age at evaluation was 16 days. Of those, 79% (n=11) had evidence of being initiated on thyroxine; median age was 23 days. Conclusions: Infants in PR face delayed diagnosis and treatment of CH. Contributing factors may include: (1) delayed reporting time of CHNBS results (2) delayed receipt of sample from hospitals in geographic locations farther from PRNBS site, which consequently may (3) delay subspecialist referral. Availability of data from CHNBS sample collection to initiation of thyroxine therapy must be monitored by the Newborn Screening Center as a strategy to ensure that all infants with positive CHNBS get evaluated and treated on time.

P-71 Esperanza de vida saludable de la población de 60 años o más según el nivel de pobreza Puerto Rico: 2002-2003

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Trasfondo-Objetivos: La población envejecida continúa aumentando en Puerto Rico por lo que su estado funcional, vitalidad y calidad de vida son tema primordial para la salud pública del país. Los objetivos del estudio fueron calcular la esperanza de vida restante de la población de 60 años o más y comparar la expectativa de vida saludable según el nivel de pobreza para depresión e hipertensión entre otras. Además, se determinaron los años de vida restante que posee esta población a partir de la presencia de las enfermedades de interés y los años de vida sin el padecimiento. **Método:** Los datos provinieron de PREHCO1, estudio representativo de las personas mayores en Puerto Rico que viven en sus hogares y del Registro Demográfico. Se calcularon tablas de vida saludables por sexo para cada enfermedad con el fin de obtener la esperanza de vida saludable. Se utilizó el Método Sullivan. **Resultados:** A los 60 años las mujeres bajo pobreza con depresión sobreviven 8.2 años comparado con los hombres que viven 5.2 años. Los hombres sobre pobreza con esta enfermedad duran 2.9 años comparado con las mujeres que pasan 5.5 años en las mismas condiciones. **Conclusión:**

Las mujeres gozan de una expectativa de vida mayor indistintamente de la enfermedad considerada y del nivel de pobreza en que vivan. En la hipertensión la esperanza de vida con la enfermedad se recude más rápidamente que la expectativa de vida en salud. En la depresión la esperanza de vida saludable y en enfermedad se reduce al mismo ritmo.

P-72 Disparities in diabetes prevalence, comorbidities, and healthcare utilization among publicly and privately insured pediatric population in Puerto Rico

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Background and Objective: Estimates of the prevalence of diabetes in the pediatric population of Puerto Rico are limited, despite the high burden of diabetes in the adult population. We compared the prevalence of diabetes, Charlson comorbidity index, and healthcare utilization services between publicly and privately insured children and adolescents. **Methods:** Using a medical insurance claims database detailing healthcare utilization for insured children and adolescents aged ≤20 years in Puerto Rico in 2013, we identified cases of diabetes on the basis of at least one claim diagnosis with ICD-9 code of 250.xx. Prevalence of diabetes, Charlson comorbidity index, and healthcare utilization (hospitalizations and emergency room, outpatient, and dental visits) were compared between publicly and privately insured children and adolescents. **Results:** Of 721,767 insured children and adolescents, 17,702 (2.4%) met the diabetes case definition – type 1, 0.3%; type 2, 1.2%; and indeterminate type, 1%. Prevalence of diabetes was higher among females (2.6%), those aged 15-20 years (3.7%), and privately insured children and adolescents (2.5%). When healthcare utilization services among insured children and adolescents with diabetes were assessed, dental visits were higher among privately insured children and adolescents (13.9%) whereas Charlson index comorbidities (17.4%), hospitalizations (90.6%), and emergency room (59.8%) and outpatient visits (95.9%) were higher among publicly insured children and adolescents. **Conclusions:** These results suggest disparities in prevalence, comorbidities, and healthcare utilization among publicly and privately insured children and adolescents in Puerto Rico. Further research is needed to investigate insurance-based disparities in health and health care among children and adolescents with diabetes.

P-73 Association between caries prevalence and sealants in Puerto Ricans

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Sealants are applied to prevent the development and progression of dental caries. This study proposed to assess the association between caries prevalence and the presence of sealants on first permanent molars in 12-year-old Puerto Ricans. This island-wide cross-sectional epidemiologic study included a probabilistic sample of 102 public and 31 private schools stratified by Government Health Insurance (GHI) regions, school type, and gender. The study included healthy children, participants requiring antibiotic prophylaxis were excluded. Medical and socio-demographic questionnaires were completed by the parents. Two trained and calibrated examiners conducted oral examinations using NIDCR criteria. Statistical analysis was conducted using Chi-Square Test and logistic regression. This study was approved by the Institutional Review Board of the Medical Sciences Campus. A total of 1587 schoolchildren (51.3% female, 48.7% males) were evaluated. The mean DMFT value was 2.54 (CI: 2.31-2.77). Overall, 18.1% (CI: 15.45-20.71) had at least one sealant on 1st permanent molars. The variables associated with sealants presence in the bivariate analysis were the type of school and GHI ($p < .0001$). The DMFT in subjects without sealants was 2.80 (CI: 2.54-3.06) whereas the DMFT in subjects with sealants was 1.34 (CI: 1.12-1.57). After adjusting for dental insurance (yes/no), the presence of at least one sealant was a protective factor for caries prevalence (OR=0.53, CI= 0.35-0.80, $p = 0.002$). Dental sealants were a protective factor for caries prevalence, therefore should be advocated as a preventive measure in Puerto Rico, where a community fluoridation program is not available. Partially supported by NIH (S21MD001830) and Colgate-Palmolive (Caribbean) Inc.

P-75 HIV-1 Tat Impairs Glucose Uptake and IRS-1 Phosphorylation in Human Neuronal Cells

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Purpose: Previously we found that HIV-1 Tat, a virally encoded toxin, induces the secretion of soluble insulin receptor

(sIR) from human neuronal cells. However, the impact of these actions in the mechanisms of glucose metabolism employed by neuronal cells remains unknown. We hypothesized that Tat will impair insulin-induced glucose uptake (GU) by modulating Insulin Receptor Substrate-1 (IRS-1) serine/tyrosine phosphorylation. Objective: This study sought to determine if Tat regulates IRS-1 phosphorylation in tyrosine and serine residues and GU in human neuronal cells. Methods: Human neuronal cells (SH-SY5Y; 5×10^5 cells) were cultured in presence of Tat (25-100nM) for 24hrs, then exposed to insulin (100nM) for 30min. Glucose uptake was measured by incubating cells with fluorescent glucose (10 μ M) and analyzed by flow cytometry (FC). The levels of IRS-1 phosphorylation in tyrosine and serine residues were quantified by FC using an anti-IRS-1-tyrosine or anti-IRS-1-serine antibodies followed by FITC-secondary antibody. Results: HIV-1 Tat significantly reduced ($p < 0.05$) insulin-induced GU in neuronal cells in a dose-dependent manner. A significant decrease in IRS-1 tyrosine phosphorylation was observed by increasing Tat concentrations. In contrast, IRS-1 serine phosphorylation was significantly increased when cells were exposed to the viral toxin. The ratio between serine and tyrosine phosphorylation increased with Tat demonstrating a significant change of insulin signaling. Conclusion: Our results support that Tat reduces GU induced by insulin and impairs insulin signaling in neuronal cells. The decrease in GU could be associated to higher binding of insulin to sIR in the culture medium stimulated by Tat. Supported by R01NS099036, R21MH095524, U54MD007587, G12MD007600.

P-76 Understanding Training Needs to Become an Effective Clinical and Translational Researcher

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Background & Objectives: The Puerto Rico Clinical and Translational Research Consortium (PRCTRC) is a centralized clinical and translational research program focused on health problems prevalent in our community. The PRCTRC conducted a needs assessment among the three-major medical/health sciences institutions in Puerto Rico to understand training needs of investigators. Methods: An online survey collected data on training interests across thematic areas and competencies developed by the National Institutes of Heal-

th-Clinical and Translational Sciences Award. Data gathered included topics of interest, preferred days and duration of training activities, and learning strategies. Frequency distributions were generated to describe the variables of interest. Results: Of 973 faculty invited to participate, only 83 (8.5%) completed the survey. Most faculty surveyed were affiliated with the UPR-MSU (76.8%) and held a medical degree (60%). Respondents perceived training needs in the following four top thematic areas: study design (61.5%), statistical analytic strategies (56.6%), formulation of clinical and translational research questions (41.5%), and community research engagement (33.8%). In-person classes (57.8%) or webinars were most popular (30.1%). Researchers also preferred weekday training (100%) as opposed to weekend (13.4%). The preferred duration of in-person trainings was between 1 to 4 hours long (86.6%). Conclusion: This needs assessment determined the perceived training needs of PRCTRC faculty. The results are being used to guide PRCTRC efforts of capacity building activities and building pathways to become effective clinical and translational researchers. Acknowledgements: This study was supported by the NIMHD of the NIH under Award Number 2U54MD007587.

P-78 Role of Dolichol Phosphate Mannose Synthase in Breast Cancer

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Background & Objectives: Dolichol-phosphate β -D-mannosyltransferase (DPMS) catalyzes the transfer reaction $GDP-Man + Dol-P \xrightleftharpoons{Mn^{2+}/Mg^{2+}} Dol-P-Man + GDP$ in the cytosolic site of the ER membrane - an important step in asparagine-linked (N-linked) protein glycosylation. Our laboratory has reported earlier that DPMS is essential for angiogenesis as well as capillary endothelial cell migration and proliferation. Furthermore, studies have suggested that functionally damaged glycosyltransferases triggers abnormal glycosylation and contribute to the development of cancer. Breast cancer has a very high prevalence rate in the United States. In the past three decades, its incidence has increased 19.4% and projects its continuous rising. It is therefore crucial to understand the mechanisms that enable and support breast cancer to treat this complex disease effectively. We propose here that high expression and enzymatic activity of DPMS contributes to the progression of breast cancer. Methods: DPMS transcript in breast cancer (MDA-MB-231 and MCF7) and normal breast epithelial (MCF10A) cells was measured by RT-PCR. Polyclonal anti-DPMS antibody helped detecting the protein

expression. The radiometric assay of DPMS enzymatic activity used [¹⁴C]-GDP-mannose. Results: Compared to normal epithelial cells, cancer cells have higher levels of DPMS mRNA and protein. In addition, DPMS enzymatic activity in cancer is 60% higher than that of the normal cells (73.7pmol/mg/min vs. 118.9pmol/mg/min). Conclusion: We conclude that high DPMS mRNA, protein and enzymatic activity plays a significant role in breast cancer progression. Acknowledgements: Supported in part by NSF EPS-1002410 (DKB) and NIH/NIMHD G12MD007583 (KB).

P-79 Inhibition of ELTD1 Adhesion-GPCR Receptor Expression Attenuates the Migration of Highly Invasive Retinoblastoma Cells

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Background and objectives: Children younger than 5 years with metastatic retinoblastoma (RB) have less than 8% survival rate. Targeting RB cell motility to prevent cell movement from the eye to the optic nerve (ON) is vital to prevent brain metastasis. Our objective is to define the role of adhesion G protein-coupled receptors in promoting RB progression. Our preliminary data show that ELTD1, but not GPR125, is a potential target to reduce RB invasion. Methods: Microarrays and Western blot assays were performed to elucidate the RNA and protein levels, respectively, in RB tumors compared to fetal retina. Immunocytochemistry showed the distribution of GPR125 in Y79 and Weri cells. Finally, we used siRNA technology to test the ELTD1 and GPR125 functional role in RB cell migration and cell viability using the transwell and trypan blue exclusion assays, respectively. Results: Microarray data shows overexpression of ELTD1 and GPR125 in RB tumors. Western blot assays illustrate that ELTD1, but not GPR125 protein levels are upregulated in Weri cells and RB tumors. Immunocytochemistry assays show that the distribution of the GPR125 antibody is polarized in RB cells. Using transwell assays, siELTD1 significantly affected the migration of the Y79. In contrast, RB cell viability was unaffected using siELTD1 or siGPR125. Conclusions: Our data demonstrates that ELTD1 is a target to prevent RB dissemination. Future studies will test that ON invasion by RB cells can be prevented by modulation of the ELTD1 expression in vivo. Acknowledgements: This research was supported by FRS 538431.

P-81 Validation of Questionnaire to assess Knowledge, attitudes, practices of contraception and Zika virus knowledge in Hispanic Women living in PR

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Objectives: Zika virus has been found to be the cause of fetal microcephaly and serious brain anomalies. Due to these fetal risks, the use of contraceptive methods is paramount. The proper use, understanding and availability of contraceptive methods is an issue of major importance in Puerto Rico. The purpose of this study is to validate a questionnaire to measure Zika knowledge and attitudes as well as Knowledge, attitudes and access to contraception in Hispanic women living in Puerto Rico. **Methods:** After IRB approval (#SJCH2456), questionnaire was administered to 30 patients of more than 20 years attending the San Juan City Hospital (SJCH). **Results:** A total of 30 patients were interviewed for the validation. Of these, 18 (60%) did not present any problems understanding the questions, however 12 (40%) of patients did had difficulties. A total of 16 misleading questions were identified. The theme which presented most doubt were those regarding the use of contraceptives (75%). Terminology was the main cause of confusion. Nevertheless, all questions were attended and clarified. **Conclusions:** A culture sensitive questionnaire is essential to evaluate contraceptive and ZIKA knowledge in our population. In the first phase, difficult questions were clarified in order to optimize the quality of the data to be gathered. The second phase is ongoing, and the clarifications made seem to be valid. With this study, diverse areas of need could be identified in order to develop strategies aimed at improving Zika knowledge, attitudes and prevention strategies as well as contraceptive knowledge and attitudes.

P-82 Use of Palin PCI Therapy with Spanish-Speaking Children Who Stutter

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This is a single-subject research study exploring the use of Palin Parent-Child Interaction Therapy with a Spanish-speaking child who stuttered. Both parents participated with their son in the indirect component of the therapy Program. Results indicated no changes in the level of stuttering frequency from baseline to intervention with the father. In contrast,

changes seen with the mother reflect that treatment had an impact on the outcome response in this case. The study also adds findings about changes in the parents' rating of (a) impact of stuttering on the child, (b) stuttering severity and parental concern, and (c) parents' knowledge and confidence in dealing with stuttering. Individual variations are discussed. Considerations for the cultural and linguistic adaptation and application of an indirect intervention program for preschool children who stutter are proposed.

P-84 Novel 1,5-Disubstituted 1,2,3-Triazoles as Inhibitors of Metastatic Breast Cancer

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Background & Objectives: There is a critical need to develop novel therapeutics that halt cancer metastasis. The Rho family GTPases that regulate cell invasion and migration are an excellent target for anti-metastatic cancer therapy. Previously we reported the development of the 1,5-disubstituted 1,2,3-triazole compound MBQ-167 which inhibits the GTPases Rac and Cdc42, and was shown to inhibit in vivo tumor growth in a xenograft mouse model. **Objectives:** The aim of the current study is to design and synthesize novel derivatives of MBQ-167 in order to obtain compounds with enhanced activity. **Methods:** The 1,5-disubstituted triazoles were synthesized via ruthenium catalyzed cycloaddition of azides and alkynes. The new compounds were analyzed for cytotoxicity to MDA-MB-231 breast cancer cell line via a Sulforhodamine B assay. Inhibition of cell migration was analyzed through a Scratch Assay Protocol. **Results:** Several novel derivatives of MBQ-167 were synthesized via ruthenium catalysis could be synthesized, but likely due to steric hindrance, the yield was very low. The new compound TMG-012 showed an 18% of inhibition of in vitro cancer cell growth at 25 μ M concentration. **Conclusions:** a. Ruthenium catalysis for our substrates provides only low yields of products and other methods are now investigated. b. The products of simple aliphatic alkynes such as TMG-012 appear less active than the aromatic alkyne derived MBQ-167; other, more complex alkyne building blocks are under investigation. **Acknowledgements:** This research was supported by 1 SC3 GM116713-01 to CPV and a UPRAA-Ford Motor Company Fund STEM Scholarship Award to TMG.

P-86 Anesthetic Considerations in the Management of a Trauma Patient with Suspected Hermansky Pudlak syndrome: A Case Report

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Hermansky Pudlak Syndrome (HPS) is a rare and low worldwide incidence disease with high prevalence in Puerto Rico. Clinical features involve oculocutaneous albinism, bleeding diathesis secondary to qualitative platelet dysfunction, and pulmonary fibrosis. Anesthetic management in these patients involves a challenging decision-making process involving thoughtful risk vs benefit evaluation, integration of preventive measures and prompt management of possible complications. We report on the case of a 67-year-old male, admitted to the stabilization unit after sustaining a right open tibial fracture with significant blood loss, and soft tissue defect after a motorcycle accident. Preoperative evaluation findings of pale skin, hair tone, horizontal nystagmus and history of childhood profuse bleeding following a tooth extraction raised suspicion for HPS. Delaying of emergent surgical intervention in a patient with a limb-threatening injury posed great risk and thus did not allow for preoperative evaluation by a hematologist. Nevertheless, preventive interventions such as DDAVP infusion and ensuring availability of platelets were done. Discussion with surgical team to establish a plan to manage life-threatening hemorrhage was also done. Clinical awareness and identification of HPS features can allow for effective preoperative hematologist referral, screening, work-up and diagnosis, as well as pre-operative arrangements to be made to prevent possible catastrophic anesthetic complications during surgery that could be otherwise prevented. These interventions enable preoperative optimization strategies that allows the anesthesiologist to perform optimal anesthetic management with fewer limitations due to risk for complications.

P-87 Ubiquitous Neurocognitive Dysfunction in Patients with Familial Adenomatous Polyposis: Implications for Screening & Intervention

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Introduction: Familial adenomatous polyposis (FAP) is caused by germline mutations in the APC gene whose protein has a pivotal role in the development of the pre-post synaptic complex as seen in-vitro. However, few studies characterize the cognitive abilities of FAP individuals. Thus, we hypothesized that individuals with FAP would show lower cognitive functioning compared to controls. **Aim:** To determine whether FAP patients would differentiate in performance on various measures of cognitive functions compared with control individuals. **Methods:** 26 individuals with genetically confirmed FAP and 25 age-gender matched controls were recruited. The major outcome measures were the Test of Nonverbal Intelligence-4, the Bateria III Woodcock-Munoz, and the Behavior Rating Inventory of Executive Functions-Adult. Measures of anxiety (General Anxiety Disorder Questionnaire-7) and depression (Patient Health Questionnaire-9) were used as potential covariates. **Results:** Both groups fell within the average IQ range, although FAP-cases had significantly lower IQ ($p=0.005$). Furthermore, FAP patients performed significantly lower than controls on: Verbal Ability, Thinking Ability, Cognitive Efficiency, Long-Term Memory, Processing Speed, Phonemic Awareness, Working Memory, and Executive Processes. When the groups were subdivided into younger (i.e., <21 years) versus older (i.e., >21 years), no age effects were present on any of the measures. **Conclusions:** Our findings support an important role of the APC protein in neurocognitive function. Moreover, the observed cognitive dysfunction followed a genotype-phenotype correlation as occurs with clinical manifestations in FAP patients. Individuals with FAP may benefit from cognitive screening to establish therapeutic interventions early in life as done for other neurodevelopmental disorders.

