

## • Oral Presentations •

**O-001 Use of Sport Supplements among Young Puerto Rican Athletes**

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The use of nutritional supplements is in increasing trend and recent research indicates younger athletes are experimenting with these substances for performance and appearance with a use prevalence of 13-76%. Supplement use among adult athletes has been well documented how-ever there are a limited number of studies investigating supplement use by adolescent athlete. Purpose: To assess the prevalence and perception of legal ergogenic substance use, during the past 12 months, among 7th -to-12th grade athletes in a sports specialized school in Puerto Rico. Methods: Students from a sports specialized school in Salinas, Puerto Rico from ages 12 to 19 and their parents were informed about this research study. Consent and assent forms were signed by all participant. A validated questionnaire was given out to all study participants and analyzed using statistical software. Results: Study population was composed by 121 young athletes (n), 45% female, between ages 12 to 19. Use of ergogenic substances was prevalent in 98.3% of population (sports drinks (94.2%), vitamins (53.7%) and protein (54.5%) ). An increase in athletic performance was the principal reason (62%) to use ergogenic substances and their trainers and coaches were the most cited source of information for its use. Most participants reported they would like to learn more about nutritional supplements and their uses. Conclusion: In conclusion our study shows that the use of ergogenic substance is popular among the population studied. More studies are needed to evaluate how this practice can influence the use of illegal substance in the future.

**O-002 The *Eya2* Gene is Important for Hair Cell Regeneration in the Zebrafish Lateral Line**

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Background: We are interested in the molecular genetics of sensory tissue regeneration, which is happening in hair cells (HC), mechanoreceptors that are central to hearing in vertebrates and are found in sensory tissue of the inner ear. Contrary to mammals, fish and birds are able to regenerate HC. Fish have a primitive inner ear comparable to the mammalian ear, but additionally they have a superficial sensory structure called the lateral line (LL) which is composed of sensory patches called neuromasts (N). It was shown previously that HC actively regenerate from surrounding supporting cells (SC). Some of our prior work indicated a possible role for *eya2* gene in this process. The *eya* gene family is crucial in the development of sensory tissues, and *eya2*

is abundantly expressed in SC into adulthood. Methods: We investigated its role in regeneration by analyzing a revertible *eya2* mutant transgenic line. To bypass the haplo-insufficiency of the *eya2* gene during the first days of development we injected morpholinos (MO) which temporally reverted the mutation. The sexual mature *eya2*<sup>+/-</sup> were outcrossed to wild type animals and their offspring tested for HC regeneration which we triggered with waterborne copper which is killing selectively HC. Results: We found that *eya2* mutants were significantly delayed in the regeneration of their HC. Conclusions: The *eya2* gene is implicated in the process of HC regeneration. Acknowledgements: This research as supported by RCMi grant #G12 MD007600 / NIDCD-ROO grant #4R00DC009443/ Puerto Rican Science Trust.

**O-003 The Relationship between Skeletal Antero-Posterior Pattern and Transverse Facial Proportions: Training and Calibration Exercise**

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Background and Objective: The soft tissue paradigm shift has influenced the current diagnosis and treatment modalities in orthodontics. The question is whether a facial assessment in frontal view allows any conclusions with respect to the existing lateral skeletofacial morphology. The purpose of this calibration and training exercise was to assess reliability of skeletal antero-posterior discrepancy measures obtained from lateral cephalometric radiographs (CEPHs) and facial anthropometric measurement determination in a group of students and residents and assess validity of the measurements taken. Methods: 10 random CEPHs were selected from clinic records at the UPR School of Dental Medicine. Each CEPH was digitally traced using Dolphin Imaging Software 10.1 to determine the ANB cephalometric measurement and the skeletal classification was determined. Faces from 10 volunteer residents and students were used for the calibration of the landmark identification and measurement determination (9 linear measurements). Intra and inter-examiner reliability was performed by one examiner (LL) and a reference examiner (GP) using Pearson's and Spearman correlation coefficients (for continuous measures) and Cohen's kappa statistic (for categorical measures). Results: Inter and intra-examiner reliability measures were excellent for both angular measures (correlation coefficients of 0.99 and 0.98 respectively, all p-values<0.0001) and categorical measures (kappa of 1.00) related to the CEPH analysis. For the facial measurements inter and intra-examiner reliability measures were also excellent (correlation coefficients ranging from 0.85 to 0.99 and 0.88 to 0.99 respectively, all p-

values < 0.001). Conclusion: Excellent inter and intra-examiner reliability was achieved among examiners thus providing validity to the study.

#### O-004 ICDAS Training and Calibration: A Pilot Project

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Background: The International Caries Detection and Assessment System (ICDAS) is the gold standard diagnostic criteria for the assessment of caries experience and its management. Objective: Train and calibrate two examiners in ICDAS and determine the feasibility of this pilot project for a future RCT. Methods: 18-25 year-olds residing in Dominican Republic (n=111) were consented and screened by the reference examiner (RE); 74 individuals were selected: 26 for training and 48 for calibration. Training consisted of: ICDAS eLearning, a lecture, clinical image assessments, and scoring of coronal surfaces of posterior extracted teeth (ICDAS 0-6). Visual examinations were conducted using optimal clinical facility/equipment. Subjects received a dental prophylaxis prior to the examination. The clinical training consisted of selected quadrants examination. Trainees were allowed score discussions with the RE. Live data was entered using i-pads equipped with ICDAS Application. Calibration was done on 48 patients following the same protocol, except that score discussions were prohibited. Weighted Kappa coefficient was used to assess inter- and intra-examiner reproducibility. Approximately, 20% of the calibration participants were re-examined to determine intra-examiner reproducibility. Results: Inter-examiner reliability was 0.80-0.82. Intra-examiner reproducibility ranged from 0.81-0.87 for trainees and 0.97 for the RE. After this pilot project, minor changes were proposed to optimize the future RCT: participants' age group 15-21 and oral hygiene routine preservation. Conclusions: Novice trainees achieved substantial agreement (inter-and intra) using ICDAS. This demonstration exercise aided to determine the future RCT feasibility (compliance, data entry, cost-effectiveness, etc), identify weaknesses, and improve the overall study design. Acknowledgements: This work was partially supported by the National Institute on Minority Health And Health Disparities of the NIH (R25MD007607) and Colgate Palmolive.