P-88 Apolipoprotein A5 Polymorphisms Impact in Prostate Cancer Severity in a Group of Puerto Rican Prostate Cancer Patients

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Background: Apolipoprotein A5 (ApoA5) is a triglycerides (TG) carrier in serum. Previously we established the relationship between high TG levels and Prostate Cancer (PCa) severity in a cohort of PCa patients in Puerto Rico, where this cancer is the leading cause of cancer deaths in men. ApoA5 polymorphisms (SNPs): rs3135506 and rs662799 have been associated with high TG serum levels. Our aim now was to evaluate the association of these ApoA5 SNPs with PCa severity in a cohort of Puerto Rican men. Methods: DNA was extracted from FFPE non-tumor seminal vesicles from radical prostatectomies (RP) (n=512). Genotyping was done by RT-PCR. Severity was defined using RP's Gleason score and tumor stage. Crude and adjusted logistic regression models were used to assess the association between PCa severity and each SNP. Results: Both SNPs were in Hardy Weinberg Equilibrium. After controlling by age, Body Mass Index and Prostate Specific Antigen, patients with homozygous mutant (C/C) rs3135506 (95%CI=0.93-3.19, p=0.08) or (G/G) rs662799 (95% CI: 0.22- 5.76, p=0.08) had 72% and 14 % respectively higher odds for severity, although with marginal statistical significance. Conclusion: Limitations due to cohort size may influence the statistical marginality of the results. Our results taken in conjunction with the influence of high TG levels in serum in PCa severity may be relevant for patient management. Further analyses with a larger sample size are needed to determine if statistical tendencies achieve significance. Acknowledgements: RCM1 (G12MD007600), U54MD007587 (PRCTRC) from the NIHMD, NIH. IRB # 8860212

P-89 Polymer (PVP) and surfactant (TPGS) impact on Celecoxib amorphous state when processed using Hot Melt Extrusion (HME).

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Purpose: The purpose of our study is to understand the impact of a polymer (PVP) and a surfactant (TPGS) on the amorphous state of celecoxib when processed using Hot Melt Extrusion (HME), as it has been previously demonstrated the competing effects of these in inhibiting (PVP) and/or aiding (TPGS) its crystallization. Methods: Amorphous dispersions were prepared mixing Celecoxib with polyvinyl pyrrolidone (PVP) and d- α -Tocopherol polyethylene glycol 1,000 succinate (TPGS). Thermo Scientific MiniLabII (HME) was used in a constant temperature of 150oC and a screw speed of 25min-1. Samples were characterized using X-Ray Diffraction, Raman Spectroscopy and FT-IR Spectroscopy, and viscosity. Results: XRD of extrudates showed the absence of crystalline peaks of pure Celecoxib, meaning a predominately amorphous drug. A decrease in Raman and FTIR band intensity and increase in bandwidth

was observed in extrudate samples with the largest amount of PVP, characteristic of amorphous state. Whereas samples with similar amounts of PVP/drug resulted in a less amorphous content. This is associated to the H-bonds formation between the PVP and Celecoxib which inhibits the molecular mobility of the drug and hence results in amorphous state. The latter occurs independently of the presence of TPGS. Increasing melt viscosity with increasing drug/polymer concentration resulted; whereas samples with similar amounts of drug and polymer had the lowest viscosity. Conclusion: It was demonstrated the inhibition of celecoxib molecular mobility (increase in viscosity) due to H-bond interaction with PVP (Raman/FTIR) hindering the molecules and thus resulting in an amorphous state of the drug.

P-90 Cyanosis in an Adolescent with Leukemia: What Would Your Differential Diagnosis Be?

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Purpose: Identify unusual causes of cyanosis in complex oncologic patients. Case description: 11-year-old male with Acute Lymphoblastic Leukemia, diagnosed at 2 years, with a relapse at 11 years of age and on chemotherapy went to the emergency department with post-chemotherapy thrombocytopenia. His physical exam revealed central and peripheral cyanosis. Oxygen saturation (Osat) by pulse oximetry was 85%, otherwise, normal vital signs and normal cardiorespiratory exam. 100% oxygen was administered and pulse oximetry stayed at 85%. Further questioning revealed that his mother had noticed this skin discoloration for 6 months. He was receiving dapsone for PCP prophylaxis due to pentamidine allergy and concerns of sulfa-induced thrombocytopenia. Clinical approach: ABGs showed PaO₂ of 124mmHg, and 99% Osat (both normal). Chest X-Ray and echocardiogram were normal and hematocrit 28%. In this scenario, methemoglobinemia was suspected and confirmed by measuring methemoglobin levels by co-oximeter which were elevated (19%). Intravenous methylene blue was administered, with rapid increase of Osat to 99% along with change in skin coloration to pink. Clinical findings: Dapsone was suspected as the inciting agent of his methemoglobinemia. His methemoglobin reductase B level was low, which has been implicated as a risk factor for dapsone-induced methemoglobinemia. Dapsone was discontinued and trimethoprim-sulfamethoxazole was instituted as PCP prophylaxis, with close monitoring of platelets levels. Hypothesis: Dapsone-induced methemoglobinemia is a rare cause of cyanosis in patients with oncologic conditions. A high index of suspicion to identify this

diagnosis is needed, given its challenging clinical presentation. Failure to diagnose and treat it promptly may be fatal.

P-91 Anterior Tibial Artery Pseudoaneurysm after Minimally Invasive Plate Osteosynthesis in the Proximal Tibia: A Case Report.

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Purpose: Tibia plateau are common fracture associated with high energy trauma. The treatment of these fractures still remains a challenge. Recent management of fractures has moved from open surgery toward minimally invasive surgery in an attempt to reduce complications and improve functional outcomes. Nevertheless, such minimal approach makes visualization of neurovascular structures difficult-placing them at risk. **Case description:** We report the case of 39-year-old male who developed a pseudoaneurysm of the anterior tibial artery following minimally invasive plate osteosynthesis of the right proximal tibia. **Clinical Approach:** Non-invasive Doppler ultrasound results revealed a 3.4cm x2.7cm pseudoaneurysm in the anterior tibialis artery. Patient was referred to endovascular service. **Clinical findings:** Clinical evaluation revealed a right mid leg anterolateral pulsating tender mass with intact palpable dorsalis pedis and posterior tibialis pulses. Patient stated no recent trauma since surgery. **Hypothesis:** This is the first case reported of a pseudoaneurysm of the anterior tibial artery following MIPO surgery in the proximal tibia. Although MIPO is an adequate treatment option, the lack of visualization in this minimal approach may place the neurovascular structures at risk. Understanding of the anatomy of the surgical site is vital to minimize complications. In addition, Proper post-surgical patient evaluation is important in order to identify such complications.

P-92 Congenital Hydrocephalus in Puerto Rico: risk factors for mortality and morbidity

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Background & Objectives: Congenital hydrocephalus is one of the most common congenital anomalies affecting the central nervous system by abnormal accumulation of cerebrospinal fluid in the brain. The incidence is 3/1,000 live births. The

most common causes are obstruction of the cerebral aqueduct flow, Arnold-Chiari or Dandy-Walker malformations. The main clinical sign is enlargement of the head. Our objective is to describe risk factors for morbidity and mortality in newborns with congenital hydrocephalus. **Methods:** This is a retrospective review of data collected for the Vermont Oxford Network Database of neonates with congenital hydrocephalus admitted to the University Pediatric Hospital Level III Neonatal Intensive Care Unit (NICU) during years 2002 to 2015. **Results:** One hundred and twenty newborns with congenital hydrocephalus were identified during the study period. The median gestational age was 37 weeks (range 28-41) and median birth weight 2944 grams (range 1100-5000). Twenty-one newborns also had myelomeningocele (17%). Ventriculoperitoneal shunt was required in 32%. Median length of stay was 13 days (range 1-170). The survival rate was 90%. Late bacterial infection was documented in 17% of newborns, and of those newborns who did not survive, 58% had confirmed infections. Gestational age and birth weight were not associated to mortality. Nevertheless, mortality was associated with late bacterial infections (OR 10.12 [2.79-36.62], $p < 0.01$). **Conclusion:** These patients are prone for surgical interventions, thus at risk of infectious processes that may increase comorbidities and mortality. Future studies should aim to determine standardized guidelines that prevent these infections. **Acknowledgements:** No conflicts of interest.

P-93 A Quality Initiative to Reduce Central Line Associated Blood Stream Infections and other Complications in the University Pediatric Hospital

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Background & Objective: Hospital acquired infections (HAIs) lead to nearly 100,000 deaths/year and multiple morbidities in survivors in the United States. Central line associated bloodstream infections (CLABSIs) are the most common type of HAIs among infants in the Neonatal Intensive Care Unit (NICU). Multiple studies support the use of bundled care strategies that focus on preventing CLABSI and associated complications. Our objective is to evaluate the effectiveness of an educational activity in improving knowledge about prevention of CLABSI

and to identify barriers preventing the establishment of a Bundle care strategy guideline. Methods: An educational activity based on a standardized Bundle care strategy guideline with pre and post test was offered to a group of health care providers at the University Pediatric Hospital NICU. A Barrier Questionnaire was provided after education. Results: Forty-nine health care providers participated in the educational activity (nurses 77%, respiratory therapists 13%, physicians 10%). There was significant improvement in knowledge after participation (93% correct answers vs. 72%, $p < 0.01$). Health care providers identified lack of materials, accessibility to materials and increased patient:nurse ratio as the main barriers to accomplish an effective Bundle care strategy guideline with over 70% of agreement. Conclusion: Regular standardized educational activities based on current recommendations should be established to prevent CLABSI and other complications. Barriers identified by the personnel are feasible options and should be addressed to accomplish our goal of decreasing CLABSI and complications. Acknowledgements: We want to thank our NICU personnel that participated in this Educational intervention.

P-94 Reproductive Characteristics as a Risk Factor for Cervical Cancer among Hispanic Women attending to colposcopy clinics

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Background: Cervical cancer is related to the Human Papilloma Virus (HPV) and in Puerto Rico, is the seventh most diagnosed type of cancer in women. The International Collaborations of Epidemics studies of Cervical Cancer has found an association between parity and age at first pregnancy with a chance to develop cervical cancer. Purpose: The purpose of this study is to assess the correlation between reproductive characteristics and cervical cancer among women living in Puerto Rico attending colposcopy clinics. Methodology: After IRB approval (MSC#1050513), a cross-sectional study was done in women attending to gynecology clinics due to abnormal pap smear. A total of 445 women were included. Descriptive analysis and logistic regression models were used to analyze the data collected. Results: Of the 445 women, 86% were born in Puerto Rico, 34% were 21 to 34 years old, 66% had public insurance. Of the group with cervical cancer (25.0%), 34% graduated high school and were single. Only 23% has history of oral contraceptive use and 35% used condoms during her life. The mean age at first pregnancy is 16-19,

41% reported history of abortions and 46% of them had four or more pregnancies. Conclusions: The reproductive characteristics in this Hispanic population living in Puerto Rico showed that woman with cervical cancer reported four pregnancies and more, early age at first pregnancy and inadequate use of contraceptives.

P-95 Papillary Craniopharyngioma of the Third Ventricle: A case report and review of literature

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Purpose: We present the case of a craniopharyngioma of the third ventricle. Craniopharyngiomas constitute 1.2-4.6% of all intracranial tumors. Adamantinomatous craniopharyngiomas has a bimodal age distribution (children aged 5-15 years and adults aged 45-60 years) and papillary craniopharyngioma occurs in adults (mean age 45-55 years). Most common site for both subtypes is the suprasellar cistern, unusual locations reported are the sphenoid sinus, cerebellopontine angle and the third ventricle, mainly for the papillary variant. Case description: We report the case of a 47-year-old male, who presented with headache and blurry vision. A brain MRI revealed an extraaxial mass in the floor of the third ventricle. The differential radiologic diagnosis included metastasis, choroid plexus tumor and meningioma (less likely). Clinical approach: The patient underwent surgical resection after an intraoperative consultation was consistent with craniopharyngioma. Clinical Findings: Permanent Hematoxylin & Eosin stains sections confirmed the diagnosis of craniopharyngioma. Hypothesis: Even though third ventricle craniopharyngiomas are rare, this diagnosis should be included in the differential diagnosis of third ventricle lesions. Acknowledgements: None

P-97 First Report of a 9q.34.11 Mutation in a Pediatric Patient Concomitant with a Rare Limb Girdle Muscular Dystrophy Type

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Purpose: Limb girdle muscular dystrophy type 2G (LGM-D2G) is a rare autosomal recessive muscular dystrophy caused by a mutation in the telothonin gene. There are very few pa-

tients reported with this condition. Our patient also presents a chromosomal deletion at 9q34.11, located adjacent to the genes mutated in Limb girdle dystrophy type 2H (9q33.11). Case description: We report a 13 years old female presenting frequent falls and difficulty walking since 9 years ago with slow progression. Neurological exam presented generalized hypotonia, 4/5 strength in proximal lower limb muscles, bilateral foot drop and hyperreflexia. Expressive language delay coexisted. Clinical Approach: No family members with muscular dystrophy were reported. Creatine phosphokinase, aldolase, lactate levels, molecular studies for LGMD and chromosomal microarray were done. Patient continues in physical and speech therapies and uses orthopedic devices to walk. Clinical findings: All laboratory workup was negative except for molecular studies of the LGMD2G gene that revealed one copy of a c.209G>A (p.R70Q) variant in exon 2 of the TCAP gene, which is consistent with the gene mutated in this disorder. Chromosome microarray was positive for an approximately 178 kb deletion at 9q34.11. Hypothesis: This case highlights the peculiarity of a patient presenting a heterozygous mutation at the LGMD2G, which is an otherwise autosomal recessive disorder, and concomitantly a chromosomal deletion that may play a role in the clinical presentation, therefore further research and mutation characterizations are needed. Acknowledgements: We wish to thank all participants: Dra. Maria Del Carmen González-Rios, Genetics

P-98 Studying the Role of BAT-1 in Prostate Cancer Cells
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Prostate cancer is the most common cancer in men in the United States. In Puerto Rico, prostate cancer is the most common type of cancer and leading cause of cancer death in men. The current available biomarkers are unable to predict malignant outcomes such as recurrence. Thus, there is a critical demand for the development of innovative prognostic tools for the management of prostate cancer. Preliminary data from patients who had prostate cancer recurrence identified that HLA-B associated transcript 1 (BAT-1) was down-regulated in patients with prostate cancer recurrence when compared with non-recurrent patients. We evaluated the biological role of BAT-1 in prostate cancer. We down-regulated BAT-1 in PC3 and 22RV1 cells using small interfering RNA (siRNA) and up-regulated BAT-1 in PC3 and 22RV1 cells. In vitro assays were performed to measure proliferation, apoptosis, migration and invasion. Flow cytometry and MTS analysis showed that down-regulation of BAT-1 had no effect on proliferation and apoptosis

of PC3 and 22RV1 cells. Wound healing and Boyden assays showed that down-regulation of BAT-1 significantly increased migration and motility at 12h and 24h of PC3 and 22RV1 cells ($P<0.05$). In conclusion, BAT-1 down-regulation increased migration and cell motility but showed no change in apoptosis and proliferation suggesting that BAT-1 down-regulation promotes aggressiveness in prostate cancer recurrence. Cell proliferation assays showed that BAT-1 up-regulation had no effect on the proliferation of PC3 and 22RV1 cells. A possible mechanism of action for BAT-1 is the modulation of cell migration and invasion. Supported by MBRS-RISE Program grant R25GM061838.

P-99 Depressive and Anxiety Symptoms among Residents at a Hispanic Academic Medical Center
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Background and Objectives Physicians-in-training are prone to depression and anxiety due to stressful demands inherent to the profession, to sleep deprivation, and to lack of leisure time. This can impact their well-being and the safety of their patients due to unwanted medical errors. The purpose of this study was to examine the prevalence of depressive and anxiety symptoms among a group of physician residents. Methods: A total of 230 residents from the UPR School of Medicine Residency Programs (response rate=54.7%) completed an anonymous self-administered survey that included the Patient Health Questionnaire (PHQ-9) and the State-Trait Inventory for Cognitive and Somatic Anxiety (STICSA), which assessed depressive and anxiety symptoms, respectively. Chi-square or Fisher tests were used to compare proportions. Results: About half of participants (50.7%) were male. Only 13.5% of the sample reported moderate to severe depressive symptoms, but almost all of them (96.8%) informed that these had affected their functioning. Approximately 15.2% reported significant anxiety symptoms, most of which (90.6%) reported affected functioning. Prevalence of depression was significantly higher among PGY2 residents (22.4%) and lowest in third year (8.4%); anxiety was also highest in PGY-1 and PGY-2 (22%), and lowest after PGY2 (7.8%). Both conditions were more common among females. Conclusion:- These results highlight the need for more research that would assess residents' mental health needs due to its relevance for their own well-being and in providing safe patient care, particularly among those in the first two years of training. Findings can help to address institutional efforts to ensure resident's wellness.

P-100 Children with Nephrotic Syndrome at Risk of Preventable Infections Due to Low Rates of Full-Immunization Series

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Background: Children with nephrotic syndrome (NS) are at risk for infections due to compromised immune system. In U.S., suboptimal immunization rates have been reported in this population; however, studies describing disparities among different ethnicities are scarce. **Objective:** Describe immunization rates among children with NS who attend the University of Puerto Rico-SOM Pediatric Nephrology Clinics from 2010-2015. **Methods:** Retrospective chart review. **Variables:** sociodemographic (age at diagnosis, age at immunization status assessment, sex, insurance) and clinical (immunosuppressants, hospitalizations). **Immunizations assessed:** HepB, Hib, DTaP, PPSV23, IPV, MMR, HPV, Varicella, Influenza, and Meningococcus. **Statistics:** median/ranges, frequencies/percentages, and Fisher-exact test. **Results:** 83 patients with NS, 58 immunization charts available. 61% males, 81% had government insurance. Age at NS diagnosis: 4.5yrs (2.3-9.6yrs), 34% received prednisone only, 66% received >1 immunosuppressant, 8% hospitalized >5times. Age at immunization status assessment: 12.8yrs (7.3-17.2yrs). >95% patients received primary-series immunizations (4DTaP:3IPV:1MMR:3HepB:3HiB:1Varicella:4PCV13) except for PCV13 12%. Percent patients receiving full-immunization series: DTaP 60%, IPV 75%, MMR 70%, HiB 60%, Varicella 60%, and HPV 29%. During the first year of NS diagnosis, 4% received Influenza, while 15% received PPSV23. Lower rates were not associated with hospitalization amount nor the use of >1 immunosuppressant. **Conclusions:** Primary-series immunization rates in this sample, most of which occurred prior to NS diagnosis, were above current Healthy People 2020 goals, except pneumococcus. However, completion of full-immunization series and rates of disease-specific immunizations were suboptimal. Possible explanations for this suboptimal rates include: lack of knowledge about disease-specific immunization schedule, cultural vaccine misconceptions, and suboptimal monitoring systems. Interventions are needed to improve immunization rates beyond primary-series.

P-101 Gold-Liposome nanoparticle conjugates for the delivery of ILK-targeted siRNA in ovarian cancer cells

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Background and Objectives: Integrin-linked kinase (ILK) is aberrantly increased in several solid tumors, including ovarian cancer. We observed higher ILK phosphorylation levels in cisplatin sensitive compared with cisplatin resistant ovarian cancer cells. Because ILK has been classified as a pseudokinase, design of specific inhibitors against this protein has not been possible. Therefore, the use of small interference RNA (siRNA) to silence ILK could be an alternative strategy to overcome the cisplatin resistance of ovarian cancer cells. Systemic administration of siRNA is limited by rapid clearance and degradation from the body; and thus an efficient carrier for siRNA delivery is essential. We propose the design of a nanohybrid carrier composed of nanoliposomes containing inside siRNA molecules covalently bound to gold nanoparticles (AuNPs). This conjugate system will improve the therapeutic efficacy of ILK-targeted siRNA in ovarian cancer cells. **Methods:** siRNA molecules were attached to 15 nm AuNPs by a thiol linkage followed by encapsulation into liposomes. **Results:** The siRNA was loaded into the AuNPs in a 70:1 ratio and the resulting conjugate had a diameter size of 20 nm. As measured by Dynamic Light Scattering, the gold containing liposome was obtained with a mean diameter of 41 nm. **Conclusions:** The gold-liposomal carrier developed in our lab presents ideal physicochemical properties for the efficient delivery of siRNA to tumors. Future work includes internalization and In vivo studies to further confirm the therapeutic efficacy of this system. **Acknowledgements:** This project was supported by the PR Science Trust and the UPR Comprehensive Cancer Center.

P-102 Can Lessons Learned from Dengue Surveillance Enhance Prevention and Control of Emerging Arboviral Infections in Puerto Rico?

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Background & Objectives: Puerto Rico has experienced three epidemics of arboviral infections transmitted by *Aedes aegypti* – Zika (2016), chikungunya (2014), and dengue (2012). Surveillance of emerging arboviral infections was initiated by building on the passive dengue surveillance

system. We assessed whether surveillance reports provide 'information for action' to current public health practitioners. Methods: We analyzed several indicators (distribution of cases by age, sex, county, suspected and confirmed cases, circulating dengue serotypes, date of onset of symptoms, and deaths) from weekly surveillance reports for dengue (2012-2016), chikungunya (2014-2016), and zika (2015-2016). Results: The number of confirmed cases of zika was 37,478 in 2016; however, the number of confirmed cases for dengue and chikungunya decreased (5,988 in 2012 to 168 in 2016; 4,274 in 2014 to 178 in 2016; respectively). These data contrast to the number of confirmed cases of dengue during the non-epidemic year 2011 (1,495). The ratio of suspected to confirmed cases was 2.2% for dengue in 2012 and 6.4% for chikungunya in 2014; this ratio was not available for zika during 2016. The reduction in the suspected and confirmed cases of dengue and chikungunya in 2016 might be attributed to the higher priority given to zika action. Conclusion: Surveillance reports for these infections provide a partial insight into the behavior of these emerging infections. Prompt and more complete reporting of surveillance data could enhance risk-reduction measures including public education and sustained community engagement for vector control. Lessons learned with dengue can enhance current and future surveillance systems. Acknowledgments: None.

P-103 Comparison of fever knowledge between caregiver that go to emergency department versus clinics.

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Background and Objectives: Fever is the most common non-traumatic reason to go to emergency department (ED). This study aim to answer: What is the difference of knowledge and concerns about fever between caregivers that go to emergency department (ED) versus outpatient clinics (OC). We thought that caregivers that go to the OC due to fever concerns are less anxious and more knowledgeable about fever identification and management that those that go directly to the ED. Methods: This is a cross-sectional descriptive study, that use a self-administered survey. Caregivers of children 6 month to 5 years old that visit the ED of San Juan City Hospital, Menonita Hospital at Cayey and the OC at HIPA 500 where included Results: The most common reason to visit the OC or the ED was for a physical examination. Although most to the caregivers described fever as more that 38 celsius (ED: 76%, OC: 63.5%), there is a high percent of them that do not know the correct definition of fever and when to start medication. In both groups mother report moderate anxiety and upon performing a chi squared test on the level of anxiety in both groups we found no statistical difference. Conclusion: Caregiver in this study have limited knowledge about fever and management. They needed

more education about fever definition, in order to identify better the temperature to start treatment and to promote better use of healthcare resources Acknowledgment: We have no funding sources or conflict of interests to disclosure.

P-104 Ataque de Nervios Clinical Questionnaire for CETMA Anxiety Clinics: A Tool to Diagnose and Study the Syndrome in the Puerto Rico Population

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Background: Ataque de nervios (ADN) is recognized as a culture-bound syndrome amongst individuals of Latino descent. It is characterized by a sense of being out of control and is often accompanied by other symptoms. Although extensive research has been conducted on Hispanic populations living in the United States, research about this syndrome in Puerto Rico remains scarce. Therefore, it is largely unknown if ADN presents in a similar fashion to what has been described in the U.S. Methods: The creation of a clinical screening tool to identify and describe ADN events was proposed. Thirteen questions were designed based on the six domains obtained from the data of the project conducted by Catala; utilizing closed, multiple choice, and fill-in-the-blanks formats. The questionnaire was then implemented in the Center for the Study and Treatment of Fear and Anxiety (CETMA) as a screening tool for administration to all new patients. A plan to administer it retroactively to established patients was also implemented. Results: The screening questionnaire was successfully implemented in CETMA and has been offered to new patients, while administration to old patients is ongoing. Conclusion: The ADN questionnaire serves as a tool to screen for symptoms of ADN, offering information on accompanying symptoms experienced in the local population. The data will be recompiled to perform a more in-depth analysis. Acknowledgments: This project was approved by the IRB and supported by Award Number U54 RR026139 from the NCRR, Award Number 8U54MD 007587-03 from the NIMH and the HiREC Endowment Program Award Number S21MD001830.

P-105 Does the use of study modules increase the performance and confidence of the University of Puerto Rico Medical Science Campus School of Dental Medicine

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In this descriptive cross-sectional study, by using a pre-post survey, we assess a population of fifty-two (N=52) 3rd year dental students from the University of Puerto Rico-School of Dental Medicine enrolled in the course PRET 7387. The intervention consists of using instructional modules focusing on the treatment of the pediatric patient. The modules were accessible through the Blackboard platform. Some of the modules contains audio-visual materials. The pre-test was administered before the modules and the post-test was administered right after the modules were discussed. Data Analysis using STATA were performed. The results of the t-student test showed statistically significant improvements ($t = -16.58$, $p = 0.0000$) in the pediatric patient's care knowledge for the 3rd year dental students. Also, students reported 100% acceptance in the use of the modules and that all of them are organize in one place with audio-visual aids. This make them feel more confident and prepared to treat the pediatric population in the dental clinic. In conclusion, providing students modules with audio visual material and all requires information to perform better at the clinic has a positive effect in their learning and make them feel more confident at the time they are require to perform a procedure in the clinic. Acknowledgments: This investigation was done as part of the ADEA Academic Dental Careers Fellowship Program.

P-106 Reliability and Validity of a Scale to Assess Hypoglycemic Symptoms in Type 1 Diabetes Adolescents

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Background & Objectives: Adolescents with Type 1 Diabetes (T1D) experience significant emotional distress which sometimes interferes with diabetes self-care. Although hypoglycemic symptoms are an important source of anguish, there are no published studies available assessing the psychometric properties of a self-report measure of these symptoms among Latino T1D adolescents, which is our current goal. **Methods:** Participants were 51 youth (aged 12-17) enrolled in a depression treatment study (IRB#1112-005). At intake, adolescent and one parent completed several measures. Youth completed the Hypoglycemia Scale (HS). We used Cronbach's alpha to estimate its internal consistency, and Pearson's correlation to assess its con-

current and construct validity. **Results:** The internal consistency of the HS was .85. HS scores converged with adolescents' self-reports of depression, quality of life problems, hopelessness, helplessness, self-esteem/guilt problems, and cognitive alterations, as well as with parent-rated barriers to self-care in youth. HS scores correlated negatively with adolescents' self-efficacy for depression, satisfaction with life, and frequency of insight experiences at group psychotherapy. The number of recent hypoglycemic episodes was positively associated with self-reports of ineffectiveness, self-efficacy for depression, T1D-related worries, mean daily events of glucose testing, and parental burden. **Conclusions:** Our findings document the reliability and validity of the HS in Latino adolescents with T1D, and support its relationship with emotional problems, cognitive variables, and behavioral aspects related to T1D management. It could be a useful tool to monitor hypoglycemia, particularly at clinical trials with youth who present emotional problems. **Acknowledgements:** This research was supported by NIDDK (R03DK092547) and by NIMHD (2U54MD007587).

P-107 Establishing Significance of Isolated Fetal Pyelectasis as a Sonographic Soft Marker: Evaluation of Ultrasound Reports done at the Adults University Hospital

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Objectives: A descriptive study to determine the significance of isolated fetal pyelectasis as a marker for Down Syndrome (DS) at University District Hospital (UDH) when comparing it to the United States Database (USD). **Methods:** We revised 36625 sonogram reports from UDH Maternal-Fetal-Medicine database from 2003–2015. Multiple gestations records were excluded. A total of 359 isolated pyelectasis in the second trimester were collected and the incidence was calculated and compared with USD incidence. Sample size of 165 records per group was estimated to attain a power of 80% and a confidence level of 0.05. Variables (fetal sex, maternal age, gestational age, pyelectasis lateralization) were analyzed to assess any correlation with pyelectasis or its severity. **Results:** 1% of patients at UDH are found with isolated pyelectasis in second trimester sonogram. The majority of pyelectasis are bilateral and fetal male sex was found statistically significant. A relationship between greater GA and pyelectasis severity was established. For a one unit increase in GA, the odds of having severe versus mild/moderate pyelectasis is 1.42 times greater on the right side and 1.39 times

greater on the left side. Pyelectasis lateralization, maternal age and gestational age have no statistical value in isolated pyelectasis. Conclusions: Isolated Pyelectasis was found in 1% of our population with male fetal sex predomination. This similarity to USD indicates that in our population we can use the same RPD parameters as US for pyelectasis diagnosis to statistically adjust the DS risk calculation value.

P-108 Perfil de necesidades de adiestramiento del personal de la Secretaría para la Promoción de la Salud-Departamento de Salud (SAPS), 2017

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Antecedentes & Objetivos: La capacitación del personal en el área de salud pública es un intento para fortalecer la salud de la comunidad a través del desarrollo de destrezas y mejora del desempeño de los equipos de trabajo (Public Health Foundation, 2017). La planificación del desarrollo de recursos humanos en salud pública debe alinearse a los intereses y necesidades de capacitación del personal, la organización y el estado de salud de la comunidad. A través de este proyecto se presenta el perfil de necesidades de adiestramiento del personal de la SAPS, cuyos resultados informarán la planificación de un proyecto de capacitación. **Métodos:** Para completar el perfil se utilizó un cuestionario que incluyó dos áreas: perfil sociodemográfico del personal e intereses de capacitación. El mismo fue distribuido a 54 de los 77 empleados. La selección se realizó por conveniencia y disponibilidad; 41 empleados respondieron (76% de tasa de respuesta). **Resultados:** El 75% del equipo de la SAPS son mujeres. El 81% del personal completó estudios universitarios (subgraduados/graduados). En cuanto a temas de interés resaltaron: uso de redes sociales en la promoción de la salud, comunicación en salud, aspectos de política pública, búsqueda de fondos y diseño de intervenciones educativas. **Conclusión:** Los resultados revelaron la necesidad de atender áreas que permitan al personal de la SAPS fortalecer su desempeño tareas asociadas con las responsabilidades dadas por su clasificación. Esta información es la base para el diseño del Proyecto Actualización y Desarrollo Profesional (ADEP) que incluirá diferentes temas y modalidades de adiestramiento.

P-109 Motivational and Emotional Factors in Adolescents with Type 1 Diabetes: Their Relationship with Self-care Behaviors

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Background & Objectives: Adolescents with Type 1 Diabetes (T1D) have a treatment regimen that includes daily insulin use and glucose monitoring, meal plan guidelines, and regular exercise routines. Research suggests that motivational and emotional factors may hinder their ability to comply with self-care recommendations. We examined the relationship of motivational and emotional factors with self-care behaviors (SCB) in Latino adolescents (aged 12-17) with T1D. **Methods:** Participants were 51 youth who enrolled in a depression treatment study (IRB#1112-005). At intake, adolescents and one parent each completed measures on emotional or motivational factors, and T1D self-care. Youth completed the Self-Care Inventory (SCI). We used Pearson product-moment correlations to examine the relationship of these factors with SCB, and multiple regression analyses to identify the best independent predictors of variance. **Results:** Among motivational factors related with SCB were self-efficacy, anhedonia, and satisfaction with life (SWL). Clinician-rated youth depression and adolescents' self-reports on how did they feel about their family social support regarding T1D management were the main emotional factors related to SCI scores. SWL and perceived family support about insulin use were the only independent predictors of SCI scores ($R^2 = .314$). Parent-rated anxious/depressive symptoms in youth and SWL scores explained 31.3 % of the variance of youth adherence to their meal plans. **Conclusions:** Both motivational and emotional factors appear to play an important role in adherence to SCB and should be considered when designing psychosocial interventions for Latino adolescents with T1D. **Acknowledgements:** This research was supported by NIDDK (R03DK092547) and by NIMHD (2U54MD007587).

P-110 Hypothermia as Brain Care Therapy for Neonatal Hypoxic Ischemic Encephalopathy (HIE) and Neonatal Depression

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Background & Objectives: Moderate hypothermia is the standard treatment for infants with moderate/severe HIE to reduce mortality and adverse developmental outcomes. The objective of this study is to describe the clinical course of infants admitted to the University Pediatric Hospital Neonatal Intensive Care Unit (UPH-NICU) who received hypothermia. **Methods:** This is a retrospective review of data collected for the Vermont-Oxford Network Neonatal Encephalopathy Registry of infants admitted to UPH-NICU from 2010 to 2015 treated with hypothermia. **Results:** Sixty-seven newborns received brain care therapy during the study period (81% selective head cooling; 19% whole body cooling). Cord prolapse was identified in 9%, uterine rupture 5%, antepartum hemorrhage 8% and maternal hypertension in 6%. Most of them (55%) were born by Cesarean section. Median 10 minute APGAR score was 5 (range 0-10). Traumatic birth injury was identified in 16%, most commonly cephalohematoma (87%). Assisted ventilation was required after birth for at least ten minutes in 82%. Median pH within one hour after birth was 7.09 (range 6.58-7.42) and median base deficit -15.6 (range -32 - 26.2). Seizures were noticed during hypothermia in 27% and during hospitalization in 62%. Tracheotomy was required by 9%. Mortality was 11%. **Conclusions:** Newborns admitted with neonatal encephalopathy had significant mortality and morbidity. Physicians caring for newborns need to be vigilant for early identification of infants, for which hypothermia is indicated, and transfer them in a timely matter to a center offering this treatment, in order to avoid injury from secondary events associated with hypoxia-ischemia.

P-111 First cases of microcephaly associated with Congenital Zika Syndrome (CZS) in Puerto Rico

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Background: Zika virus infection was first identified in Puerto Rico on December 2015. The outbreak prompted to cha-

racterize clinical manifestations, laboratory findings and develop guidelines for intrauterine exposed fetuses. On January 2017, there were 2,937 pregnant women who tested positive for Zika virus. We aim to describe the impact of CZS in our population.

Methods: Retrospective medical record review of infants born to mothers with Zika positive test admitted to neonatal services at 3 hospitals since May 2016. We collected the data during the first 10 days of life. **Results:** We identified 37 newborns with intrauterine Zika exposure with five newborns showing CZS. Infants with CZS had birth weights over 2kg and 80% were term infants. They presented microcephaly and 40% of them had micro-calcifications on imaging studies. These patients had normal electroencephalograms, although one developed seizures soon after performing the study. Ophthalmologist evaluation showed retinal hyperpigmentation in 60% of the infants. One patient needed gastrostomy prior to discharge. **Conclusion:** Extent of neurological deficit due to CZS is not well understood, but our findings confirm the impact of CZS in the development of the central nervous system. Auditory and vision screening, as well as eye examination are vital for the detection of conditions that distort or suppress the normal sensorial input, which may lead to inadequate school performance and/or blindness or hearing impairment in children. Multidisciplinary approach is needed in the evaluation of intrauterine exposed Zika infants to establish an appropriate screening and intervention protocol to obtain an answer.

P-112 An atypical case of a patient with the Posner-Schlossman Syndrome with H. Pylori infection: A Case Report.

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Purpose: To describe a patient with an atypical presentation of the Posner-Schlossman Syndrome (PSS). This syndrome is characterized by intermittent attacks of anterior uveitis and increased intraocular pressure (IOP) that may lead to irreversible visual loss. **Case description:** We report on a 35-year-old female patient who had an acute onset of photophobia, conjunctival hyperemia, and elevated intraocular pressure of the left eye. **Clinical Approach:** On initial examination the best corrected visual acuity was 20/20 and 20/50 in the right and left eye respectively. IOP was 14 mm Hg and 40 mmHg in the right and left eye respectively, by applanation tonometry. Slit lamp examination showed a mildly edematous cornea with keratic precipitates (KP) on the left eye. Indirect Ophthalmoscopy and Optic Coherence Tomography (OCT) showed

glaucomatous cupping. Visual Field examination showed a superior arcuate scotoma of the left eye. Patient was initially managed with topical glaucoma and steroids ophthalmic drops. Helicobacter pylori antibodies titers were ordered as part of a systemic evaluation. Clinical Findings: Upon a follow-up visit with persistent increased IOP, despite multiple glaucoma medications and glaucomatous damage, a trabeculectomy was done. IgG antibody titers for H. Pylori were detected. Hypothesis: The diagnosis of PSS remains challenging due to its intermittent presentation and unknown etiology. Ophthalmologists should be aware of the PSS's atypical presentations as well as a possible correlation to H. Pylori infection. Acknowledgements: Pedro Dávila, M.D. and Natalio Izquierdo, M.D. contributed substantial knowledge towards this case report.

P-113 Cervicomedullary arachnoid cyst causing bulbar dysfunction and quadriplegia in an infant: A case report and review of literature.

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Purpose: To highlight a rare cause of rapidly developing myelopathy and bulbar palsy secondary to a spinal arachnoid cyst in an infant with suspected ventriculoperitoneal shunt malfunction. **Case description:** We report the case of a spinal arachnoid cyst causing bulbar dysfunction and quadriplegia in a 5 month old female. After initial evaluation and ruling out ventriculoperitoneal shunt malfunction, a Brain/Cervical MRI revealed a cervicomedullary ventral arachnoid cyst causing severe spinal cord compression resulting in rapidly progressive bulbar dysfunction and quadriplegia. C1-2 laminectomies were performed. Intraoperatively, a 1.3 x 1.2 x 2.6 cm cervicomedullary arachnoid cyst was seen severely compressing and displacing the spinal cord with associated stretching of spinal roots. Total cyst microdissection and spinal cord decompression was achieved as evidenced by post-operative MRI. The patient had a stable post-operative course and return of baseline strength in upper and lower extremities as well as resolution bulbar symptoms. **Clinical relevance:** Anterior cervical arachnoid cysts are rare entities seen in the pediatric population with less than 20 cases reported in the scientific literature. A misdiagnosis or delay in treatment could result in further neurologic injury associated with increased morbidity and loss of function, and in rare cases, death. We aim to highlight this pathologic process in order to contribute to standardization of treatment of this disease which has a lack of controlled clinical studies and management guidelines. Further studies should provide which timing, treatment modality and follow up is optimal in this patient population.