#### O-005 Role of Glutathione in Reducing Lysosomal Disruption in HIV-macrophages

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Background & Objectives. HIV-associated neurocognitive disorders (HAND) remain prevalent with HAART. In neurodegenerative diseases, including HAND, oxidative stress is an

important hallmark. HIV infection promotes oxidative stress and the secretion of the lysosomal protease cathepsin B, inducing neurotoxicity. Therefore we hypothesize that reduction of oxidative stress by treatment of macrophages with glutathione (GSH) will reduce secretion of cathepsin B. Methods. HIV-1 infected monocyte-derived macrophages (MDM), were treated with GSH at one day post-infection (dpi), and secretion of pro-cathepsin B, cystatins B and C, and cathepsin B activity were measured from cell supernatants at 11 dpi. Disruption of lysosomes was assessed using LysoPainter dye. Cathepsin B/cystatin B interaction were determined at 12dpi by proximity ligation assay. Results. We found that the secretion of cathepsin B and cystatin B were not different after GSH treatment as well as cathepsin B activity, however lysosomal disruption and cathepsin B/ cystatin B interaction were restored.. Interestingly when Efavirenz, a non-nucleoside reverse transcriptase inhibitor was added to MDM, the levels HIV infection and cystatins B and C decreased to baseline values, suggesting that these proteins are affected by HIV replication. Conclusions. GSH treatment of MDM restores cathepsin B /cystatin B interactions and improve integrity of lysosomes. Replenishing GSH levels in HIV infected patients, together with antiviral therapy, can reduce macrophage oxidative stress. Acknowledgement. This research was supported in part by grants from the NIH grants R01MH083516 (to LMM), SNRP U54NS4301 (to LMM), RISE R25GM061838 (KC), NIMH G12-MD007600 (Translational Proteomics Center). We acknowledge the UPR-MSc Chancellor, and the Associate Deanship of Biomedical Sciences for the funding provided.

#### O-006 Addressing Ecologic Fallacy in the Health Administration Services Planning and Health Promotion Plans: The Case of Villa Alegre

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Health Services Administration plans and forecast are constantly worked based on statistical analysis provided by health authorities' data. However, commonly, data could lead to unnecessary or undesirable provision of services to communities. NeoMed Center, a 330 health center, working with community needs by the administration of federal and state funds assigned to fight underage drinking at Gurabo base in state databases. The aim of these data is to gather the case report of Villa Alegre Community classified as "High Risk" for adolescent alcohol consumption community based on national and district data, but re-classified as "Low Risk" after field epidemiology assessment. Also, this presentation counts on how health administration resources provided by 330 health centers were re-assigned to work other communities within Gurabo facing underage drinking. A cross-sectional study design was used to measure risk factors for alcohol consumption as well as resiliency among community adolescents. Results showed that adolescents' alcohol consumption was barely occurring in the community as self-reported. However,

risk factors such as low SES, violence events, alcohol availability among others were high as reported elsewhere by governmental authorities. In conclusion, the results shows that health services planning needs direct measurement of the phenomena prior to resources allocation.

#### **O-007 Diverging Destinies: Puerto Rican Population in the Island and the United States**

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**Background and Objectives:** The 2010 Decennial Census evidenced that more Puerto Ricans were living in the United States than in the island. At the same time it was the first time in history where the island experienced a population decline. This paper has the objective of studying population trends for Puerto Ricans in both settings and projecting future population structures for the 2020 period. **Methods:** Data for this study come from the 1990, 2000 and 2010 Decennial Censuses as well as from multiple sources of population projections of Puerto Rico. The projections for 2020 presented were generated using the Hamilton-Perry Method for Population Projections and Forecasting. **Results:** Based in the population projections for both instances we can expect the population of Puerto Rico to decrease by 4% and the population of Puerto Ricans in the U.S. to increase by 35%. This 35% includes migration from the island and births to Puerto Rican parents. The dependency ratio for both instances is similar, but the disaggregated ratios present a higher percentage of aged dependency in Puerto Rico than in the US. The population of Puerto Rico is expected to age rapidly compared to the population of Puerto Ricans in the US that is aging in a slower pace. **Conclusions:** The population of Puerto Ricans in the island and the US present diverging trends in terms of their growth, aging, and population structure. These issues of population aging and dependency structures should be addressed through a comprehensive population and economic policy. Not addressing the issues in a timely manner could be disastrous to the economic environment and situation of the island. As our political situation enables us certain liberties when compared to the states of the union, the government of Puerto Rico should consider drafting and approving a population policy to address the pressing population situations of the island.

#### **O-008 Ciudadanos de Segunda Clase: el Vivir entre los Sexos y el Derecho en Puerto Rico**

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**Trasfondo y objetivos:** La intersexualidad humana principalmente se refiere a características anatómicas de los genitales atípicas al nacer. Las condiciones congénitas del tracto urogenital ocupan la cuarta posición entre todas las condiciones que monitorea el Departamento de Salud de P.R. Aunque la hiperplasia

adrenal congénita (HAC) puede producir atipia genital, estándares medico-legales actuales dictaminan que neonatos HAC con kariotipo 46, XX tienen que ser asignados al sexo de hembra sin tomar en cuenta su fenotipo genital. La política pública mediante ley obliga a los médicos asignar un sexo al nacer. En el presente trabajo se analizó dicha política pública, el estado de derecho que aborda el tema y su jurisprudencia. Este análisis está enmarcado en la disciplina del Derecho y la Ciencia Médica. **Método:** Esta investigación (1) identificó y evaluó los argumentos biomédicos utilizados en las decisiones judiciales e (2) identificó y evaluó el historial legislativo y casos ante el Tribunal Supremo de P.R. **Resultados:** Encontramos que la ley y la jurisprudencia en P.R. no permiten que personas luego de ser asignadas a un sexo puedan modificar sus documentos oficiales ante el Estado. **Conclusión:** La política pública y el estado de derecho actual en la isla no protege a personas intersexuales en Puerto Rico quienes, a lo largo de su desarrollo psicosexual, pueden verse atrapad\*s en un sexo que entienden no le correspondía. Proponemos legislación que examine el estado de derecho actual en estos casos a la luz del derecho a la identidad de género vigente en otros países iberoamericanos.