P-114 Energy drinks might alter the CNS by Increased Postural Sway

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Background & Objectives: Energy drinks are one of the firmest growing products in beverage market, famous amongst young adults. There is evidence that caffeine (main ingredient of energy drinks) can alter the central nervous system (CNS). However, is unknown how energy drinks affects the CNS. Because postural control is under influence of the CNS, the purpose of this study was to investigate how energy drinks altered postural control. **Methods:** Twenty young healthy adults, (11 males; 9 females) averaging 26.5 years of age, stood on a MatScan pressure mat which measured antero-posterior (A-P) and left-right (R-L) postural sways during 8 different balance tests (BaLt) that assessed 3 systems involved in postural control: visual, vestibular and somatosensory. MANOVA analysis was performed for all variables of interest. Sway comparisons were made between initial and middle (0secs-15secs) and middle and end (0secs-30secs) of each BaLt. **Results:** The two main study components were to explore effects of caffeine and energy drinks on postural control. However, we are only presenting the energy drink results at this time. Results showed that among the 8 BaLt, 5 were affected by energy drinks, thus, a significant increase ($P < 0.05$) in sway was observed. Between, 15 secs and 30 secs, participants showed more instability ($P < 0.05$) during the 15secs of BaLt. In addition, increased in sway was more evident when we increased the complexity of the task and in a left-right direction. **Conclusion:** This study showed evidence that energy drinks can affect the CNS, proven by the increased in sway.

P-115 Extramedullar Thoracic Spinal Cavernoma: A Case Report and Review of Literature

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Purpose: Extramedullary spinal cavernoma is a rare vascular disease. Up to this publication only 23 cases have been reported in the literature. Most have been identified in the low thoracic region and only one in the upper thoracic area. Symptoms can range from mild sensory and motor deficits to severe neurological impairment including bowel/bladder dysfunction. Case description: 56-years-old male who presented with 1 year history of progressive lower extremity weakness, occasional allodynia and paresthesias. Patient denied urinary or fecal incontinence. Patient underwent MRI, which demonstrated a T2 heterogeneous mass. Clear intramedullary or extramedullary location could not be established. Clinical Approach: Initial MRI was performed without IV contrast. Initial differential diagnosis of lesion included ependymoma, meningioma, cavernoma, astrocytoma or focal inflammatory/demyelinating process. Physical exam demonstrated bilateral lower extremity weakness, clonus, and fasciculations. Clinical findings: Patient underwent surgical resection of the mass. The intraoperative course was marked by easily distinguished borders between the lesion and the spinal cord. Pathology report was consistent with a diagnosis of cavernoma. The patient underwent treatment with laminectomy and segmental fixation through the T1 to T4 segment as well as resection of the lesion. Successful recovery with improvement in the neurologic exam to a near normal motor exam was observed. Hypothesis: We present this rare entity and describe the diagnostic and surgical techniques utilized. Further discussion and review, the most appropriate time for management and furthermore, entertaining this entity in the differential diagnosis is entertained in our discussion.

P-116 Education and Music on Diminishing Preoperative Anxiety in Adults

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Clinical Question: In adult surgical patients (P), how does a combined approach of structured education and music (I) compare to the standard of care (C) affect preoperative anxiety (O) during holding area stay (T)? Scope: Preopera-

tive anxiety may result in negative physiological outcomes that affect induction, maintenance, and recovery from anesthesia. Anxiety in the holding area was traditionally managed pharmacologically but is currently not done due to unwanted side effects. Literature Review: A randomized controlled trial founded that participants in a preoperative education group experienced a greater decrease in anxiety than those in the usual care group. Additionally, a systematic review showed that music intervention reduced preoperative patient anxiety and pain in approximately 50% of cases reviewed. Project Implementation: Twenty patients who underwent general anesthesia received a structured education along with music in the holding area. Results: Fourteen women and 6 men, with a mean age of 41, participated. Of these, 60% received general and 40% spinal anesthesia. Results showed a statistically significant reduction in preoperative anxiety after interventions ($p < 0.001$), decrease in mean arterial pressure ($p = 0.002$), mean systolic pressure ($p = 0.001$), and diastolic blood pressures ($p = 0.023$). Implication: Structured education and music in holding areas can prompt anesthesia providers to reduce dosages of induction medications as result of improved hemodynamic levels. These non-pharmacological interventions support the importance of reducing preoperative anxiety to a level in which the patient feels more comfortable.

P-117 Clear cell hidradenoma in the left hand third digit of a 52-year-old male

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Purpose: Clear cell hidradenoma is a rare benign soft tissue tumor of the eccrine sweat glands. Commonly, this lesion appears in areas like the head, face, thorax, and upper extremities. The hidradenoma also has a recurrence rate of 12% and may be not be physical differentiated from a malignant lesion. Case Description: We present a case of clear cell hidradenoma in a 52-year-old male patient that presented with a mass in the left third digit that has been growing for the last year. Clinical Approach: A 3cm diameter, well demarcated, central ulcerated, skin toned, non-tender and non-mobile mass was observed with in the dorsa-ulnar aspect of the left third digit. An excisional biopsy was performed. Clinical findings: Histologically, the mass was described by the pathologist as a roundish fragment of skin measuring 3.5 x 1.4 cm with a tumoral lesion measuring 3.3cm. On section a tannish coarsely granular rubbery parenchyma was observed extending to the deep margins. An adnexal neoplasm consistent of a clear cell hidradenoma with associated papillomatous epidermal component was diagnosis. Hypothesis: Although a rare tumor, the presentation of the lesion is in no means different from a malignant neoplasm. It is important for surgeons to recognize that this tumor can appear in any area with sweat glands pre-

sent and therefore, complete biopsy be performed to rule out malignancy and decrease the probability of recurrence.

P-118 Reasons why the faculty of the School of Dental Medicine (SDM) of the University of Puerto Rico-Medical Sciences Campus (UPR-MSC) starts a teaching career after being in a private practice

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Background: Teaching can be considered both an art and a science. It is important for the teacher, as well as, the student to have a comprehensive knowledge about the discipline that they are involve. Dental Medicine is a health discipline that is in constant change due to advances in technology and treatment therapies. Nowadays, the faculty faces challenges characterized by the application of teaching techniques, both in the classroom as well as in the clinic. Objective: Explore the reasons why dentists decide to begin an academic career after being 5 years or more in the private practice. Materials and Methods: Eight (8) faculty members from the SDM completed a self-administered questionnaire. The survey had 18 items and the data was analyzed using SPSS. Results: The main reason for starting an academic career was the desire to teach. According to the data analysis the participants decided to wait until they acquire more experiences in the private practice before teaching. Conclusion: A professional with great commitment, the desire to teach and share his knowledge, accomplishes the ideal of the dental education mission; including the enhancement of the education care delivery relationship, comprehensive care experiences, teaching and learning reform encouraging reflective clinical practice (Gerzina, 2005). In light of these results, focusing on increasing the desire to teach in Dentists could be explored as the beginning of a pipeline in the development of academic mentors. The results cannot be generalized to the whole faculty due to the low participation rate. Acknowledgements: None

P-119 Perfil de fecundidad de las madres inmigrantes y madres puertorriqueñas, Puerto Rico: 2008 y 2013

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Trasfondo-Objetivos: La fecundidad y la migración son fenómenos demográficos que intervienen en el crecimiento de la población. La fecundidad al igual que la inmigración se han reducido en las últimas décadas, contrario a la emigración que ha aumentado. La inmigración se redujo un 6% entre 2008 y 2013. En el 2008 los nacimientos de madres inmigrantes representaron 13% y 11% en 2013. El objetivo de este trabajo fue elaborar un perfil sociodemográfico de las madres inmigrantes.

Método: Esta investigación es descriptiva. Se utilizaron los archivos quinquenales de la Encuesta de la Comunidad de Puerto Rico (PUMS) de 2006-2010 y de 2011-2015 y los archivos de nacimientos del Registro Demográfico. Además de analizar las características sociodemográficas, se calcularon diferentes tasas específicas por nacionalidad que se dividió en cuatro grupos. Resultados: Los nacimientos han disminuido entre 2008 y 2013 en mayor proporción en las madres estadounidenses (31%), seguido por las dominicanas (27%), las de otros países (25%) y las puertorriqueñas (18%). La tasa total de fecundidad (promedio de hijos) se redujo en menor proporción en las dominicanas (8%) y en las de otros países (7%), comparado con las estadounidenses (19%) y puertorriqueñas (12%). En el 2013, 47.8% de las puertorriqueñas tuvieron su primer hijo, comparado con las estadounidenses 44.3%, 39.7% las dominicanas y 51.7% otros países. Conclusión: Las emigrantes en edades reproductivas cargan con su aporte a la tasa de crecimiento. La fecundidad sin ser tan ágil como la migración responde también a la crisis socioeconómica por la que atraviesa el País.

P-120 Acquiring Clinical Skills with Standardized Patients: Dental Student Perceptions

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Purpose: The use of standardized patient (SP) as a tool for the teaching of clinical skills have been widely used in medical education since the 1990's. The UPR School of Dental Medicine introduced the concept successfully in its curriculum in 2003 for medical history interviews and dental clinical examinations. The SP activity involves a general understanding of medical history concepts and assisting to lectures and seminars serving as introduction to what the student can expect from a SP and a real case patient. The SP activities begin during freshman year with medical history interviews and vital signs acquiring skills. In an effort to understand what students need to learn for real case scenarios, this research aims to study the perceptions of first year dental students toward the SP activities. Methods: Using a pre-test and post-test, student's perceptions were evaluated before and after the completion of the SP activity, in this case medical history interviews. The student's perceptions were measured using a survey to measure their attitude's components: cognitive, affective, and behavioral. Discussion and/or conclusions: The results showed improvements in cognitive and affective components. In addition, the students understand that SP activities should be repeated more often through the academic year. In conclusion, this research reaffirms the neces-

sity to continue SP activities for dental students as a mean to acquire clinical skills for preparation of real life scenarios. Acknowledgements: We acknowledge Ms. Gianna Piovanetti and UPR School of Medicine Clinical Skill Center.

P-121 Synthesis of 3,6-dibromocarbazole derivatives as anti-cancer and anti-migration agents in MDA-MB-231 cancer cells

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Background & Objectives: In women, breast cancer is the leading cause of death, due to metastasis. N-WASP protein is involved in invadopodia formation in metastatic carcinoma cells. A 3,6-dibromocarbazole derivative named wiskostatin has been identified as a N-WASP inhibitor. Unfortunately, in a recent study was found that wiskostatin inhibited other cellular functions that are not believed to be N-WASP dependent. We hypothesize that compounds that contain in their structure a hydrophobic aromatic group with an elongated aliphatic polar segment will potentiate the ability of the molecule to interact with N-WASP. The aim is to synthesize compounds derived from 3,6-dibromocarbazole and study cytotoxic and anti-migration activity in MDA-MB-231 cancer cells. **Methods:** The compounds were synthesized reacting 3,6-dibromocarbazole with ethyl 4-bromobutyrate via substitution reaction followed by hydrolysis. The product was reacted with amine derivatives to produce the desired amides. All compounds were tested for their growth inhibitory activity against MBA-MD-231 cell line via a Sulphorhodamine B assay. For the migration assay, we used a wound-healing assay with compounds at 10 μ M for 24 h. **Results:** Among 16 compounds synthesized, 7 compounds showed growth inhibition with GI50 in the range of 4.7 to 23 μ M. One compound demonstrates anti-migration with 46% inhibition of wound closure at 10 μ M in MDA-MB-231 cells for 24 h compared to control. **Conclusion:** From our results, we can conclude that 3,6-dibromocarbazoles can be optimized and developed as new anti-cancer drugs. **Acknowledgements:** The project was supported by American Association of Colleges of Pharmacy New Investigator Award and PR-INBRE.

P-122 Disparities in diabetes prevalence, comorbidities, and healthcare utilization among publicly and privately insured pediatric population in Puerto Rico

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Background and Objective: Estimates of the prevalence of diabetes in the pediatric population of Puerto Rico are limited, despite the high burden of diabetes in the adult population. We compared the prevalence of diabetes, Charlson comorbidity index, and healthcare utilization services between publicly and privately insured children and adolescents. **Methods:** Using a medical insurance claims database detailing healthcare utilization for insured children and adolescents aged ≤ 20 years in Puerto Rico in 2013, we identified cases of diabetes on the basis of at least one claim diagnosis with ICD-9 code of 250.xx. Prevalence of diabetes, Charlson comorbidity index, and healthcare utilization (hospitalizations and emergency room, outpatient, and dental visits) were compared between publicly and privately insured children and adolescents. **Results:** Of 721,767 insured children and adolescents, 17,702 (2.4%) met the diabetes case definition – type 1, 0.3%; type 2, 1.2%; and indeterminate type, 1%. Prevalence of diabetes was higher among females (2.6%), those aged 15-20 years (3.7%), and privately insured children and adolescents (2.5%). When healthcare utilization services among insured children and adolescents with diabetes were assessed, dental visits (13.9%) and outpatient visits (99.8%) were higher among privately insured children and adolescents whereas Charlson index comorbidities (17.4%), hospitalizations (90.6%), and emergency room (59.8%) were higher among publicly insured children and adolescents. **Conclusions:** These results suggest disparities in prevalence, comorbidities, and healthcare utilization among publicly and privately insured children and adolescents in Puerto Rico. Further research is needed to investigate insurance-based disparities in health and health care among children and adolescents with diabetes.

P-123 Bioinformatic Analysis to Associate miRNA and Cancer in Hispanics populations

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Background & Objectives: The study of miRNAs as novel targets for cancer treatment is a topic of great interest. Current-

ly, studies focused on Hispanics populations have not been widely developed. Available tools to analyze this information are not enough to manipulate small amount of data. The aim of this work is to develop new workflows using analytical tools to study relationships between miRNA expressions and clinical patient data, from minority populations. Other solutions only use the median as the cutoff value, which do not necessarily guarantee statistically significant difference between the groups. Method: Our data are obtained from The Cancer Genome Atlas (TCGA) using RTCGAtoolbox. New workflows implementations are developed to obtain the miRNA expression level values (cutoff), that divide the samples in HIGH and LOW groups with statistical significance. Firstly, a training set is used to determine the cutoff value, finding the difference between the miRNA expression levels. Then, the value is validated in the test dataset. Using this cutoff, a survival analysis curve is implemented to determine survival HIGH versus LOW groups. Results: We test our solution using dataset of miR-143 for Glioblastoma, miR-21 and miR-27a for ovarian cancer from TCGA, focused on Hispanics populations. As a result, cutoff values guarantee statistically significant differences and the corresponding survival curves are obtained. Conclusion: Our workflow guarantees more reliable solutions, because survival estimation curves of the two groups are generated based on statistical significance difference of miRNA values. Acknowledgement: This research was supported by NIMHD from the NIH (G12MD007600).

P-124 Genome-wide DNA methylation analysis in Head and Neck Squamous Cell Carcinoma Puerto Rican patients

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Objective: The main objective of our study was to determine DNA methylation differences between Head and Neck Squamous Cell Carcinoma (HNSCC) anatomical subsites: larynx, oral cavity, and pharynx. Using a genome-wide approach, we identified unique aberrantly methylated genes in each HNSCC anatomical subsite. Methods: DNA from HNSCC Puerto Rican patients and normal oral epithelium samples (MSC-IRB Approved) were analyzed using a genome-wide approach with usage of tilting arrays. Bioinformatical analysis identified unique genes aberrantly methylated in each HNSCC anatomic subsite. One potential biomarker for laryngeal cancer, CDH1, was tested in a cohort of laryngeal cancer samples, using qMSP MethyLight assay. Results: We identified 2565 differentially methylated genes common to the three HNSCC anatomic subsites. In laryngeal cancer, 738 unique differentially methylated genes were found, 889 unique differentially methylated genes in oral cavity and 363 unique differentially methylated genes in pharyngeal cancer. CDH1 was uniquely methylated in laryngeal cancer. Validation analysis revealed that 71% of laryngeal cancer samples showed positive methylation for CDH1. No association with clinicopathological characteristics was found. Conclusion: HNSCC anatomic subsites manifest unique methylation patterns which may be consistent with the clinical manifestation of the disease. A high percentage of laryngeal samples positive for CDH1 methylation might suggest that CDH1 may be useful as a molecular classifier for HNSCC. A panel of differentially methylated genes identified will be further tested in a large cohort of HNSCC samples. Analysis of unique DNA methylation biomarkers for HNSCC may be valuable for accurate disease prognosis and for design of novel treatments.

P-125 Small-scale continuous crystallization of warfarin sodium for personalized medication

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Background & Objectives: The field of personalized medicine significantly impacts clinical practice. Despite its potential and ongoing development in pharmacogenetic testings, algorithms and clinical trials, full adoption in practice is slow. An addressable barrier is the lack of practical and cost-effective pharmaceutical manufacturing settings able to implement personalized dose formulation. Small-scale, end-to-end continuous manufacturing, the integration of synthesis, purification, and formulation within the same uninterrupted microfluidic reactor network represents an enabling technology to facilitate personalized medicine into real-world clinical settings. The presented research focuses on continuous crystallization, the key link at the interphase from synthesis to the formulated product while working with warfarin, an oral anticoagulant used to treat cardiovascular diseases, the #1 cause of mortality in the US. Methods: Solvent and antisolvent screenings were conducted

to derive a crystallization process to achieve maximum yield, using UV-vis spectroscopy, while studying the process parameters, residence time, temperature, and number of crystallization steps. Raman spectroscopy and Powder X-Ray Diffraction was conducted for solid-state characterization of the crystallized warfarin. Results: FDA approved Isopropanol (solvent) and Hexane (antisolvent) were the most suitable solvent/antisolvent system to crystallize US Pharmacopeia conform warfarin, with a yield about 80 %. Conclusions: The study demonstrates that warfarin can be produced in a 30 mL continuous crystallization process, making this setting viable to pursue further the development of a small-scale, end-to-end, continuous manufacturing approach for the individualized dose formulation needs of the patient's personalized medication. Acknowledgements: This research was supported by the PR Forward Trust.

P-126 Factors associated with Child Abuse in Puerto Rico: A Descriptive Study.

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Background And Objectives: Child abuse is commonly seen in our Puerto Rican population, although limited literature is available about incidence and what are the characteristics factors of our Hispanic society. By knowing what are the most common factors of our population, we can be aware of which children are at greater risk, and who should be observed and examined in greater detail. The objective of this study is to describe the children evaluated by Biopsychosocial service to determine the most common factors associated to each type of abuse. **Methodology:** This is a cross-sectional descriptive study, where we evaluated medical records of the University Pediatric Hospital. The population included was any child or adolescent hospitalized due to suspected child abuse from January 1, 2013 to December 31, 2015 (n = 174), who had been evaluated by the specialized child abuse physician of the Biopsychosocial Department. **Results:** A total of 174 patients were recorded, of these 46.6% were female and 53.5% male, with a mean age of 1.9 years (+/- 0.97). The most prevalent abuse was abusive head trauma with 26.6% of patients with a mean age of 1.4 years, followed by physical abuse (23%), skeletal fractures (21.8%), burns (15.5%), and sexual abuse (12.1%). Of all cases analyzed we observed that 16.2% of patients had parents with prior Family Department referral. **Conclusion:** There is a prevalence of maltreatment in children less than 2 years of age in our population, with the most predominant abuse being abusive head trauma.