#### **O-009 Propuesta de Reglamentación para Centros de Cuidado de Larga Duración que sirven a Personas con la Enfermedad de Alzheimer en Puerto Rico**

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**Política Pública Analizada.** A pesar de que las personas con la Enfermedad de Alzheimer (PEA) tienen necesidades muy particulares, en Puerto Rico no existe legislación o reglamentación para los Centros de Cuidado de Larga Duración (CCLD) que sirven a esta población. El objetivo de esta investigación es analizar reglamentaciones aplicables CCLD que sirven a personas con EA en Estados Unidos. **Disciplina Académica.** Este estudio es una Investigación de Leyes de Salud Pública (Public Health Law Research). **Fuentes de Información.** Se utilizó el documento "State Residential Care and Assisted Living Policy: 2004" (SRCALP) para evaluar las políticas existentes en los Estados Unidos. Se contactó el Departamento de Salud de cada estado para actualizar la información. Se evaluaron las legislaciones existentes en Puerto Rico que cobijan a las PEA. **Método.** En este estudio-mapa (Mapping Study) se identificaron aquellos estados que tienen regulaciones de licenciamiento y se evaluaron las categorías de la tabla de requisitos para facilidades que sirven a residentes con demencia del SRCALP para delimitar las áreas a evaluar. **Hallazgos.** Se encontró que 41 estados tienen algún tipo de política para CCLD para pacientes con EA. Las regulaciones más frecuentes se dirigen hacia el adiestramiento del personal (31/41), a solicitarles un "Disclosure Form" (25/41) y a regulaciones sobre el ambiente físico, el diseño y seguridad de la facilidad (19/41).

Implicaciones. Se recomienda la creación de legislación que regule los CCLD que sirvan a personas con EA-OD, para atender sus necesidades particulares. Esta legislación debe estar dirigida principalmente a las áreas que aún no han sido cubiertas por las leyes existentes.

**O-010 Barriers for Using Assistive Technology by Community-Living Hispanic Older Adults with Functional Limitations**

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The presence of chronic conditions in old age may result in challenges to maintain independence in daily life activities. Assistive technologies (AT) are tools that enhance the independence, safety, and quality of life of older people with functional limitations. However, studies conducted with older adults from other countries reveal barriers for successful using AT. The aim of this study was to identify barriers experienced by Hispanic community-living older adults with functional limitations for using AT. Sixty Hispanic older adults (70 years and older) with functional limitations participated in this study. A mixed method design was used. The quantitative phase consisted of the administration of the AT needs assessment questionnaire and the qualitative phase consisted of individual interviews. Data analysis included descriptive statistics and thematic content analysis. A complex interaction between personal, contextual, and activity-based factors contributed to the experience of barriers for using AT. Lack of AT awareness and knowledge, limited coverage of AT by health care plans, and perceived complexity and high cost of AT were the predominant barriers experienced by the participants. This study revealed significant gaps in knowledge related to the availability and benefits of using AT to support aging in place and healthy aging. It is imperative that older people as well as health care professionals have up-to-date knowledge and information about the availability and use of AT. If older people continue to not having information regarding AT, their pursuit to remain living independently may be curtailed.

**O-011 CUIDATE & CUIDALOS: Two Evidence-Based Programs for Teen Pregnancy Prevention in Puerto Rico**

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**Background & Objectives:** The Puerto Rico Personal Responsibility Education Program (PR-PREP) educates adolescents, their families and communities on abstinence, contraception and adulthood preparation topics with the ultimate goal of preventing unintended teen pregnancies and sexually transmitted infections (STIs), including HIV/AIDS. During the PREP first implementation year (2014), activities were conducted at school and com-

munity (public housings) settings. **Methods:** As result of a needs assessment, five municipalities in highest need of teen pregnancy prevention services at the Southeast region of Puerto Rico were selected. The target population was 12 to 14 year old youth and their parents/caregivers. The evidence-based programs (EBPs) delivered were: ¡Cuidate! (asyouth intervention) and ¡Cuidalos! (asparentalintervention). **Results:** A grand total of 468 youth aged 12 – 14 and 145 parents/caregivers initiated ¡Cuidate! and ¡Cuidalos! sessions, respectively. Both EBPs were conducted during school hours (AM/PM). Ninety three percent of the youth indicated that the discussions or activities helped them to learn program lessons; whereas 93% of the parents/caregivers stated have learned about new topics and tools to support the communication with their child. The overall retention rate was of 89% and 90% for the youth and parental interventions, respectively. **Conclusion:** Both EBPs were well received by participants at implementation sites. Educational information provided may serve as a useful complement of the material discussed in the health class and to enhance parent-child communication. **Acknowledgements:** The PR-PREP is funded by the Administration on Children, Youth and Families (HHS-2010-ACF-ACYF-PREP-0125). We thank Dr. Antonia Villarruel, the EBPs' developer. Approved by the UPR-MSU IRB on September 12, 2013 (Protocol Number: A4760113).

**O-012 Prevención de Alcohol en Menores: Implementación de una PBE en Familias Vegabajeñas**

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**Contexto:** La influencia familiar y de pares son factores determinantes para el consumo de alcohol en menores. El 53% de los jóvenes en el municipio de Vega Baja han consumido alcohol alguna vez en su vida; el 69% indicó haber bebido en racha (5 tragos o más); 49% reportó uso de alcohol en la familia; y el 56% consumo de alcohol por parte de sus amigos (EJ, 2012). Con el fin de reducir el consumo de alcohol en menores, el programa Barrio Vivo de Iniciativa Comunitaria adaptó culturalmente e implementó una práctica basada en evidencia (PBE) dirigida a jóvenes y sus familiares. **Objetivo:** Presentar los resultados de la implementación piloto de la PBE Creating Lasting Family Connections. **Metodología:** Se reclutaron de manera voluntaria participantes de 15 a 17 años y padres o adultos significativos de la comunidad Alto de Cuba en Vega Baja. Se realizaron 16 sesiones del currículo a un grupo de jóvenes y 17 sesiones a un grupo de adultos. Se evaluó la fidelidad de los procesos de implementación y contenido de las sesiones a través de observación, entrevista, encuesta y grupo focal. **Resultados:** Se impactaron 23 jóvenes y 16 padres o adultos significativos. Porcentaje de satisfacción de los participantes: 98.5%. Fidelidad de la implementación: 100%. Reducción del consumo de alcohol en los jóvenes: 8.8%. Disminución de beber en racha: 13%. Aumento en percepción de supervisión familiar: 41.4%. **Conclusión:** El éxito de dicha im-

plementación justifica los esfuerzos para replicar a mayor escala el programa. Agradecimiento: CIES-RCM y ASSMCA.

**O-013 Evaluación de una Intervención Piloto para la Prevención del Uso de Alcohol entre Adolescentes de una Comunidad en el Centro de la Isla**

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La evaluación de Intervenciones Breves (IB) de promoción para la salud recopila evidencia sobre su efectividad, identifica maneras de mejorar la práctica, e identifica resultados inesperados. Sin embargo, continúa la falta de documentación sobre IB que conduzcan a reducciones significativas en uso de alcohol en jóvenes. El objetivo fue explorar la viabilidad y aceptabilidad de IB llevado a jóvenes en entornos comunitarios. Además, conocer si se implementó la intervención según fue diseñada, examinar si los objetivos establecidos se lograron y proveer recomendaciones para así introducir acciones correctivas en el diseño y la implantación del proyecto. La evaluación fue de proceso utilizó un enfoque mixto (análisis cuantitativos y cualitativos) y para los análisis cuantitativos se utilizó SPSS® versión 21. En total hubo 22 participantes de la intervención piloto y cuatro evaluadores observacionales. La evaluación de implementación cumplió satisfactoriamente con 85.7%. El 87.5% dijo que el desempeño de los facilitadores fue excelente. El 81.3% de los participantes se mostraron satisfechos con el tema de intervención y los materiales utilizados. Hubo varias recomendaciones dirigida a los facilitadores para tener mayor afinidad con los participantes y elevar el nivel cognoscitivo de la información. En general la actividad mantuvo la cronología de eventos estipulada en el plan de intervención y evaluación. En cuanto al proceso de la evaluación, la evaluación fue satisfactoria y se cumplieron los indicadores establecidos con mínima sugerencias para modificar. No hubo puntuación por debajo de 80%.

**O-014 An Interdisciplinary Intervention for Developing Social Skills in Twice Exceptional Children**

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Twice exceptional children exhibit strengths along with weakness, thus they are frequently misunderstood or unidentified resulting in being underserved. These challenges often interfere with their ability to adequately interact with others and develop adequate social skills. Objectives: 1) discuss a model of interdisciplinary intervention for the development of social skills in twice exceptional students and their families, and highlight its complexity. 2) explain curricular activities to develop social skills, and formal and informal methods to assess them. Dependent variable: level of development of social skills of each child measured through

two strategies: a) pre/post tests, and b) ratings of achievement during intervention sessions. Independent variable: twelve-week interdisciplinary intervention. Method: A multiple single-case research, based on a pre-experimental AB design. Four different quantitative pre and post measures were used. Information was also gathered during the intervention to document the children's achievement of specific social skill objectives. The twelve week intervention with parents and children included both individual and group sessions with the children four days a week after school. Results: The differences in pretest-posttest scores and the achievement ratings registered reveal improvements related to the identified difficulties in social skills. The results indicate that participants improved their social skills through the interdisciplinary intervention. Conclusions: The results provide support for the usefulness of an interdisciplinary intervention with 2e children to strengthen the development of their social skills that were established as target. The interventions were effective for the development of social skills, and therefore were helpful for the 2e participants. Funding Sources: This study was financed by a seed research award of the FILIUS Institute, of the University of Puerto Rico, Central Administration

**O-015 Community Mobilization Efforts for HIV Prevention: A New Approach to for Young College Bound Adults in Universities, Puerto Rico, 2014**

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Background & Objectives: Individuals aged 13-24 saw the largest percent increase in new HIV diagnoses from 14% in 2011 to 19% in 2012. For years prevention interventions targeted the 35-44 year old population identified as highest risk for infection. Community mobilization (CM) has proved to be a successful strategy for disease prevention. The Puerto Rico Department of Health's HIV/STD Prevention Program developed new Community Mobilization strategies among college bound individuals. Methods: CDC's CM model for syphilis was adapted for HIV. Key stakeholders (universities or colleges and their campuses, CBOs, private enterprise, etc.) were identified, engaged and trained as to key project's goals. An assessment tool was designed to measure participant's acceptability of this new model for HIV awareness. Excel 2007 was used for data analysis. Results: On October 14-16, 2014, islandwide activities targeting college communities were held with 40% (22/55) participation of university and college campuses in PR. Preliminary reports indicate an outreach impact of ≥ 3000 individuals out of an estimated a 38,000 college student population. HIV testing was offered in 15 of 22 participating institutions; a total of 650 HIV rapid tests were performed; counseling and referral services were available on site. Among 135 assessment tools evaluated to date, 87% reported increased knowledge on HIV and 93% reported they would recommend similar activities to peers. Conclusion: At 40% participation, universities and colleges seem to embrace their role as HIV preven-

tion stakeholders. Target population high participation rates and positive HIV knowledge change suggest a CM model for this population is an acceptable and effective tool for HIV awareness and prevention. Acknowledgements: This work was possible by CDC grant PS12-1201: Comprehensive Human Immunodeficiency Virus (HIV) Prevention Programs for Health Departments

#### O-016 Assessment of two HCV Knowledge Questionnaires for Promoting Health among Puerto Rican Islanders Injecting Drug Users

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Health education programs are based in the quality of the tools used for promoting the wellbeing of the communities. Currently, there are few tools that help promoting the health of IDU's from contagion with HCV. The aim of this study was to compare an existing HCV scale with an original scale for HCV knowledge among participants of a syringe exchange program in terms of reliability and other psychometric properties. A cross sectional study was performed using STATA 12.0 for comparing the scales using the same population in a two wave survey design. A total of 104 participants in the first wave and 103 participants in the second wave were recruited in the study. Results show that socio-demographic characteristics of participants did not differ ( $p > .05$ ) in terms of age, sex, years injecting, injection per/day among others. Although, content validity by a panel of experts was performed to assure the new scale was appropriate KR-20 test showed that the internal consistency among both scale were low ( $< .30$ ). Also, psychometric properties of the scale showed low eigenvalue for both scales. Based in these results, there is a need to develop a more reliable instrument capable to assess the knowledge among the most vulnerable population for HCV contagion in Puerto Rico. IRB Protocol Approval # A8190414