P-127 Exploring LRRK2 and SNCA contributions to Parkinson's disease (PD) by quantitative proteomics analysis of PD patient-derived cells

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Background/Objectives: Mechanisms leading to Parkinson's disease (PD), the second most common neurodegenerative disorder, remain elusive. Heterozygous mutations in leucine-rich repeat kinase-2 (LRRK2) and α -synuclein (SNCA) are the most common genetic cause of PD. **Methods:** A cellular model of PD-derived human fibroblasts, SNCA-(A53T/WT), LRRK2-(G2019S/WT); and a healthy control, were analyzed by a proteomics-based approach to identify kinase and cathepsin pathways that may contribute to α -synuclein amyloid formations, and mutant LRRK2 excessive phosphorylation toxic effects. Samples were processed for peptide labelling by isobaric tagging (iTRAQ/4-plex), and liquid-chromatography coupled to mass-spectrometry (LC-MS/MS Q-ExactiveTM). A total of 4113 proteins were identified using a statistical false discovery rate < 0.05, quantifying the cases with more than 1 peptide; and using the weighted spectrum, peptide, and protein (WSPP) statistical model. Results were validated against Uniprot database. **Results:** Fifty proteins showed statistically significant differential expression for LRRK2 mutant cell-line. Myristoylated alanine-rich protein C-kinase substrate (MARCKS) was the most expressed protein. MARCKS appear to regulate protein kinase-C, which has been associated to amyloid precursor protein processing. For mutant SNCA cell-line, 172 proteins showed statistically significant differential expression. Cathepsins D and K showed decreased expression, suggesting a route for decreased α -synuclein amyloid formation by lysosomal-mediated clearance. Interestingly, both mutant cell-lines differentially expressed kinases involved in nucleoside and nucleotide synthesis. **Conclusions:** Our preliminary results support further work to identify targets that could explain these findings, and ultimately provide further insight about PD mechanisms. **Acknowledgements:** Research supported by RCMI, CCC, CNIC, Med-Int QP-Lab, Hereditary Diseases Program, and PR Science/Technology/Research Trust.

P-128 Nutritional Recommendations from WIC Program towards Childhood Obesity Prevention: Perceptions & Beliefs from Participants and Staff in Puerto Rico

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Background and Objective: A main goal for the Women, Infants, and Children (WIC) Program is preventing childhood obesity. Currently, obesity prevalence is high (13.9%) among WIC participants aged 2 to 4 years in Puerto Rico (PR). Previous studies among PR-WIC participants did not find significant associations between studied dietary patterns and obesity. The objective was to explore the perceptions and beliefs of PR-WIC participants and staff regarding nutritional issues related to obesity. **Methods:** A qualitative approach was used conducting 132 semi-structured individual interviews among WIC's participants and staff from nine PR-WIC clinics. The following questions were included: Is there a WIC recommendation that could help prevent childhood obesity? Which WIC recommendation is difficult to follow? Interviews were transcribed from audio to text and analyzed with NVivo (v.11). Sociodemographic data was assessed with a short questionnaire and analyzed with SPSS (v.23). **Results:** Preliminary results show that the most helpful recommendations for obesity prevention were: portion control, practice breastfeeding, avoid adding food in baby bottle, stay physically active, increase vegetables, and reduce sugar intake. Among the WIC recommendations most difficult to follow were: eat vegetables, continue breastfeeding, follow meal times, avoid unhealthy snacks, avoid early introduction of foods, drink water, exercise, and control milk servings. **Conclusion:** The gathered responses suggest that the challenge to prevent childhood obesity may be implementing the WIC recommendations. These findings may help the PR-WIC program focus their nutrition education towards translating their recommendations into practical guidelines for participants to follow. **Acknowledgments:** This study was funded by RWJF-IRL.

P-129 Prevalence of Bacteria and Genes Related to Inflammatory Bowel Diseases (IBDs) using Metagenomic Databases

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Background and Objectives: The human gut microbiota possess a dynamic community that helps in important biochemical processes. Changes in this system are associated with diseases such as colorectal cancer and inflammatory diseases. Our goal is to quantify and compare frequencies of bacterial pro-inflammatory genes in metagenomic Whole Genome Sequences (mWGSs) samples from patients with Inflammatory Bowel Diseases (IBDs) and healthy individuals. **Methods:** Eight pro-inflammatory genes are selected for this analysis. These genes are *clbN*, *clbB*, *cif*, *cnf-1*, *usp*, *tcpC*, *gelE* and *murB* (from *A. muciniphila*). We include 2 *murB* genes from *E. coli* and *E. faecalis*, as housekeeping genes to determine the presence of these bacteria in the samples. We select three different mWGS cohorts accessed through Human Microbiome Project (HMP). The first cohort include 251 stool samples from healthy patients. The second and third cohorts correspond to the unhealthy cohorts, 60 samples associated with Crohn's disease and 17 samples associated with Ulcerative Colitis, respectively. **Results:** The frequencies of pathogenic gene hits in mWGS data from the unhealthy cohorts are significantly higher compared to the healthy cohort. Additionally, *murB* housekeeping genes prove higher presence of the species *E. coli* and *E. faecalis* in individuals with Crohn's disease and Ulcerative Colitis, when compared to healthy individuals. **Conclusions:** Our results suggest preliminary associations between the presence of these pathogenic genes and bacteria with IBDs. In addition, these results illustrate the power of HMP database in detecting clinical correlations for individual bacterial genes. **Acknowledgements:** This research was supported by G12MD007600 (NIMHHD) from NIH.

P-130 Hot Spots of Hypospadias and Presence of High Levels of Heavy Metals in Water Resources in Puerto Rico

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Background & Objectives: Hypospadias is a urogenital birth defect where the urethral opening can be localized at any point in the ventral penis. Hypospadias incidence has been increasing over the years. It's hypothesized that environmental contaminants, working as endocrine disruptors, may be part of this increase, such as heavy metals. In Puerto Rico, hypospadias has

been shown to cluster in specific municipalities. We hypothesize that heavy metals may be a possible cause. The aim of this study was to evaluate levels of heavy metals in these municipalities' water resources and whether these values are within the accepted maximum contaminant level (MCL). Methods: Heavy metals assessed were: cadmium, lead, chromium, and arsenic. Levels of heavy metals were scrutinized from recorded data of water samples collected from: "Junta de Calidad Ambiental de Puerto Rico" and the U.S. Geological Survey – Puerto Rico (2007 to 2016). Values that exceeded the MCL were considered high. Municipalities were selected from clusters found by Aviles and colleagues (2014) with Anselin Local Moran's I and Getis-Ord G for hypospadias cases. Results: We found high levels of lead and chromium in the following municipalities: Aguada, Bayamón, Cabo Rojo, Carolina, Guayama, Gurabo, Hormigueros, Lajas, Maricao, Mayagüez, Ponce, Sabana Grande, Salinas, San Germán, Toa Baja, and Trujillo Alto. Specifically, extremely high levels of chromium were found in Gurabo. Conclusions: We conclude that due to high concentration of heavy metals in the areas mentioned, there may be a correlation between presence of heavy metals and hypospadias incidence in Puerto Rico.

P-131 Promoviendo la Salud a Través de la Capacitación a Cuidadores Dominicanos que Ofrecen Servicios en la Comunidad a los Adultos de Edad Avanzada

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Trasfondo y Objetivos: Las condiciones sociales y de salud de los adultos de edad avanzada que viven en la comunidad imponen un reto a las familias ante las necesidades de cuidado de aquellos que están frágiles y dependientes. Este sector poblacional es cuidado principalmente por personas dominicanas que carecen de educación formal en aspectos básicos en geriatría y gerontología. El objetivo de esta iniciativa fue: aumentar los

conocimientos y destrezas de los cuidadores dominicanos sobre las necesidades sociales y de salud de los adultos de edad avanzada en Puerto Rico. Método: El Centro de Educación en Geriátría de la Escuela de Medicina estableció un acuerdo de colaboración con el Consulado de la República Dominicana en San Juan, Puerto Rico e Islas Vírgenes para adiestrar a aspirantes y cuidadores de adultos de edad avanzada que laboran en la comunidad. La capacitación de 20 horas se fundamentó en las medidas de promoción de la salud con un enfoque interdisciplinario. Los conferenciantes eran miembros de facultad de diferentes Escuelas del Recinto, especializados en las áreas de medicina/geriátría, educación en salud, nutrición, enfermería, gerontología, terapia física y trabajo social. Se distribuyó a los participantes un manual para complementar el contenido didáctico. Resultados: Los cuidadores afirmaron un aumento en conocimientos y destrezas adquiridas a través de las conferencias y ejercicios prácticos en el manejo del adulto de edad avanzada. Conclusión: Para promover la salud de los adultos de edad avanzada a través de iniciativas educativas en la comunidad es necesario aunar esfuerzos de colaboración multisectoriales.

P-132 Longitudinal Associations Relating Oral Hygiene and Periodontal Disease

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Background & Objectives: Oral hygiene is recommended and practiced to decrease dental plaque and prevent periodontal disease, yet the association are not well established. Our objective is to determine the association between different oral hygiene procedures and periodontal disease. Methods: A cohort study of 1206 overweight/obese, diabetes-free adults aged 40-65 years was conducted; 869 had completed data. Socio-demographics and oral hygiene procedures were collected using an interviewer administered questionnaire. Oral examinations were performed by trained and calibrated dentists. Brushing, flossing and mouthwash were evaluated as independent risk factor for periodontal disease in the 3-year follow-up visit using Poisson models. Periodontal disease was categorized as moderate or severe versus none or mild using CDC/AAP definition. Results: Mean age was 50.5 (SD=6.8), 73% were women and 53% had high school or less education. Frequency of brushing or mouthwash use was not associated with periodontitis. The IRR for moderate or severe periodontal disease comparing tho-

se who floss once or more daily with those who never floss was 0.70 (95% CI: 0.51-0.97), adjusting for age, gender, smoking, physical activity, alcohol consumption, diabetes and waist circumference. After additionally adjusting for plaque index (a potential mediator), flossing was no longer associated, suggesting that plaque was a mediator. Results were generally similar when all three oral hygiene methods were evaluated simultaneously. Conclusion: Dental floss, but not mouthwash or brushing is associated with lower periodontal disease in our population, the association seemed mediated by plaque reduction. Acknowledgments: NIH R01DE020111, NIH-NCRR 1U54RR026139-01A1 & NIMHD 8U54MD 007587-03.

P-133 Segregación geoespacial de la población de edad avanzada, Caguas, Puerto Rico: 2010

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La segregación desde la perspectiva sociológica puede ser vista como aquellas características sociales que crean brechas entre la población. Desde la perspectiva Geográfica la segregación es apreciada como las diferencias de la población en cuanto al espacio en donde se organiza. En este estudio se propone analizar la segregación de las personas de edad avanzada en el Municipio de Caguas utilizando los datos del censo para Puerto Rico en el año 2010. Para determinar si existe segregación se empleó el uso de los índices de segregación y la curva de segregación establecidos por Duncan y Duncan (1955). Una vez evaluados todos los census tract, el índice de disimilitud encontrado fue de 16.60% lo que implica que casi un 17% de la población de edad avanzada no está distribuida igualmente en el Municipio de Caguas. El índice de aislamiento revela una baja probabilidad ($xPx=.169$) de interacción entre el grupo de 65+ con otros miembros de su mismo grupo. Por otro lado, el índice de interacción ($xPy=.028$) revela la existencia de segregación. Por último, el índice de concentración propone que para lograr una densidad uniforme de personas de edad avanzada en el Municipio, el 46.35% de este debe cambiar de residencia. Los resultados señalan la segregación de la población de edad avanzada como una aislada (0-64) con pocas probabilidades de interacción tanto con su mismo grupo (65+) como con el resto de la población (0-64). Esto plantea la necesidad de orientar servicios de transporte y salud para la población de edad avanzada.

P-134 Palliative Sedation for Refractory Myoclonic Seizures at the End of Life: A Case Report

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Purpose: Palliative sedation is the practice of using sedatives to relieve symptoms at the end of life that are refractory to all standard interventions. It is distinguished from euthanasia by the intent which is to provide relief, not to cause or hasten death, although this may be the indirect outcome. This is known as the Principle of Double Effect. Case Description: We describe the case of a 66-year-old man that suffered from anoxic brain injury after a choking event. He developed generalized myoclonic seizures and coma. The movements were constant, generalized and uncomfortable as evidenced by his facial expressions and vital signs. The family perceived this as agony and torture. Clinical approach: The patient was initially treated with levetiracetam, phenytoin, valproate, lorazepam and clonazepam, however, the symptoms remained uncontrolled despite titrating doses. Propofol was successful but not a feasible long term treatment. Palliative sedation with an infusion of midazolam at 10mg per hour, morphine 6mg per hour and boluses of phenobarbital 260mg intravenously every 12 hours was an alternative option. Clinical findings: The patient remained in persistent vegetative and was weaned from mechanical ventilation. The myoclonic seizures were better controlled and he appeared to be at ease. He expired several weeks later in the palliative care unit. Hypothesis: Palliative sedation is a modality used at the end of life when distressing symptoms are difficult to manage. Though palliative sedation is still controversial, we believe it allowed us to control this patient's suffering providing a peaceful end of life. Acknowledgments: None

P-135 Title: Infantile Hemangioma: Experience using single daily propranolol dose

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Background & Objectives: Infantile Hemangioma (IH) are the most common pediatric vascular tumors. Despite their benign and self-limited nature, a significant minority can cause permanent disfigurement or functional compromise. Propranolol, which causes rapid regression of IH, has become an alternative treatment. The Hematology Services at UPH developed a treatment protocol, with a single daily dose of oral propranolol. Consensus-derived set of best practices for the use of propranolol in IH was published at Pediatric on 2013, advocating for daily dose of propranolol be divided thrice per day. We aimed to evaluate the outcomes of our experience treating IH with the use of oral propranolol as a single daily dose. We'll describe IH characteristic and risk factors among children with IH in Puerto Rico. Methods: Observational retrospective study. Chart review of children with IH from 2009-2016. Variables

included: Demographic data, Risk factors, IH Characteristics, Treatment. Results: 72 patients were included (76 %female). Positive family history (56%), PTAGA (63%), prenatal complications (67%), C-section delivery (58%). Most of the IH were superficial (56%) and notice at birth (65%). 56 patients received medical treatment, age at initiation of therapy with propranolol 8.5 [1.5-38] months, initial dose 1.8 [1-2.4] mg/kg/dose. 50% had asymptomatic hypotension and 34 %somnolence. Grading response to therapy was excellent in 73 % at the end of treatment. Conclusions: Propranolol as a single daily dose is effective in the treatment of IH. In our population the most common risk factors are preterm, C section delivery and prenatal complications.

P-136 Mirada a los partos prematuros y su relación con el bajo peso al nacer en Puerto Rico: 2011 a 2014

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Trasfondo/Objetivos: Ante el envejecimiento de la población de Puerto Rico, el descenso acelerado de la fecundidad cobra mayor atención por lo que interesa reducir los nacimientos prematuros y de bajo peso. Las muertes infantiles a causa de prematuridad y bajo peso al nacer han aumentado. En 2014 representaron 5.7% de las muertes infantiles comparado con 3.4% en 2010. Esta investigación busca describir la trayectoria de la prematuridad en Puerto Rico desde el 2000 al 2014 y su relación con el bajo peso al nacer. Método: Esta investigación es descriptiva. Se utilizaron los archivos de nacimiento e Informes del Registro Demográfico del Departamento de Salud de Puerto Rico. Se analizaron la edad y estado conyugal de los padres, la escolaridad, el cuidado prenatal y el municipio de residencia de la madre y las complicaciones en el embarazo y parto, entre otras variables de interés. Resultados: En el 2014, hubo 5,131 nacimientos que ocurrieron antes de completar las 37 semanas de gestación lo que significa que 14.9% fueron prematuros. De estos 42.3% fueron también bajo peso. El riesgo de prematuridad y bajo peso aumenta a partir de los 35 años de la madre. La proporción de prematuros en mujeres con al menos un bachillerato (3.3%) es cuatro veces menos que las que no han obtenido un grado universitario (11.6%). Conclusión: La educación es un factor importante en las bajas proporciones de nacimientos pretérminos por lo que convendría incrementar los niveles de educación de la mujer y promover fecundidad en edades más tempranas.

P-137 Evaluación del “Puerto Rico Youth Health Career” (PRYHC): Preparando futuros profesionales de la salud

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Trasfondo y Objetivo: “Puerto Rico Youth Health Career” (PRYHC) es un programa federal que busca proveer conocimientos y habilidades a estudiantes de Escuela Superior para que opten por carreras en el área de la salud. El objetivo de este estudio es medir satisfacción y percepción sobre cambio en conocimiento de los estudiantes y los padres sobre el programa y las actividades realizadas durante 2015-16. Métodos: El diseño es uno de corte transversal. La muestra de estudiantes es de 277 jóvenes de undécimo y duodécimo grado, mientras que la muestra de padres de los estudiantes es de 196 de undécimo y 108 de duodécimo. Las escuelas participantes son: Natividad Rodríguez, Rafael López y Lila Mayoral. Al final del año académico se les suministró a los estudiantes y a los padres un cuestionario. Se realizaron análisis estadísticos descriptivos utilizando SPSS. Resultados: Se observó que 94% del estudiantado estuvo satisfecho con las actividades realizadas. Aproximadamente tres cuartas partes de la muestra informó aumento en la seguridad de estudiar alguna profesión del campo de la salud (76%) y en el conocimiento adquirido sobre las distintas profesiones (74%). Por su parte, más del 90% de los padres informó estar satisfecho con el programa en general. La mayoría de los padres (>90%) informó que su conocimiento general sobre las oportunidades en profesiones de salud para sus hijos y su capacidad para ayudar a su hijo a convertirse en un universitario exitoso aumentó. Conclusión: Estos datos evidencian buena ejecución del programa e identifican aquellas áreas a mejorar.

P-138 Necesidades en las competencias socioemocionales de los adolescentes de tres escuelas públicas y las implicaciones para su desarrollo integral

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Trasfondo y objetivos: El aprendizaje socioemocional involucra procesos donde adolescentes adquieren y aplican conocimiento, actitudes y destrezas necesarias para su manejo de emociones, consecución de metas positivas, conciencia social, relaciones personales saludables, toma de decisiones responsable. Se ha evidenciado que mejora las destrezas sociales y emocionales, actitudes hacia sí mismo y otros, comportamiento social positivo, y desempeño académico de los estudiantes. En la educación pública puertorriqueña a pesar de contar con políticas públicas que establecen el desarrollo del componente socioemocional de los estudiantes en combinación con el aca-

démico existe evidente deterioro en las competencias socioemocionales de los adolescentes. Resulta necesario una mirada ecológica del desarrollo humano y de cómo todo el contexto educativo tiene injerencia en ello. Como parte de un estudio más amplio, esta presentación muestra los resultados en el nivel adolescente—la identificación de necesidades socioemocionales de los estudiantes y las implicaciones de las competencias socioemocionales para su desarrollo integral. Método: Estudio cualitativo con diseño investigación-acción. Participaron maestros/as, directores/as, trabajadores/as sociales, padres y líderes comunitarios de tres contextos educativos públicos superiores. Se realizaron entrevistas y la devolución de los datos a los participantes que permitió sus recomendaciones adicionales. Resultados: Los participantes identificaron necesidades en las competencias intrapersonales e interpersonales de los estudiantes y alcances positivos del aprendizaje socioemocional para el aprovechamiento académico y desarrollo positivo de los estudiantes. Conclusiones: Estos resultados sugieren que el aprendizaje socioemocional es esencial en los procesos de enseñanza-aprendizaje para atender de manera integral el desarrollo humano de los adolescentes. Reconocimientos: Ninguno.

P-139 Effect Of Glycerin On The Physical Arrangements During Film Formation of Hydroxypropylmethylcellulose Film: A Rheological Characterization

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Purpose: Hydroxypropyl methylcellulose is a commonly used polymer for edible film-forming pharmaceutical formulations due to its thermo-reversible phase transition (gelation) with increasing temperature. The impact of its mechanical and molecular transformations with and without a plasticizer (glycerin) for pharmaceutical applications from a rheological stand point is not well understood. Therefore, the aim of this investigation is to characterize the temperature dependent physical transformations of HPMC with and without glycerin using viscosity and viscoelasticity to understand the process of the film-formation and hence its application to drug delivery. Method: Films were prepared with glycerin (15w/w%HPMC_5w/ %Glycerin_80 w/w%H₂O) and without glycerin (15w/w%HPMC_85w/w%H₂O) for subsequent rheological characterization. Result: HPMC films with and without glycerin showed a crossover of the loss (G'') and storage moduli (G') as the temperature is increased; i.e. drying and hence film formation. Film without glycerin showed a T_{gel} of 57°C, whereas the glycerin decreased this value to 49°C. This confirms the influence of glycerin decreasing the gelation temperature towards lower temperatures. The presence of glycerin did not impacted the shear thinning behavior of the film. However the effect of viscosity enhancer of glycerin was most noticeable at low applied shear rates. Conclusion: Low viscosity in general is desired for stabilization of drug particles in the film, therefore

the film with glycerin promises to be a robust film precursor for pharmaceutical drug delivery.

P-140 Ovarian cancer patients treated at the University District Hospital, San Juan Puerto Rico

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Objective: We aim to provide a complete description of the characteristics of ovarian cancer in the patients treated in the University District Hospital at the Puerto Rico Medical Center from 2006 to 2010. Methodology: Retrospective data recompilation from medical records at UDH identified using the ovarian cancer ICD-9 183.0 from 2006-2010. Patient variables identified: pathology, stage, treatment, age of diagnosis, BMI, reproductive history, use of OCP's, HRT, toxic habits, and family history of cancer. Data was analyzed using univariate statistical analysis with Microsoft Excel 2007 and SAS system. Results: A total of 178 records were identified, 102 had confirmed primary ovarian malignancies. The mean age at diagnosis was 52 years. The mean age of menarche was 12 years old. Mean BMI was 28. The average gravidity and parity was 2.6 and 2.2 respectively. A history of OCP's was elicited in 32.6% and HRT seen in 11.2%. Toxic habits were identified in 14 patients. We identified sixty-five cases of primary epithelial, 14 stromal, and 7 germ cell malignancies ovarian malignancies. Rarer ovarian malignancies consisted of leiomyosarcoma, liposarcoma, fibrosarcoma, neuroendocrine malignancies, carcinosarcoma, and undifferentiated ovarian malignant tumors. Staging data available revealed 27 cases stage I, 8 Stage II, 26 Stage III and 5 Stage IV. Ca-125 was elevated in 48 cases. Ninety-seven underwent initial debulking surgery. Forty-three cases received chemotherapy and radiotherapy reserved for patients with localized disease. Conclusion: Our results suggest that ovarian cancer at UDH is diagnosed in younger overweight patients generally affected by serous epithelial cancer.

P-141 Características sociodemográficas y religiosas de los católicos y los no católicos

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Trasfondo-Objetivos: En Puerto Rico se observado un aumento de la población de edad mayor. La fe que profesan los adultos mayores les ayuda a sobrellevar los diversos retos que enfrentan. Este estudio pretende describir las características sociodemográficas y religiosas entre católicos y no católicos. **Método:** Esta investigación es de carácter descriptivo. Se utilizaron los datos del proyecto: "Condiciones de Salud de los Adultos de Edad Mayor en Puerto Rico: 2002-2003" (conocido por sus siglas en inglés, PREHCO1). La muestra es representativa de la población de 60 años o más en Puerto Rico, y contiene 4,291 personas. Para este trabajo se considerarán 3,379 adultos de 60 años o más que no necesitaron informante sustituto. Se clasificaron como no católicos a los protestantes, testigos de Jehová, adventistas y pentecostales. **Resultados:** Las creencias religiosas como ayuda en salud parecen ser de mayor impacto para los no católicos (90.8%) que para los católicos (80.2%). La proporción de los católicos (34.7%) que no participan de servicios religiosos duplica la de los no católicos (18.4%). De los que asisten a servicios religiosos, el 87.7% de los no católicos van al menos una vez por semana comparado con 61.2% de los católicos. Además, el 51.0% de los católicos dijeron participar en eventos sociales de la iglesia mientras 73.6% de los no católicos se involucraban. **Conclusión:** Los católicos y no católicos difieren poco en cuanto a las creencias religiosas como ayuda en la salud, no obstante, los no católicos parecen demostrar más sus prácticas religiosas, incluyendo las actividades sociales de la iglesia.

P-142 Regulation of the activity-dependent synaptic plasticity: The role of the Planar Cell Polarity pathway

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Synapses are shaped by plastic events that promote or limit changes in synaptic strength. Modifications in synaptic strength due to electrical activity are often accompanied by structural changes in synapse shape and/or number. The *Drosophila* neuromuscular junction (NMJ) can be used to address the molecular mechanisms involved in this activity-dependent plasticity. Indeed, the NMJ undergoes modifications in synaptic structure (apparition of de-novo synaptic boutons) after repeated stimulation. In addition, our lab recently showed that these activity-dependent modifications are regulated presynaptically by Cortactin, a cortical actin binding protein. Furthermore, studies have shown that Wnt/wingless (*wg*) signaling is essential to achieve this plasticity. Taking these results in consideration, we asked whether the small Rho GTPases, core molecules of the Wnt/*wg* planar cell polarity (PCP) pathway and cortical actin regulators, can be involved in this process. Here, we look at the appearance of de novo boutons formation after repeated stimulation in animals expressing the dominant-negative or constitutively-active form of three specific GTPases:

Rho1, Rac1 and Cdc42. Our data shows Rac1 overexpression results in a decrease in the formation of new boutons and Rho1 loss of function results in more plastic synapses. However, we found that Cdc42 is not involved in this plasticity. This suggests that Rho1 and Rac1 are modulating activity-dependent synaptic plasticity in our model. Future experiments will ask whether some GTPases' downstream effectors regulate Cortactin during activity-dependent synaptic plasticity. **Acknowledgements:** MBRS-RISE (R25-GM061838) and RCMI Program (8G12 MD 007600).

P-143 Risk and Protective Factors Associated with Adolescent Intimate Partner Violence in Puerto Rico

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Background: Intimate partner violence is recognized as a significant and growing public health problem, particularly in adolescent relationships. In United States, 12% of high school adolescents were victims of violence in their relationships. In Puerto Rico information about this problem is scarce. The objective of this study is to identify the factors that increase the risk to be victim of intimate partner violence in the population of adolescents in schools in Puerto Rico. **Methods:** A secondary data analysis was performed using the Consulta Juvenil Study 2012-13 (n= 3,986). Data was collected by a questionnaire administered to students 10-19 years from a randomly selected sample of public and private schools in Puerto Rico. **Descriptive and inferential analyses were done. Results:** The prevalence of intimate partner violence in the population of adolescents in schools in Puerto Rico was 4.3%. This problem affects females (4.8%) and males (3.6%) between the ages 11 to 17 years. Emotional factors like low self-esteem, depression, suicide attempt and positive attitude to violence were found to be associated ($p < .05$) with intimate partner violence. In addition, community factors like disorganization and recognition of pro-social behaviors were found to be associated ($p < .05$) with this type of violence. **Conclusion:** Factors identified as associated to intimate partner violence may lead to further complications in the adolescent's future. Results obtained in this study provide baseline information for the development of violence prevention programs in adolescents identified to be at-risk.

P-144 Maternal Age Profile of Newborns Admitted to a Level 4 Neonatal Intensive Care Unit (NICU)

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Introduction: Adverse pregnancy outcomes have been linked to maternal age. Adolescent mothers are at increased risk for low birth weight, pre-term delivery, and neonatal death. Women aged 35 and older have an increased risk of chromosomal abnormalities, congenital anomalies, gestational diabetes, placenta previa, cesarean delivery, and hypertensive disorders. **Objective:** To compare outcomes of newborns born to adolescents, adults, and women of advanced maternal age (AMA) admitted to a level 4 NICU. **Methods:** Retrospective analysis of data recorded for the Vermont Oxford Network from newborns admitted to the University Pediatric Hospital NICU from 2012-2015. **Results:** There were 1,449 newborns admitted during the study period. Mothers were grouped as follows: adolescents (N=323, 22%), adults (N=906, 63%), and AMA (N=220, 15%). There was no difference in newborns gestational age and birth weights. Cesarean section delivery was more common in AMA women (72%, 64%, 46%; $p<0.01$) as well as maternal hypertension (30%, 19%, 10%; $p<0.01$). Adolescents and AMA women were more likely to have a baby with a chromosomal anomaly (3%, 0.7%, 4%; $p<0.01$). There was no difference in newborns respiratory, gastrointestinal, and/or neurological complications. Length of stay and survival rate was similar as well. **Conclusions:** Maternal age is an important risk factor for pregnancy outcome but in this group of infants outcome was similar independent of maternal age. Physicians taking care of women with high-risk pregnancies in our center may use this information in counseling mothers about their age-related risks and outcome of infants who require admission to the NICU.

P-147 Voices of PROTECT (Puerto Rico Testsite for Examining Contamination Threats): Knowledge, Opinions, and Experiences concerning Genetic Testing

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Background & Objectives: Given global interest in genomic research, the degree to which attitudes of communities, researchers, and clinicians align is unclear. This study investigated participant acceptance/refusal for genetic testing (due to biological sampling,) among a group of participants of the PROTECT study; which follows a cohort of pregnant women and their exposure to environmental contaminants. Initial data from PROTECT participation demonstrated concerns about allowing genotyping. Reasons for acceptance/refusal to consent are not well identified; enhanced understanding may provide insight on best-practice of informed consent about genetic testing and address concerns that may represent barriers. **Methods:** Focus groups were conducted in PROTECT recruitment sites; they were digitally recorded and selectively transcribed. Transcribed text was analyzed to identify common themes and divergence among participants. **Results:** Participants (n=36) were familiar with biological-sampling due to experience with PROTECT. “Genetic/Genomic” research was mostly unfamiliar, except for media announcements of biorepository banks for umbilical cord/blood storage. Most participants stated they would consent to future research as long as knowledge was shared in the process; indicating they require consultation before initiating a new study using their samples. Participants emphasized interest in knowing study results and how it relates to their lives. **Conclusions:** Distinct desire from participants for results/information is clear, and may facilitate informed consent in genomic research. Information obtained in the process of research provides a basis for approaches to inform and educate individuals about genomic testing. **Acknowledgements:** Research was supported by the CDC grant number 1 U48 DP005026-01.

P-148 Predictors for mortality at one year after discharge from a heart failure hospitalization by gender: Puerto Rico Cardiovascular Surveillance System

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Background & Objective: Heart diseases are the second cause of death in Puerto Rico, being heart failure (HF) one of the major types in the island. We evaluated gender disparities in factors associated to mortality one year after hospital discharge for a heart failure event. **Methods:** Data for 4,187 patients discharged after a hospitalization due to HF were available from the Puerto Rico Cardiovascular Surveillance Project (2007, 2009, and 2011). Gender stratified logistic

regression analysis associating demographic, risk factors, symptoms and complications during hospitalization with mortality one year after hospital discharge were performed. Results: The overall mortality one year after discharge for a HF hospitalization was 18.5% (n=774). Among fatal cases, death occurred a median of 142 days after discharge, the mean age at death was 73.7±12.5 and 53.0% were male. Among females, having history of coronary heart disease (OR:1.31; 95% CI:1.04-1.67), wheezing (OR:1.98; 95% CI:1.29-3.04), weakness upon admission (OR:1.32; 95% CI:1.03-1.69), and hospitalization complicated with pneumonia (OR:1.89; 95% CI:1.28-2.81), were significantly associated to death one year after a HF event. Whereas in males, having medical history of asthma (OR: 1.37; 95% CI: 1.03-1.83), and weakness (OR: 1.55; 95% CI: 1.23-1.97), during admissions, were significantly associated to death one year after a HF event. Conclusion: Considerations among gender predictors for out-patient mortality at one year of the HF event might be important in the clinical management. Further longitudinal studies are needed to confirm this results. Acknowledgment: This project was supported by the NCMHD-NIH grants 5S21MD000242 and 5S21MD000138.

P-149 Association Between Maternal Folic Acid Intake and Oral Clefts in Puerto Rican Children

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Background: Oral clefts (CL/P) are common birth defects, whose etiology is complex including genetic and environmental factors. In Puerto Rico (PR), the prevalence of CL/P is 15 per 10,000 live births. The contribution of pre-conceptional nutrition has recently been studied since its role has become crucial in the formation of CL/P. Objective: To establish the association between maternal folic acid intake and CL/P. Methods: Case-control study in Puerto Rican women (n=188 CL/P cases and n=190 controls) collected data regarding maternal intake of folic acid and/or multivitamins before/during pregnancy. Frequencies and Chi-square statistical tests for folic acid consumption among were calculated. Odds ratios (ORs) were calculated to estimate risk associated to the consumption of folic acid before/during pregnancy. Results: Significant differences (p<0.05) for the consumption of multivitamins (p=0.004) and folic acid (p=0.001) were found before pregnancy. Sociodemographic variables analysis were shown to be significant for maternal education level and the consumption of folic acid before pregnancy was found to

increase the risk of having a child with CL/P. Conclusions: Pre-conceptional folic acid intake was found to reduce the risk of CL/P. Most mothers (86%) of children with CL/P sampled (cases) reported not using folic acid before pregnancy and a significant difference (p<0.05) was found compared to controls, which could contribute to the CL/P prevalence in PR. Findings provided insight into the role that maternal folic acid intake plays in the etiology of CL/P in the Puerto Rican population. Acknowledgements: Supported by the NIH under Award Numbers: K99DE024571, R37DE008559, S21MD001830, and U54MD007587.

P-150 Exploration of perceptions related to the Nutrition Education in the Puerto Rico WIC Program: A Qualitative Study

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Background: There is evidence that only about half of participants in the Puerto Rico (PR)-WIC Program do not attend the nutritional education classes. This is related to barriers such as calendar conflicts with work obligations, caring for other children and limited class schedules. Objective: To explore perceptions related to PR-WIC nutritional education classes. Methods/Design: A total of 132 semi-structured interviews were conducted (85 parents and 47 staff) in nine different PR-WIC clinics. Interviews were transcribed and analyzed in NVivo (v.10) to identify the most frequent themes. Results: Among parents, most were females (93%), aged 20-35 years (86%) and with post-secondary studies (69%). Among staff, most were females (87%), aged 35-55 years old (53%), and clerical workers (45%) or nutritionists (34%). Preliminary results show that parents suggested that the information provided in nutrition classes should be updated and more emphasis should be placed on physical activity while staff reported that the nutritional education is adequate although home visits should be included. Parents and staff recommended using social media platforms as an educational resource. Also, parents suggested the use of phone calls and emails while staff recommended the use of TV in waiting rooms and phone applications as alternate tools. Conclusions: Preliminary results indicate differences in the perceptions about the nutritional information provided, whereas participants believed that the information is outdated while staff perceived it appropriate. Technology is suggested by parents and staff to deliver the nutrition education in WIC. This information could help the PR-WIC program improve the nutrition educational classes.

P-151 Childhood Obesity: A Profile of Measures of Executive Functions, Emotional Processing and Inflammation

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Background & Objective: Childhood obesity has become public health problem worldwide. Some reviews and a recent study in adults have indicated that obesity-related inflammatory responses produce brain damage. However, studies exploring associations between inflammation and executive functions in children are overlooked. Therefore, the objective of this cross-sectional study is to determine if difficulties in executive functions and emotional processing are associated with obesity and inflammation. **Methods:** We have recruited 12 of a total of 60 children aged six to eight years old. We used the NIH Toolbox Cognition Battery and the NEPSY II Affect Recognition tests to assess executive functions and emotional processing, respectively. Samples of plasma and saliva were collected to quantify inflammatory biomarkers cytokines (IL-6 and TNF- α) assay by Luminex procedure. We performed descriptive analysis and Mann Whitney U-Test to compare obese vs. non-obese groups. **Results:** Obese children have lower scores in measures of affect recognition than healthy weight children. They also showed higher median scores in both salivary and plasma IL-6 and TNF- α . **Discussion:** Although no statistical differences were found among groups in either measurement, these preliminary data based on the initial recruitment suggest that children with higher body mass index may have difficulties in emotional processing. More data will be available after completing recruitment to determine if the association between obesity and affect recognition is significant and if it is mediated by inflammation. Supported by NIH-NIMHD Awards S21 MD 001830, G12 MD007579, R25MD007607, and 2U54MD007587.

P-152 Rituximab: A promising therapy for Juvenile Myasthenia Gravis refractory to conventional therapies-A case report

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Objective: Juvenile myasthenia gravis is a relatively rare autoimmune neuromuscular disorder that accounts for about 10-15% of all cases of myasthenia gravis. Conventional treatment includes anticholinesterase inhibitors and immunomodulatory therapy (corticosteroids, intravenous immunoglobulins, plas-

ma exchange, thymectomy, and less frequently immunosuppressants). Rituximab, a monoclonal antibody that targets CD20 antigen on B-lymphocytes and modulates B-cell activation, had been used in few cases of juvenile myasthenia gravis refractory to conventional therapies, but data in the literature is limited. **Methods:** We describe a 14y/o female with severe, life-threatening seropositive juvenile myasthenia gravis refractory to conventional therapies. She had multiple myasthenic crises with repeatedly failed extubation despite long-term therapy with high doses of corticosteroid and anticholinesterase inhibitor. She also had poor response to several courses of intravenous immunoglobulins and plasma exchanges given during exacerbations and crises. Eight months after the onset of her disorder, she received one four-week cycle of 375mg/m² of rituximab weekly. Between each dose, she was followed at our neuromuscular continuity clinics. **Results:** After 1 course of rituximab she achieved a complete and sustained clinical remission for more than one year of follow up without adverse effects. Decrement in dosage of oral steroid was also possible. **Conclusion:** Rituximab is a promising pharmacotherapy in juvenile myasthenia gravis given its favorable outcomes and adequate safety profile. Limited data and no standard protocol exist for its use in juvenile myasthenia gravis, for which randomized controlled trials are needed.