#### O-017 Identification and Expression Analysis of Two *Xenopus laevis* Homologs of the Novel F-Box Containing Protein, FBXO30

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Tumorhead (TH) is a maternal factor that regulates cell proliferation during early embryogenesis in *Xenopus laevis*. To understand how TH functions at the molecular level, we have been studying its relationship with the novel F-Box containing protein FBXO30, found in a two-hybrid screen for TH binding proteins. Using RT-PCR, we identified two FBXO30 homolog genes in *X. laevis*, named FBXO30-A and FBXO30-B. The FBXO30-A and FBXO30-B proteins share 64% and 63% identity with their Homo sapiens homolog, respectively. Sequence analysis and alignment of several vertebrate FBXO30 proteins show that they contain very conserved F-Box domains at their C-terminus, while the internal part of the proteins diverge extensively. We found through RT-PCR that FBXO30-A and FBXO30-B are maternal factors as their messages are present in the unfertilized egg. Their mRNAs persist during the cleavage stages but decrease dramatically once gastrulation starts. The FBXO30-A and FBXO30-B messages are present at low levels during organogenesis, showing a slight peak of expression during the mid-tailbud stages. *In situ* hybridization studies show that the maternal FBXO30-A mRNA is localized to the animal pole, and that the later expression of FBXO30-A occurs in the developing somites. Using antibodies raised against a synthetic FBXO30-A peptide, we have preliminarily localized the FBXO30-A protein to the nuclei of ectodermal cells at the gastrula (st. 12) stage. Our studies show the presence of two homologs of FBXO30 in *X. laevis*, which could be key regulators of early development, working with TH to regulate cell proliferation. Supported by: NIH-MARC Program (Grant 2T34GM008156-21)

#### O-018 Activation of Group II Metabotropic Glutamate Receptors Exerts an Anxiolytic-like Effect in Ovariectomized Female Rats

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Background & Objectives: Anxiety disorders affect 40 million adults in the USA. Generalized anxiety disorder (GAD), one type of anxiety disorders, affects females twice more than males. This predisposition might be due to differences in metabolite concentration such as estradiol. Estrogen receptors (ERs) at the plasma membrane activate metabotropic glutamate receptors (mGluRs). mGluRs have been linked to anxiety modulation. 1S,2S,5R,6S)-2-Aminobicyclo[3.1.0]hexane-2,6-dicarboxylic acid (LY354740), a group II mGluRs agonist, produces anxiolytic effects in male rodents. However, whether LY354740 produces the same effect in female rats, and whether estradiol might modulate anxiety through mGluRs interaction is still unknown. We hypothesized that the anxiolytic effect of LY354740 will be higher in ovariectomized female rats containing estradiol implants (OVX-EB) than animals containing empty implants (OVX). Methods: We evaluated GAD using the elevated plus-maze (EPM). We also evaluated risk assessment behaviors (RABs) within the EPM. RABs include flat back approach (FBA), stretch attend postures (SAP)

and head dipping. We administered LY354740 (10 mg/kg) intraperitoneal 30 minutes prior to the EPM. Results: Preliminary data shows that LY354740 significantly decreased closed arms entries in OVX-EB but not OVX female rats ( $p = 0.039$ ). LY354740 significantly reduced FBA in OVX-EB and OVX female rats ( $p = 0.001$ ) and SAP in OVX female rats only ( $p = 0.006$ ). Conclusion: Our results suggest that in GAD, the anxiolytic-like effect of LY354740 is selective to OVX-EB female rats, suggesting an interaction between mGluRs and ERs. On the other hand, the anxiolytic-like effect of LY354740 in RABs seems to be independent upon estradiol treatment, suggesting that the effect is due to group II mGluRs activation. Further experiments need to be done to evaluate these results. Acknowledgements: This study was partially supported by Undergraduate Research Mentoring Program (URM) – 40231.043.000.xxxx.430.401430070001.00 (534025); RCMi Program UPR-MS (G12RR03051); RCMi Translational Proteomics Center (G12MD007600); Deanship of Biomedical Sciences and the Department of Anatomy & Neurobiology of the UPR School of Medicine.

#### O-019 Cathepsin B and Serum Amyloid P Component Contribute to HIV-induced Neuronal Apoptosis

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**Background & Objectives:** Cathepsin B, a lysosomal protease, is actively secreted by HIV-infected macrophages and has been associated to neuronal apoptosis in vitro. We hypothesized that cathepsin B interacts with other macrophage-secreted proteins to trigger neuronal apoptosis. **Methods:** To elucidate the mechanism of neurotoxicity, we immunoprecipitated cathepsin B from uninfected and HIV-infected macrophage supernatants and identified interacting proteins by LC-MS/MS. Proteins with differences in spectral count were validated by western blot. Their contribution to neuronal apoptosis was then assessed by exposing uninfected and HIV-infected macrophage supernatants pretreated with antibodies against cathepsin B and selected proteins to SK-N-SH neuroblastoma cell line cultures, using TUNEL labeling. The expression of the proteins in deep frontal white matter from HIV-positive patients was observed by immunohistochemistry. **Results:** Serum amyloid p component (SAPC) co-immunoprecipitated with cathepsin B from HIV-infected supernatants. Matrix metalloprotease-9 (MMP-9) co-immunoprecipitated with cathepsin B from uninfected supernatants. Antibodies against cathepsin B and SAPC decreased HIV-induced neuronal apoptosis by 10%. Pre-treatment of macrophage supernatants with antibodies MMP-9 did not have any effect on neurons. Cathepsin B and SAPC expression are increased in the brain of patients with HIV-subsyndromic disorder and with

HIV-associated dementia compared to controls. Both proteins co-localized with amyloid beta peptides in tissues from HIV-positive neuro-impaired patients and Alzheimer's disease patients. **Conclusions:** Cathepsin B and SAPC are secreted by HIV-infected macrophages and contribute to neuronal apoptosis in vitro. The expression of both proteins is increased in the brain of patients with HAND and Alzheimer's disease, pointing to a role in neurodegenerative diseases. **Acknowledgements:** We thank Dianne Langford, Ph.D. for aiding us with the immunohistochemistry protocol. This work was supported in part by grants from the National Institutes of Health R01MH083516 (to LMM), SNRP U54NS4301 (to LMM), RISE R25GM061838 (YC), NIMH G12-MD007600 (Translational Proteomics Center). We acknowledge the UPR Medical Sciences Campus Chancellor, and the Associate Deanship of Biomedical Sciences provided additional funding to complete this study. This work was made possible from NIH funding through the NIMH and NINDS Institutes by the following grants: Manhattan HIV Brain Bank: U01MH083501, R24MH59724; Texas NeuroAIDS Research Center U01MH083507, R24 NS45491; National Neurological AIDS Bank 5U01MH083500, NS 38841 California NeuroAIDS Tissue Network U01MH083506, R24MH59745 Statistics and Data Coordinating Center U01MH083545, N01MH32002. Its contents are solely the responsibility of the authors and do not necessarily represent the official view of the NNTC or NIH.

#### O-020 CCL4 and IL-15 Affect Prostate Cancer Development

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**Background & Objectives:** Prostate Cancer (PCa) is the second-leading cause of cancer-related deaths in the United States. Inflammation, is associated with PCa development and progression. Chemokines such as CCL4 and IL-15 are differentially expressed in prostate cancer patients with recurrent disease (CCL4) or recurrence-free survival (IL-15). We studied the role of these chemokines in PCa using in-vitro and in-vivo models. **Methods:** PC3 (androgen-independent) and 22RV1 (androgen-dependent) cell lines were treated with CCL4 (0.001ng/mL and 0.1ng/mL) or IL-15 (0.0013ng/mL and 0.1ng/mL) and subjected to motility assays. The role of CCL4 and IL-15 in tumor growth was evaluated using an orthotopic xenograft model. The chemokines were administered bi-weekly with intraperitoneal injections during 4 weeks. Tumor volume was determined with caliper measurements. Tissue was collected, fixed, and processed for gross-examination, immunohistochemical, and gene expression analysis. **Results:** In-vitro studies indicated that PC3 and 22RV1 cells treated with CCL4 had significantly increased motility while IL-15 treatment caused a decrease ( $p < 0.05$ ). In-vivo, CCL4 and IL-15 increased tumor volume. Immunohistochemical analysis showed that CCL4 increased expression of desmin,

phospho-histone 3 (pH3) and CD31. On the other hand IL-15 increased expression of desmin but, decreased phospho-histone 3 (pH3) and CD31. Gene expression analysis showed that CCL4 and IL-15 altered several genes involved in PCa progression and the PI3K pathway confirmed by quantitative Real-Time PCR. Conclusions: Our results indicate that CCL4 may promote tumor growth and metastasis in-vivo by increasing proliferation and altering migration, while IL-15 promotes tumor growth while decreasing metastatic-potential. Acknowledgments: This work was supported by the Comprehensive Cancer Center, the Graduate Program School of Pharmacy, NIH K01 CA140711, and MBRS-RISE R25GM061838.

#### **O-021 Intraperitoneal Delivery of Liposome-Encapsulated c-MYC-siRNA Reduces Tumor Burden in a Mouse Model of Cisplatin-Resistant Ovarian Cancer**

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Given the pivotal role of the c-MYC transcription factor in cancer, its therapeutic targeting in chemoresistance is evident. Unfortunately, c-MYC lacks surface domains suitable for small molecule inhibitors; therefore, it has remained an “undruggable” target. Nevertheless, small-interfering RNAs (siRNAs) have been shown to specifically downregulate “undruggable” target gene products, providing a promising therapeutic modality for cancer patients. Here, we examined the biological and therapeutic effects of targeting c-MYC by siRNAs in cisplatin-resistant cells and in pre-clinical models of ovarian cancer. Statistical analysis of patient’s data extracted from “The Cancer Genome Atlas” (TCGA) portal showed that the progression free survival (PFS) was decreased in ovarian cancer patients with high c-MYC mRNA levels. Furthermore, analysis of a panel of ovarian cancer cell lines showed that c-MYC protein levels were higher in cisplatin-resistant cells when compared to their cisplatin-sensitive counterparts. Significant inhibition of cell growth and proliferation was observed upon siRNA-mediated c-MYC depletion. In addition, single weekly doses of c-MYC-siRNA incorporated into 1,2-dioleoyl-sn-glycero-3-phosphocholine (DOPC) polyethylene glycol-2000 (PEG-2000)-based nanoliposomes resulted in a reduction of tumor burden compared with a non-coding control siRNA. These findings identify c-MYC as a potential therapeutic target for ovarian cancers expressing high levels of this oncoprotein. Thus, results from this project will impact approximately 50-70% of ovarian cancer patients who become mainly resistant to cisplatin treatment. This project was supported in part by the NIH/NCI 1K22CA166226-01A1 and institutional seed funds

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#### **O-022 Mybpc1 and mybpc3 Mutations in Zebrafish as a Model for Human Hypertrophic Cardiomyopathy**

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Myosin binding protein C (MYBPC) is found in the basic contractile unit of all muscles. It is necessary for thick filament stability, proper muscle contraction and development. However its function is still not fully understood. In humans, MYBPC 1 and 2 are found in fast and slow skeletal fibers respectively and MYBPC3 in cardiac fibers. Mutations in mybpc3 have been linked to a genetic disease known as hypertrophic cardiomyopathy (HCM). Carriers are at higher risk of heart failure and sudden cardiac death (SCD) and it is a leading cause of death in young athletes. To understand how such mutations can cause HCM/SCD, we decided to investigate the effects of mutations in mybpc homologs in zebrafish. Previous data indicated that unlike in humans, mybpc1 and 3 were both expressed in the embryonic heart. First, we confirmed the expression pattern of both mybpc 1 and 3 by whole mount in situ hybridization (WISH) in 2 and 5 day post fertilization (dpf) larvae. Next, we identified mybpc1+/- carriers and characterized their heart phenotype by monitoring heart morphology and measuring heartbeat in homozygotes. We found significant alterations in the formation and contraction of mybpc1-/- hearts. In parallel, we generated with the CRISPR-Cas technology a mybpc3 mutant line in which we will perform heart phenotypical analyses. We will generate double mutants to assess the respective contribution to heart development of each mybpc ortholog. A better understanding of their respective role during development will help elucidate causes of HCM/SCD and develop putative treatments in humans.