P-153 Epidemiological Profile of Human Immunodeficiency Virus (Hiv+)/Hepatitis C Virus (Hcv) Co-Infection in Puerto Rican Women Cohort

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Background & Objectives: About one quarter of Human Immunodeficiency Virus (HIV+)-infected people in the United States are also co-infected with Hepatitis C Virus (HCV). HIV+/HCV co-infected women are more susceptible to health complications and are associated with incident AIDS in comparison with the HCV-uninfected women. The AIM of this study was to describe the epidemiological profile of HIV+/HCV co-infection in a Puerto Rican women cohort. **Method:** This study is a secondary data analysis; 45 HIV+ women was recruited from the MSC, Puerto Rican HIV+ women cohort. HIV+ women was stratified in HIV+/HCV co-infected women (n= 15) and HIV+ mono-infection (n= 28). Evaluation

methods included medical history, neurological exam, viral-immune profiles, and Brain Derived Neurotrophic Factor (BDNF), within others. Parametric and non-parametric statistics were performed. Results: 35% of our sample of HIV+ women had HCV-coinfection. We observed that HIV+ mono-infected women, mean age was 41.29, (SD=9.03 years), Depression Scale [BDI-II] (Mean 12.86, SD=11.68), BDNF (Mean 121.10, SD= 46.67 pg/mL), CSF Viral (Mean 0.94, SD= .92), CD4 Nadir, (Mean 389.83, SD= 240.35), and CD4 Final (Mean 651.48, SD= 299.15). Regarding HIV+/ HCV co-infected women, the mean age was 46.93 (SD= 7.91 years), BDI-II (Mean 12.47, SD= 9.25), BDNF (Mean 139.96, SD= 454.28pg/mL), CSF Viral (Mean 1.51, SD= 1.45), CD4 Nadir Mean 363.36, SD= 252.02), and CD4 Final (Mean 679.83, SD= 435.79). Conclusions: These findings suggests that larger studies are required for better assessing the HIV+/HCV co-infected population profile, especially in women. Acknowledgments: Partially supported: R25MH080661, R21MH095524, U54NS43011, S11NS046278, U54RR026139, P20RR11126, G12MD007600, 2U54MD007587.

P-154 Validation of the Pelvic Pain, Urgency and Frequency Symptom Scale for Women with Pelvic Pain Living in Puerto Rico

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Background & Objectives: There is no standard for the diagnosis of bladder pain syndrome (BPS) in patients with chronic pelvic pain (CPP). The objective of the study is to validate the spanish version of Pelvic Pain Urgency Frequency (PUF) questionnaire for Hispanics living in PR and evaluate its correlation to bladder wall tenderness. **Methods:** A previously validated Spanish version of the PUF questionnaire was culturally adapted and administered to participants and bladder wall tenderness was then assessed at pelvic examination. **Results:** A total of 10 participants evaluated the already validated spanish version of the PUF questionnaire and changes were made accordingly. A total of 34 participants with CPP were enrolled and answered the adapted questionnaire. The average age was 42 years old and 15% had already being treated with hysterectomy. A total of 24 participants met the inclusion criteria and underwent pelvic examination. Of those that underwent pelvic examination in 19 (79%) of the bladder wall palpation correlated to worsening of pelvic pain with full bladder. A total of 16 (66%) participants with CPP referred bladder wall tenderness to palpation and of those 14 (54%) had a PUF score >10. All of the participants that persisted with CPP after hysterectomy had bladder wall tenderness to palpation and 80% of them had a PUF score >10. **Conclusions:**

This study presents a culturally adapted questionnaire to help assess BPS in PR. Preliminary results shows that pelvic pain that is worse when bladder is full correlates with bladder wall tenderness to palpation.

P-155 Desmoplastic Small Round Cell Tumor: A diagnostic challenge with review of literature

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Purpose: Desmoplastic small round cell tumor is a very rare, aggressive, malignant neoplasm with a poor prognosis. It mainly affects adolescents and young adults. The definitive diagnosis can only be achieved through immunohistochemical and cytogenetic studies. A high clinical suspicion is imperative. **Case Description:** We report a case of a 16-year-old male who arrived to the San Juan City Hospital with abdominal pain and non-specific symptoms. Physical examination revealed a distended abdomen, but no palpable mass. **Clinical Approach:** A Computed Tomography scan showed para-ortic and mesenteric lymphadenopathy, and a mass arising from the peritoneum. After exploratory laparotomy, the resultant biopsy revealed a desmoplastic small round cell tumor. This diagnosis was confirmed by immunohistochemical and cytogenetic studies. The patient received his first cycle of chemotherapy following the treatment protocol for Ewing sarcoma. **Hypothesis:** A distinct treatment protocol has yet to be established, mostly due to limited understanding of its pathophysiology and its clinical picture. Improvements in diagnostic abilities and a high degree of suspicion are necessary to correctly identify and avoid misdiagnosis.

P-156 Contralateral Acoustic Reflexes in Normal Hearing Children Diagnosed with Attention Deficit and Hyperactivity Disorder (ADHD)

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Background: The contralateral acoustic reflex is a sensitive index of dysfunction in the afferent and efferent auditory pathways, as well as, several brainstem nuclei. Evidence suggests reduced white matter in ADHD children's brainstem. The acoustic reflex measure could serve as a biological marker that is noninvasive and cost effective as a screening tool for ADHD. **Objective:** Evaluate an association between normal hearing children with ADHD and elevated or absent contralateral acoustic reflexes. **Methods:** A case control study design was used and clinical files of students referred by the Department of Special Education of Puerto Rico were reviewed. Acoustic reflexes of children with normal hearing and a diagnosis of ADHD were compared with a control sample of normal hearing children. Data was analyzed using valid percent, Fisher's exact and t-test. IRB assigned protocol number B0700115. **Results:** A total of 50 normal hearing participants were classified as subjects (n=25) and control (n=25). No statistically significant differences were found in the bivariate analysis. A t-test analysis of the whole sample demonstrated that there is a significant difference ($p < 0.05$) between the presence of ipsilateral and contralateral reflexes. **Conclusions:** Abnormal contralateral acoustic reflexes for both subjects and control was found. Future research should first evaluate this phenomenon on children without history of learning disabilities, establish norm values by age and then focus on validating the contralateral acoustic reflex as a biological marker for children with learning disabilities, including children with ADHD.

P-157 Assessing the Relationship Between Low Birthweight and Fine Particulate Matter (pm2.5) Exposure in Puerto Rico

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Background and Objectives: Fine particulate matter (PM2.5) has been associated with low birth weight (LBW), an adverse birth outcome that increases the risk of mortality in the perinatal period and of serious morbidities later in life. In Puerto Rico, the LBW prevalence has increased by 30% over last 30

years, with 70% of infant deaths attributed to LBW complications. This study is intended to assess the relationship between PM2.5 and LBW in PR. **Methods:** PM2.5 concentrations were obtained from the U.S. Environmental Protection Agency (EPA) from three stationary ambient monitors located in Mayaguez, Ponce and Guaynabo from 1999-2014. Vital health statistics, including LBW, were obtained from the PR Department of Health for 1999-2014. PM2.5 exposures, estimated as the 1-9 month moving average from date of birth (DOB), were linked to health and covariates by municipality and DOB. Association of PM2.5 exposures and LBW for various exposure windows during pregnancy were examined. **Results:** The percent of babies born with LBW was uniform across the study period, ranging between 10-12%. Daily PM2.5 levels from 1999 to 2014 averaged 7.47 ug/m3 across the sites. Future analyses will examine the association between PM2.5 exposures and LBW births in the three communities. **Conclusion:** Studies that assess the impacts of PM2.5 exposures on LBW are needed, especially in PR. **Acknowledgements:** This project was supported by the National Institute of Environmental Health Sciences Award Number P42ES017198. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIEHS

P-158 La Mortalidad Infantil por Educación Materna en Puerto Rico, 2009 y 2013

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Introducción y objetivos: La literatura señala que existe relación entre la mortalidad infantil y la educación de la madre. A medida que aumenta el nivel de educación materna, menor la mortalidad infantil. El objetivo principal del estudio fue examinar cómo se comportan las tasas específicas de mortalidad infantil de acuerdo a la escolaridad materna, y la variabilidad que puede tener sobre la misma las características sociodemográficas de la madre e infante. **Métodos:** Las bases de datos utilizadas fueron las de nacimientos y muertes infantiles pareadas por periodo para el 2009 y 2013 del Center for Disease Control and Prevention (CDC). La población de estudio fueron los infantes que murieron antes de cumplir el primer año de vida durante los años 2009 y 2013. El estudio es descriptivo transversal. **Resultados:** Las tasas específicas de mortalidad infantil por educación materna resultaron ser más bajas entre los infantes cuyas madres tenían un nivel de educación mayor o igual a grado 12, que para aquellos cuyas madres tenían una educación menor a grado 12 para el 2009 (7.52 vs 9.41) y 2013 (6.98 vs 7.00). Se encontró de igual manera en las categorías de peso al nacer, los infantes de las madres menos educadas tuvieron tasas de mortalidad más alta, que aquellos cuyas madres eran más educadas. **Conclusión:** La educación materna es un factor

importante a considerar cuando se analizan las muertes infantiles. Los datos sugieren la importancia de promover la educación de las madres para poder aumentar la sobrevivencia de los nacimientos vivos.

P-159 Association between Second Hand Tobacco Smoke and Breast Cancer among Nonsmoking Women in Puerto Rico Aged 30 to 79 years

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Background & Objectives: According to the 2014 report of the USA Surgeon General, there is limited scientific evidence supporting an association between second-hand tobacco smoke (SHS) and breast cancer. Since findings of epidemiological studies are inconsistent and this relationship has not been evaluated among women in Puerto Rico, the aim of this analysis was to assess the association between SHS and breast cancer among nonsmokers' women in Puerto Rico. Data from the population-based case-control Atabey Study were examined. **Methods:** A total of 241 cases and 243 controls were included. The participants who provided a positive response to the question "Do you / have you lived or worked with a smoker?" were classified as exposed. The statistical analysis was performed with a logistic regression model, adjusting for age and body mass index. This research was approved by the IRB. **Results:** Among cases, 60.6% were exposed to SHS in comparison to 57.6% of controls. Menopausal status modified the association of SHS and breast cancer. An excess of breast cancer was only observed in the postmenopausal group. Among postmenopausal women, those with SHS exposure were at greater odds of breast cancer than non-exposed women (ORadjusted: 1.46; 95% CI = 0.92-2.33). The association was not statistically significant ($p > 0.05$). **Conclusion:** These findings suggest that further studies regarding SHS and breast cancer should include analyses stratified by menopause status. **Acknowledgements:** Supported by CD-

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P-160 Estudio de necesidades 2015: Puerto Rico Youth Health Career (PRYHC)

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Introducción: El objetivo principal del programa Puerto Rico Youth Health Career es promover que estudiantes de escuela superior se interesen en una carrera del área de la salud, proporcionando conocimientos, destrezas y la actitud para transformarlos en una nueva generación de profesionales de la salud. Como parte del plan de trabajo se realizó un estudio de necesidades para identificar intereses en carreras de la salud y posibles deficiencias en hábitos de estudio. **Objetivo:** Identificar los intereses en perseguir una carrera en el campo de la salud y los hábitos de estudio de una muestra de estudiantes de Escuela Superior durante el año académico 2015. **Metodología:** El estudio siguió un diseño de corte transversal. Se distribuyó un cuestionario auto-administrado a estudiantes de décimo y undécimo grado en tres escuelas de Puerto Rico ($n=171$). El cuestionario incluyó preguntas demográficas y escalas para medir hábitos de estudio (Gasperín) e intereses en carreras de salud. Se realizaron análisis estadísticos descriptivos utilizando SPSS. **Resultado:** Las puntuaciones en la escala de hábito de estudio fueron menores de 60% siendo lectura donde se observa mayor deficiencia. Del 51-75% de los participantes mostraron mayor interés en carreras de cuidado al paciente, y solo el 25% estaban interesados en salud dental. **Conclusión:** Con esta información se desarrollarán actividades para suplir las necesidades identificadas, como deficiencia en lectura. Esto permitirá proveer información que los ayude a alcanzar las carreras de interés, además dar a conocer otras carreras de la salud como lo son administración en salud y salud dental.

P-161 A Life of Deafness: Jugulotympanic Paraganglioma

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The objective of this report is to review the common presentation of jugulotympanic paragangliomas to aid primary care physicians in their detection and management. This is the case of an 81-year-old female presenting with progressive hearing

loss (decades prior to evaluation), and dysphagia (with concomitant odynophagia) since 3 weeks prior to admission at our institution. During this period, the patient also developed bloody secretions from the left ear. As a consequence of her dysphagia and odynophagia, the patient eventually suffered from poor oral intake leading to malnutrition and dehydration. A Neck CT performed to evaluate for potential esophageal abnormalities resulted negative. However, an incidental mass located near the left tympanic membrane was noted. Upon physical examination, patient was found with oral plaques in her tongue suggestive of oral candidiasis. No facial palsies, hoarseness, dizziness or deviations of tongue were noted. Therapy with antifungals was started due to suspected esophagitis by candidiasis. An MRI/MRA was performed to further characterize the tumor. The diagnosis of Jugulotympanic Paraganglioma was made. The size and location of the mass explains the patient's hearing loss by compressing nearby cranial nerves (VIII, IX and X). In view of the patient's advanced age and lack of acute symptoms, she was not subjected to radiotherapy or surgical resection. A wait-and-see approach was selected as the patient's quality of life was not significantly affected. Following therapy with antifungals, the patient's oral intake improved leading to optimal nutrition and hydration.

P-162 Investigating Knowledge of Healthcare Provider Education and Attitudes About Environmental Health Threats and Outcomes in Puerto Rico (PR)

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Background & Objectives: The Institute of Medicine recommends increased education regarding environmental determinants of health among healthcare providers (HCPs). However, studies reveal deficiencies in environmental health (EH) knowledge among them. HCPs may recognize that environmental hazards have potential negative impact on pa-

tient health, but many do not conduct EH exposure histories with their patient due to lack of education and time. Building off existing research that is currently taking place through the Superfund Research Program, PROTECT (PR Testsite for Exploring Contamination Threats) provides an ideal location for examining questions about perceptions of HCPs in PR on EH. PROTECT is well-suited to investigate perceptions and practices pertaining to emerging understanding of EH contaminant exposures, which are being examined in studies in the US or PR. **Methods:** An anonymous questionnaire, administered in person and online via Survey Monkey was used to identify perceptions of EH knowledge across HCPs employed by community health centers in PR. **Descriptive analysis** of participant responses was used. **Results:** Respondents indicate low levels of knowledge and education relating to EH effects on patient health. Additionally, responses indicate lack of preparedness to address EH related interventions and an increased desire for education regarding EH knowledge. **Conclusion:** HCPs who acknowledge the importance of environmental determinants of health incorporate this knowledge into their professional practice. However, the majority of respondents do not have knowledge of EH, providing an opportunity to develop programming for education. **Acknowledgements:** This project was supported by Award Number P42ES017198 from the NIEHS.

P-163 Elderly suicide in Puerto Rico from 1980-2015

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Introduction: During the last 35 years elderly suicide has been a serious public health problem in Puerto Rico (PR). Early research (Rodriguez-Gomez, 2006) has demonstrated higher elderly prevalence suicide rates as compare to younger population in PR. **Aim:** To describe suicide prevalence rates in the elderly population (65 years and older) and compare with younger population (64 years and younger) in PR. **Methodology:** Using public health data from the Dept. of Health of PR analyze suicide rates in 65 and over and 64 and younger population for 35 years (1980-2015). **Findings:** Elderly Puerto Rican suicide rates are higher, in practically all the 35 years, with few exceptions. **Conclusions:** Elderly suicide rates continue to be a serious problem, public health programs need to be develop in order to address this problem in a more effective way.

P-164 Los extranjeros en Puerto Rico: diferencias en las características sociodemográficas de los ciudadanos y los no ciudadanos

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Introducción y objetivos: La ciudadanía establece una relación de membresía entre un individuo y un Estado Nación. Esta trae consigo ciertos derechos de los cuales los no ciudadanos no gozan. En el caso de los EE.UU. y PR los no ciudadanos no poseen derechos tales como el derecho al voto, elegibilidad para ayudas estatales y federales, elegibilidad para trabajar en el sector público. El objetivo del estudio fue describir la características sociodemográficas de la población extranjera no ciudadana (PENC) residente en Puerto Rico. **Métodos:** La fuente de información fue el “Puerto Rico Community Survey”, 2011-2015. El estudio fue transversal descriptivo. **Resultados:** En PR residen cerca de 100,000 personas extranjeras no nacidas ni en PR ni EE. UU. El 57% son no ciudadanos y un 93% vienen de Latinoamérica. Los municipios con mayor proporción de estos fueron: Maricao (100%), Camuy (87%), Maunabo (87%) y Florida (86%). Un 58% son hombres. Al compararlos con los ciudadanos, son más jóvenes (mediana edad 44), con alto por ciento en edades productivas y reproductivas, un nivel de educación más bajo (60% menos de escuela superior); predominan los divorciado/separados y nunca casados. Estos tienen alto nivel de desempleo (54%), un ingreso considerablemente menor (mediana \$18,000) y mayor pobreza (49.4%). **Conclusión:** Los migrantes no ciudadanos representan un sector de la población al cual el Estado tiene que atender. Las características que estos poseen no solo indican que los mismos, además de no tener igualdad de derechos, se encuentran en una situación sociodemográfica que aumenta su vulnerabilidad.

P-165 Implementation of a T-cell receptor excision circle (TREC) assay to detect Severe Combined Immunodeficiency (SCID) in the Puerto Rican Newborns

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Background & Objectives: SCID is a congenital combined immunodeficiency that leads to the development of life-threa-

tening infections. In PR, the estimated incidence of SCID is 1/60,000. A summary of the SCID test implementation and validation in PR is presented in this study. **Methods:** SCID screening consists of a quantitative real-time PCR for the detection of small T-cell receptor excision circles (TRECs). Infants with SCID have little to no TRECs. **Results:** During the validation process, 5,500 samples were analyzed. All standard curves showed good linearity for TREC and RNase P (reference gene), with regression values within the set ranges. Cord blood calibrators were used to determine intra- and inter-assay precision obtaining 4 % and 6 % CVs, respectively. Positive, negative, blanks and No-template controls were used to determine assay reliability and all were within expected ranges. Sensitivity and specificity were determined using samples with known values, all resulting in 100 % with no misclassifications. The mean threshold cycles (Ct) for our population were 25.2 and 31.6 for RNase P and TREC, respectively. The cutoffs for this assay were established at 28.5 Ct for RNase P and 35 Ct for TREC. **Conclusion:** The PR NBS Program has implemented a reliable method to detect TREC and monitor SCID in newborns. SCID Screening started in August 2015 and until now has been successfully performed. No SCID case has been detected. **Acknowledgements:** Funds provided by the PR NBS Program, the PR Department of Health and HRSA Award Number UGSMC27837.