#### **O-023 Impacto del Programa PRAABRE en la Investigación biomédica de Puerto Rico**

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La industria bio-farmacéutica es una de las más que contribuye a la economía de Puerto Rico (Villamil, 2013). Esta industria representa el 26.5% del PIB y el 57.4% de la producción manufacturera de la Isla (PIA, 2012). El PRAABRE tiene como meta el fomentar la colaboración y mejorar la infraestructura científica y la competitividad en investigación biomédica en la Isla. Objetivos: Evaluar el impacto de PRAABRE en la investigación biomédica mediante el desarrollo de proyectos de investigación, capacitación y mentoría de investigadores, estudiantes subgraduado-graduados y post-doctorales en las catorce instituciones académicas de la red. Métodos: Se diseñó un perfil institucional que recogió información de infraestructura, productividad y colaboraciones,



en combinación con entrevistas, observaciones y revisión de documentos. Resultados: En comparación con el año 2009, durante el 2014 las instituciones de la red de PRAABRE incrementaron en la infraestructura de investigación en 7,900 pies cuadrados en promedio por año, se realizaron 106 nuevas colaboraciones de investigación, desarrollaron 29 nuevos cursos en Ciencias, reclutaron 15,924 estudiantes en ciencias, sometieron 573 solicitudes de subvenciones y 240 fueron otorgadas. En subvenciones otorgadas a las instituciones de la red se estima que \$108,318,234 ingresaron a la economía del país. Es evidente que el programa ha realizado importantes aportaciones y ha influenciado al sector científico y económico del país por lo que se recomienda: extender la red de instituciones académicas del programa y continuar promoviendo las colaboraciones de investigación.

#### **O-024 Socioeconomic Factors Associated with History of Incarceration Among HIV+ Males who have Sex with Males in Puerto Rico**

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**Background.** Male who have sex with males (MSM) and populations with a history of incarceration are at increased risk for HIV, more likely not to be engaged in HIV care, and to have immunity impairment. Most of the research with these groups has focused on behavioral risks and limited attention has been placed on the socioeconomic (SE) factors that might be associated with these vulnerabilities. Analysis focused on the SE factors associated with history of incarceration in a sample of HIV+ MSM in Puerto Rico (PR). **Methods.** We analyzed data from an ongoing health promotion study being conducted in PR. The study, circumscribed to MSM, encompasses the participation in a survey interview that includes domains such as SE characteristics and history of incarceration. **Results.** The mean age of the participants (n=138) was 38.4 years. Approximately 60% had some college education or more, and almost half were unemployed. A history of incarceration was documented in 30% of the sample. Bivariate analyses based on history of incarceration showed significant differences in age (p<0.001), education (p<0.001), employment (p<0.001), income (p=0.003), sexual orientation (p<0.001), and history of sex work (p<0.001). Marginal significance was found in levels of viral load (p<0.07). **Conclusions.** Among HIV+ MSM in PR, SE factors such as lower levels of education, unemployment, low income, and history of sex work are strongly associated with history of incarceration. These findings suggest considering the interconnection of incarceration and the social determinants that may increase vulnerability and health disparities in this population. **Acknowledgement.** Our gratitude to the participants of the study, our community collaborators, and the undergraduate and graduate research assistants who supported data collection. The project described was supported by the U.S. Centers for Disease Control and Prevention (Award Num. U01PS003310) and the

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#### **O-025 Socioeconomic Characteristics and Health Services Utilization in a Sample of Adult Female Intravenous Drug Users in Puerto Rico**

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**Background & Objectives.** Adult female intravenous drug users (IDU) are affected by social determinants and health disparities leading to poor health outcomes. There is insufficient research concerning female IDU, their living conditions, and critical factors such as sex work, imprisonment and utilization of health services. Analysis objective was to develop a socioeconomic and health services utilization profile of female IDU living in PR. **Methods.** Data were collected in drug rehabilitation treatment centers using a structured interview including domains on socioeconomic factors, sex work, and health services utilization. Eligible participants were adult females (≥18yrs) with history of IDU in the last year. **Results.** About 70% of participants were residents of the San Juan Metropolitan Area and had a history of sex work. More than three-quarters of the sample reported being unemployed and a monthly income of \$1,000 or less. Over half of them reported not using preventive care, OBGYN, dental or mental health services during the last year. Close to 70% received STI and HIV screening during the last 6 months and 80% had a negative HIV-status. When stratifying by history of sex work, statistically significant differences were observed for history of confinement (p=0.019), mental health services utilization (p=0.044) and area of residence (p=0.076). **Conclusion.** Adult female IDU who had a history of sex work, have a higher incidence of incarceration and are less likely to use mental health services. Further research regarding the social, economic and risk factors of these women is needed to develop policies and programs to improve their health and quality of life. **Acknowledgements.** Our gratitude to the women who participated in this study and the organizations that provided support for data collection. This research project was supported by grants from the IU School of Public Health-Bloomington and the office of the Vice President of International Affairs at Indiana University.

#### **O-026 Spectrum of Disease in Chikungunya Virus-Infected Individuals Identified during Household-based Cluster Investigations - June-August, 2014**

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**Background & Objectives.** The first locally-acquired chikungunya case in Puerto Rico had illness onset in May 2014, and >20,000 cases were reported soon after. To determine the extent of unreported chikungunya cases and describe the health care-seeking behaviors of individuals with chikungunya, household-based cluster investigations were conducted. Methods Households within a 50 meter radius of laboratory-positive cases' residence were invited to participate in the investigation. Participants completed a questionnaire about household characteristics, demographics and recent illnesses, and provided a serum specimen that was tested by RT-PCR and IgMELISA to detect current or recent infection, respectively, with chikungunya virus (CHIKV) or dengue virus (DENV). Results During June 20–August 19, 21 cluster investigations were conducted. Of 250 participants, 70 (28%) had evidence of current (n = 12) or recent (n = 58) CHIKV infection, and 13 (5%) had evidence of recent DENV infection. Of all participants with evidence of CHIKV infection, 59 (84%) reported an acute illness in the past three months, the most common symptoms of which were joint pain (94%) and fever (93%). Median duration of illness was 6 days (range: 2–21). Of 25 symptomatically-infected participants that sought medical care, 5 (20%) were diagnosed as chikungunya, 3 (12%) were hospitalized, and 2 (8%) were reported to Salud. Conclusion These findings demonstrate that despite high rates of symptomatic infection and seeking medical care, few chikungunya patients were correctly diagnosed and reported. Due to these findings, media campaigns were initiated to improve public and clinical awareness of chikungunya.