P-166 Title: Close Encounter with a Tropical Spirochete: A Case Report

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Purpose: Leptospirosis, a common infectious disease of the tropics, often presents with variable clinical manifestations which makes diagnosis challenging. **Case Description:** 15-year-old healthy Hispanic male who two days before admission developed fever and back pain. The next day he continued with fever, became nauseated, fatigued, developed vomiting and diarrhea, somnolence and myalgia's and was unable to get out of bed. He was taken to the hospital and on initial evaluation found lethargic, febrile, low blood pressures with tachycardia, calf tenderness and diffuse abdominal pain. **Clinical approach:** Initial tests revealed normal hemoglobin, platelets and renal function. Chest and abdominal radiographs were unremarkable. **Admission diagnosis:** acute gastroenteritis with severe dehydration. During the next week patient deteriorated, developing elevated

BUN, creatinine, liver enzymes plus thrombocytopenia, anemia and prolonged PT, PTT with persistent fever. Further inquiring into history revealed several visits to a local river while horseback riding with friends. Leptospirosis was suspected and patient started on empiric therapy with ceftriaxone. Clinical findings: Repeated imaging now showed pericardial effusions, bilateral pleural effusions, free intraperitoneal fluid and hepatomegaly. He developed elevated creatinine, BUN, AST, ALT and bilirubin. Serology for Leptospirosis came back positive. Patient started to show improvement on 5th day of antibiotics. Hypothesis: The heterogeneous clinical presentation of Leptospirosis makes diagnosis challenging, requiring a high index of suspicion since failure to diagnose and treat promptly may increase morbidity and mortality. Acknowledgements: Funding resources: Does not apply. Conflict of Interests: None

P-167 Los que regresan: migrantes de retorno en Puerto Rico 2011-2015

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Introducción y Objetivos: La migración de retorno se define como el retorno a su país de todos los que alguna vez emigraron para volver a restablecerse en él. En décadas pasadas, el constante flujo de migrantes de retorno contribuyó a un alza en la mediana de edad de los residentes del país. Este tipo de inmigración no se estudia en Puerto Rico desde la década de los '80, creando un gran vacío de información. Las características que presentan los migrantes de retorno a su regreso afectan la dinámica demográfica de un país como también el sector económico y de salud, entre otros. **Métodos:** Se utilizaron diversos indicadores de índole demográfico y estadístico utilizando tabulaciones especiales de los archivos de la Encuesta de la Comunidad de Puerto Rico para hacer un análisis de variables poblacionales y de vivienda sobre los migrantes de retorno. **Resultados:** La mediana de edad para los migrantes de retorno lo fue de 37 años; en la educación alcanzada, solamente un 24% de los migrantes de retorno obtuvieron un bachillerato o más; un 17% se encontraba desempleado y 57% se encontraba fuera de la fuerza laboral. **Conclusiones:** Al Puerto Rico encontrarse en una crisis demográfica en donde la inmigración aumenta cada año, es imprescindible estudiar con detenimiento a todos aquellos puertorriqueños que deciden volver a residir en su país, como también para evaluar la efectividad de las políticas públicas existentes para atraer a los emigrantes puertorriqueños de vuelta a su patria y medir su impacto en la sociedad.

P-168 Effectiveness of a breastfeeding educational intervention in pregnant women at the University District Hospital

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Background: Breastfeeding is the normative standard of infant feeding, according to American Academy of Pediatrics. Breastfeeding education and support has been known to increase breastfeeding rates. With the implementation of a short education intervention covering the basics of breastfeeding, we expected to increase women's knowledge and interest about breastfeeding. **Methods:** A retrospective study of the data collected with a breastfeeding education program (Ready, Set, BABY) developed by the Carolina Global Breastfeeding Institute and offered to pregnant women 18 years and older in the University District Hospital was done. Pre-encounter and post-encounter questionnaires (n=81) were analyzed to assess the women's knowledge prior and after the education was provided. Statistical analysis were done using STATA 11.2 and 12. **Results:** Participants were found more comfortable about the idea of breastfeeding after education (65% to 75%). Upon evaluation of intention to participants breastfeed their babies we found a positive change statistically significant towards "at least trying" and "at least breastfeed for 1 month" (p<0.05) after the educational intervention. 70% mentioned preoccupation regarding milk production and 78% referred that after the intervention concern was addressed. 100% participants found education useful and stated would recommend it. **Conclusions:** Our study confirms the importance of prenatal breastfeeding education and its impact in women struggling with the idea. Future studies could be done to assess the actual impact of the intervention participants and their compliance to breastfeeding. **Acknowledgment:** This project is supported by Award Number Grants 5S21MD000242 and 5S21MD000138, from the NCMHD-NIH.

P-169 Report: Dental Treatment at Operating Room for patient with Bardet-Biedl Syndrome

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The Bardet-Biedl syndrome (BBS) is a rare autosomal recessive disorder, with clinical and genetic heterogeneity. This syndrome was first described by Laurence and Moon in 1866, and additional cases were described by Bardet and Biedl between 1920 and 1922. The syndrome main features are obesity, polydactyly, pigmentary retinopathy, learning disabilities, several degrees of intellectual impairment, hypogonadism, and renal abnormalities. Clinical diagnosis is based on the presence of 4 of the 5 cardinal features. Patients with this condition have several behavioral problems that cause impediments for normal

dental care. Few reports in the literature have described the oral manifestations of BBS. Dental anomalies, are regarded as secondary manifestations, and the reported manifestations includes hypodontia, microdontia, short roots, and deep palate. In this case report, we documented a 31 year old white male, with a BBS diagnosis. The patient presented oral manifestations of gingival papillary enlargement, multiple teeth agenesis, enamel hypoplasia, short dental roots, microdontia, and dental caries. And due to his behavioral impairment, he was treated under adequate general anesthesia in the operating room of the Hospital UPR, Dr. Federico Trilla, by GPR residents of the School of Dental Medicine of Puerto Rico, on April of 2016.

P-170 High Rates of Peritonitis Among Children undergoing Peritoneal Dialysis in Puerto Rico

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Background: Peritonitis is a life-threatening complication in patients undergoing peritoneal dialysis (PD). Expected National pediatric peritonitis rate is 0.5 episodes/year. Studies evaluating peritonitis rates disparities among different racial groups are scarce. Objective: Describe peritonitis rate among Hispanic children with end stage renal disease (ESRD) in Puerto Rico (PR) from 2006-2016. Methods: Retrospective chart review of patients undergoing PD in PR from 2006-2016. Patients with incomplete data were excluded. Peritonitis defined as peritoneal WBC >100cells/mm³ and polymorphonuclear cells >50% and peritoneal fluid culture. Demographic (age, sex), clinical and outcome (peritonitis rate, change of modality and death) variables recorded. High peritonitis rate defined as > 0.5 episodes/yr. Associations were assessed using Fisher exact test. Results: 44 patients underwent PD, 25 were included. Age at initiation 7yrs (6 days-17yrs), 53% males. Time on dialysis 803 patient-months. Median catheter life was 20.3mo (1-73.8mo). 74 peritonitis episodes documented, for a peritonitis rate of 1.2 episodes/year. Most common organism was S.aureus, 56% had culture-negative. Younger age at insertion was significantly associated to peritonitis rate and modality change (p0.02 and p0.017). One patient died not associated with peritonitis. Conclusions: Peritonitis rates were higher than national rates (1.2 episodes/yr vs. 0.5 episodes/yr). Younger age was associated to a higher peritonitis rate but the overall rate was high even for older children in this study. Factors contributing to this may include longer PD catheter life, lower transplant rates and type of insurance. Interventions to decrease disparities in peritonitis rates among these Hispanic children with ESRD on PD are needed.

P-172 Her4 promotes a stem-like phenotype in Osteosarcoma

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Background & Objectives: Osteosarcoma (OS) is a bone tumor primarily affecting children and young adults. Treatment consists of a combination of tumor excision and chemotherapy; however, some patients will ultimately develop pulmonary metastasis leading to death. This highly heterogeneous tumor follows a tumor-initiating cell model, where a subset of cells identifiable by markers of normal stem cells, are responsible for metastasis and chemoresistance. Consequently, discovery of targetable regulators of this stem-like phenotype would allow for improved survival. For this purpose, we focused on the Her4 receptor, member of the EGFR family. This receptor has been linked to anoikis resistance and survival and it is highly expressed in OS and other pediatric tumors. Methods: Kaplan-Meier metastasis-free survival curves were generated using the Kujijer OS dataset. Flow cytometry was used to detect stem cell marker expression in sarsospheres. CRISPR/Cas9 technology was used to delete Her4 expression. RT-PCR was used for pluripotent transcription factor expression. Results: We observed that high Her4 expression correlates with a poor metastasis free survival in OS. In sarsospheres, Her4 expression is induced prior the expression of the stem cell markers Stro1 and CD117. Three different Her4 deleted clones exhibited decreased Aldefluor activity and decreased expression of pluripotency transcription factors Sox2, Nanog and Oct4. Overexpressing Her4 increased expression of CD117 and Sox2, Nanog and Oct4. These results suggest that Her4 plays an important role in OS tumorigenicity and metastatic potential through regulation of a stem-like phenotype and may serve as a novel prognostic biomarker in OS.

P-173 Rare Case of Intramural Urinary Bladder Leiomyoma

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Purpose: Urinary bladder leiomyoma is a rare tumor that consists of intersecting fascicles of smooth muscle cells. There are approximately 250 cases described in the English literature. Intramural location of this neoplasm is rare and accounts for

7% of all the leiomyoma of the urinary bladder. The differential diagnosis for this tumor is broad and includes leiomyoma, leiomyosarcoma and spindle cell neoplasm. Case description: We present a case of a 65-year-old male with an intramural leiomyoma that was found incidentally in the evaluation for left lower quadrant pain. Clinical Approach: MRI scan showed sigmoid diverticulosis and a large left pelvic mass. Cystoscopy showed a large antero-lateral submucosal mass effect. Open extravesical enucleation of the encapsulated tumor was performed. Clinical Findings: The tumor weighted 70 g and measured 7.3 cm x 4.5 cm x 4.0 cm. On gross examination it was described as having a smooth and glistening external surface. On histopathology, the tumor showed atypical smooth muscle cells, favoring leiomyoma. Hypothesis: Leiomyoma of the urinary bladder is a rare disorder that is still poorly understood partially due to few cases that have been reported. Imaging and urethro-cystoscopy aid in the preliminary identification of this tumor but the definitive diagnosis depends on biopsy and histopathology. Acknowledgments: We thank Southern Pathology Services for their collaboration in this work. None of the authors had a conflict of interest.

P-174 Septic Pulmonary Emboli: Rare Complication of Disseminated Methicillin-Resistant Staphylococcus aureus Infection in a Healthy Adolescent

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Purpose: Septic pulmonary emboli (SPE) is a rare disease and when encountered it poses significant morbidity. Our objective is to highlight the clinical presentation of this unique complication, and emphasize its association to disseminated methicillin resistant *S. aureus* infection. Case Description: We report the case of a healthy, 15 year-old male, who presented with unilateral swelling of his right thigh following blunt trauma. Pertinent physical findings included: fever, tachypnea, asymmetrical right thigh swelling, erythema, and tenderness of proximal lower extremities and left knee edema. Clinical Approach: Our patient was stabilized in the ER before transferring to PICU. Left knee arthrocentesis, CT scan of the left thigh were performed. Anti-Staph coverage was started with IV vancomycin and clindamycin. Further studies were required to evaluate persistent tachypnea and thigh swelling. Clinical Findings: Synovial fluid was consistent with septic arthritis. CT scan revealed right thigh pyomyositis with multiple abscesses, requiring incision and drainage. Blood and abscess cultures confirmed infection by MRSA. Persistent thigh edema led to venous Doppler, which identified deep venous thrombi (DVT). And, tachypnea in the setting of DVT led to chest CT that revealed bilateral SPE. Our

patient required prolonged IV therapy for resolution of SPE and other complications. Hypothesis: MRSA is the most common cause of skin and soft tissue infections (SSTIs) in children. Complicated SSTIs can lead to MRSA bacteremia with septic pulmonary emboli. When faced with disseminated MRSA, it is imperative for clinicians to begin adequate treatment and evaluate for underlying SPE.

P-175 Anabolic steroid exposure in adolescence reduces accumbal D2 receptors in female rats

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Background & objectives: Anabolic androgenic steroids (AAS), such as Nandrolone Decanoate (ND), are used widely amongst adolescents to enhance their physique and performance. Our previous studies show that female rats treated as adolescents with ND demonstrate an exacerbated locomotor response to cocaine. A central theory of substance use disorders postulates that a reduction in dopamine 2 (D2R) levels in the striatum is a determining factor that confers vulnerability to abuse substances. The objective of this study was to investigate if AAS alter levels of accumbal D2R increasing vulnerability to abuse drugs later in life. Methods: Female rats were injected with ND (20 mg/kg/sc) during adolescence (Days 28-37) and assigned into four groups: Oil-Saline, ND-Saline, Oil-Cocaine and ND-Cocaine. From days 40-45 and at days 53 and 63 rats were injected with cocaine (15 mg/kg/ip) or saline and tested for locomotor sensitization. At day 64 rats were euthanized, the brains removed and stored at -80°C. Brains were sectioned in a cryostat, nucleus accumbens sections were collected and immunohistochemistry for Dopamine-2 (D2) receptors was performed. Tissue was counterstained with cresyl violet. Slides were viewed under a microscope and immunopositive cells for D2 were quantified. Results: Our data shows that ND decreased the number of immunopositive cells for D2R by an average of 10.3%, independent of cocaine treatment. Conclusions: These data indicate that a mechanism by which AAS increase the response to cocaine is by decreasing accumbal D2R. Acknowledgements: Financial assistance was provided by FIPR-UPR RRP, an institutional grant from UPR, RRP.

P-176 Endocarditis by Granulicatella adiacens in a 17 year old female

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Purpose: Granulicatella species is a nutritional variant streptococci (NVS) that is part of the normal oral, gastrointestinal, and genitourinary tract that has been described as a cause of culture-negative infective endocarditis (IE). There have been 29 case reports described in literature of Granulicatella spp. causing IE. **Case Description:** Case of a 17 year old female with no past medical history, no prior surgeries, and immunizations up to with a 1 week history of shortness of breath and fatigue. Patient had visited multiple Emergency Rooms in periphery where she was given and treated for a diagnosis of iron deficiency anemia. Symptoms worsened and on arrival to our hospital, patient was found febrile, tachycardic and hypotensive; with a holosystolic murmur grade 3/6 in the left lower sternal border; but thromboembolic events were present. **Clinical approach and findings:** Echocardiogram showed mitral valve prolapse, mitral valve vegetation, and moderate to severe mitral regurgitation. Blood cultures were performed and Granulicatella adiacens grew for which antibiotic therapy was adjusted, to include Vanco and Gentamycin. She met criteria for early surgery and eventually was taken to operating room for Prosthetic Mitral valve replacement. Patient tolerated surgery and was eventually discharged home after completion of antibiotic therapy. **Hypothesis:** Presentation by this organism is typically subacute or even chronic; with patients presenting constitutional symptoms of weight loss, anorexia, and fever. Reporting this case is of great significance considering the rarity of the condition and the unfamiliar of these bacteria among the general medical community, reporting this case paramount importance.

P-177 Professionalism in social media: Resident attitudes and practices

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Background: While digital communication has increased physician accessibility, it presents risks of breaking patient confidentiality. Several residency programs have policies on online posting, however, ethical implications surrounding the use of publicly accessible patient information are less clear. There's a blurry line defining what's acceptable; causing significant confusion among residents regarding their professional use of social media. **Objective:** Examine residents' practices and attitudes regarding social media use in patient care and digital sharing (via email, text, blogs, social networks) of patient information. Evaluate their knowledge about current policies on online professionalism. **Methods:** Cross-sectional study. Anonymous

survey was administered to 184 residents in the UPR residency programs. Variables: sociodemographic, social media practices (online patient-physician relationships, digital sharing of patient information among professionals, data recollection via patient-targeted googling), and attitudes regarding online professionalism. Descriptive statistics summarize data. **Results:** Most residents (74%) denied knowledge of available guidelines. Although 59% received education on social media use; 52% have doubts on appropriate practices. Residents (90%) don't share patient information on social networks, but a majority send messages with patient information for case discussions with attending physicians/peers (83%), consultations (86%) and transition of care (73%). Most (80%) have included identifying data in messages. **Conclusion:** There's a gap in residents' knowledge of online professionalism that contributes to deviation from published guidelines. A curriculum on online professionalism would help fill the gap. Ultimately, however, adequately protecting patient information may rely on the adoption of safer technologies that facilitate communication between physicians. **Acknowledgements:** No funding or conflicts of interest.

P-178 Los extranjeros residentes en Puerto Rico: ¿Dónde se ubican geográficamente y cuáles son sus características sociodemográficas?

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Introducción y objetivos: Puerto Rico se caracteriza por ser un país emisor de migrantes. Los inmigrantes contrabalancean los flujos emigratorios en volumen y en características. El objetivo de la investigación fue analizar la concentración geográfica y características sociodemográficas de la población no nacida en la isla. **Métodos:** La fuente de información fue el "Puerto Rico Community Survey", 2011-2015. El estudio fue transversal descriptivo. Se calculó el índice de concentración de Gini para analizar la distribución espacial. **Resultados:** El 8% de la población nació fuera de PR. La mayor parte nació en: Estados Unidos (62%), República Dominicana (21%) y Cuba (4.3%). Las proporciones más altas de inmigrantes se ubicaron en: San Juan (17%), Bayamón (11.0%), Carolina (10.0%) y Caguas (9.7%). Esta población presentó un índice de concentración de GINI mayor (.58) que los nativos (.41). Las regiones de mayor concentración fueron: Noreste (.52) e Interior Oeste (.41). Estos tienen una estructura de edad más vieja, mayor proporción de féminas y nivel más alto de educación; predominaron los separados y divorciados, y en los nativos los solteros. Los inmigrantes tienen una mayor mediana de ingreso y menor por ciento de población en pobreza. **Conclusión:** La población nacida fuera de PR muestra algunas características particulares como educación e ingreso que la diferencian de los nacidos en la isla. Por lo tanto, la población inmigrante en PR presenta características y ubicación geográfica que deben ser consideradas en las políti-

cas de desarrollo económico, y futuras evaluaciones de calidad/ bienestar general de la población.

P-179 Depressive Symptoms And Mci In Familial Alzheimer's Disease

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Background: Depressive Disorder (DD) symptoms in patients with Mild Cognitive Impairment and early dementia have been associated with a greater negative effect in their Global Cognitive Function (GCF). Objective: To determine whether depressive symptoms in patients with impaired GCF are influenced negatively in cognitive domains of memory, orientation, judgment and problem solving, as stated in the Clinical Dementia Rating (CDR) scale. Method: A sample of 172 participants from a Familial Alzheimer's Disease Study with a known mutation in Puerto Rico, underwent medical and neuropsychological evaluations between 2002 to 2017. Cognitive impairment was indexed by the Short Blessed Test (SBT) and their GCF through the CDR scale. Participants self-reported medical his-

tory of DD symptoms. Results: Among participants with impaired GCF, 66/172 with a SBT ranging from 5-9, there was a direct correlation ($p < 0.05$) in which a history of DD symptoms decreases cognitive function in personal care, orientation, community affairs, home and hobbies, judgement and problem solving capacity domains. Conclusion: A history of DD symptoms directly correlates with a decreased performance in judgment, orientation and problem solving capacity domains regarding patients with impaired GCF with a SBT quantification interval from 5 to 9, inclusive. This same correlation was not observed in the control group of impaired GCF patients without DD symptoms. Acknowledgements: Neurology Department, Columbia University, NYPuerto Rico Clinical and Translational Research Consortium

P-180 Impact of socio-economic status in early literacy during the first years of life.

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Background & Objectives: Studies had shown that there are millions of words of difference between children who have been read to in early infancy and childhood and those who are not exposed to reading. Language is affected by home patterns of communication and it consistently lags among children from homes where parents are poor and have limited education. Children's vocabulary differs greatly across income groups, with low income being the most affected. The objective of this study is to determine if socioeconomic status influences children reading exposure and consequently, early literacy. Methods: An anonymous survey was administered to parents of patients less than 3 years old attending UPH external clinics to determine the reading profile of this population. Socioeconomic status was measured by the family's Hollingshead Four Factor Index of Social Status score (SES) included in the survey. Results: 173 parents completed the survey. 38% reported to be single and 58% married. 55% of mothers and 60% of fathers completed high school. 100% of SES was below 6. Mothers with post-high school education were more likely to read to their children than those with high school or less education (66% vs. 50%; OR 5.45 [2.33-12.73] $p = 0.0359$). Conclusion: We conclude that socioeconomic status influences children reading exposure. Mothers with higher education have more probability to read to their children. We propose promotion of reading during the first years of life as an easy and cost-effective way to improve early literacy in the low income families.

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