#### O-027 Sexual Health Profile of a Community Sample of HIV Positive Bisexual Men in Puerto Rico

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**Introduction.** Self-identified bisexual men are understudied in the health field and several health disparities have been documented. HIV research with bisexual men has been very limited and frequently studied based on their sexual practices (having sex with men) rather than by their sexual self-identification. To start filling this gap, the purpose of this presentation is to describe the sexual health characteristics of a community sample of HIV+ bisexual men in Puerto Rico (PR). Methods. Data was collected from an ongoing health promotion research being conducted in collaboration with community clinics providing HIV services in PR. Participants responded to structured interviews which included domains about sociodemographic characteristics

and sexual health indicators (preventive practices, STI, among others). Findings. Most participants (N=27) were older than 33 years, born in PR, living in the San Juan Metropolitan Area, unemployed, and had a regular sex partner. More than half have used drugs in the last 90 days and most have skipped HIV medication in the last month. Testicular self-exam (<30yrs) and prostate exam (≥40yrs) were rarely documented in the sample. Consistent condom use in recent sexual encounters was reported by less than a third of the sample and over 81% have been diagnosed with at least one STI during their lifetime. Conclusions. Findings evidence that this sample has engaged in risky practices such as drug use, intermittent use of HIV medication, and condomless sex. Future research and targeted health promotion interventions are needed to better understand their healthcare needs and improve their wellbeing. Acknowledgement. Our gratitude to the participants of the study, our community collaborators, and the undergraduate and graduate research assistants who supported data collection. The project described was supported by the U.S. Centers for Disease Control and Prevention (Award Num. U01PS003310) and the NIH-National Institute on Minority Health and Health Disparities (Award Num. U54MD007587). The content is solely the responsibility of the authors and do not necessarily represent the official views of the sponsors. Sponsors had no part in the analysis and did not take part in the writing of or decision to publish this presentation.

#### O-028 Clinical and Epidemiologic Profile of Patients Hospitalized with Heart Failure in Puerto Rico, 2007-2011

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**Background/Objective:** There are very limited data describing the epidemiology of congestive heart failure (CHF) in minority populations. The aim of this study is to describe the population hospitalized for CHF in the island of Puerto Rico. Methods: This secondary analysis was based on data from the PR Cardiovascular Surveillance Study. Trained medical personnel obtained information from the medical records of all patients admitted with a diagnosis of Heart Failure (ICD9: 428) at fifteen hospitals in Puerto Rico, during years 2007, 2009 and 2011. Continuous data was summarized as means and standard deviations. Categorical data was summarized with frequencies and percentages. For all tests a p value <0.05 was considered statistically significant. Results: The mean age of the 3,314 patients hospitalized with CHF was 70.4 years; 53% were male. 18% were subscribed to the Government Health Insurance Plan. Principal comorbidities included hypertension (88%), DM-II (59.7%) and hyperlipidemia (28%). Recurrent disease occurred in 65.7%. The main admission symptoms were dyspnea (92.8%), fatigue (60.3%)

and orthopnea (35.8%). Echocardiography was performed in 50.1%, of which 30.4% had an EF<30%. Beta-blockers were prescribed in 67% in-hospital and in 57.3% at time of discharge; ACE-I's also prescribed in 61% and 44.6%, respectively. Inpatient mortality was significantly higher in women than men (6.7% vs. 4.9% respectively,  $p<0.05$ ). Conclusion: A descriptive profile of the population in Puerto Rico admitted with CHF helps us to better understand factors associated with increased morbidity and mortality and provides preliminary data for the development of future studies tailored to the specific needs of this community. Acknowledgements: Research reported in this publication was supported by the National Institute on Minority Health and Health Disparities of the National Institute of Health under Award Numbers 5S21MD000242, 5S21MD000138, 2U54MD007587 and G12MD007600 and the University of Puerto Rico School of Medicine. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. Protocol Number: A5620111. Approval Date: 04/18/2011

#### O-029 The Expression of Gait Deficiencies in Patients with Controlled Type II Diabetes Mellitus

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Diabetics with peripheral neuropathy are more likely to report balance disturbances and injuries during walking than diabetics without this neuropathy. Deficiencies contributing to these problems are revealed much more clearly when patients walk and stand on a variety of surfaces (flat floor, stairs, ramps). Purpose: To expose controlled (A1C < 7%) diabetics (cDM) in the early stages of the disease to challenging postural and gait conditions in order to identify compensatory strategies. Methods: Fifteen healthy adults and fourteen age-matched and weight-matched cDM performed four walk trials under three different surface conditions: (1) flat surface, (2) flat surface with ramp ascent and descent, and (3) flat surface with stair ascent and descent. A three-dimensional video motion analysis system (120 HZ) was used to assess temporospatial gait parameters (step length, stride length, walk velocity, and cadence) and lower limb joint (hip, knee and ankle) kinematics. Multivariate analyses of covariance (MANCOVA) with post-hoc analyses, when appropriate, were used to determine between-group differences for all variables (kinematics, spatial and temporal parameters), using plantar flexion muscle force as a covariant. Results: Compared to the healthy subjects, mean hip joint angles in the cDM were significantly

greater during flat-surface walking, and when ascending stairs ( $P<0.05$ ). Moreover, cDM mean cadence was significantly ( $P<0.01$ ) lower during stair descent. Conclusion: The increased mean hip joint angles and lower cadence observed under some of three gait conditions tested demonstrate that changes in kinematic and spatiotemporal parameters attributable to DM can be detected prior to the appearance of peripheral neuropathy.

#### O-030 Effects of Lung Carcinogens on PPARgamma Activity in A549 Cell Line

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Background & Objectives: PPARgamma is a transcription factor that associates with retinoic acid receptor to enhance transcription of genes regulating pathways of adipogenesis, macrophage programming, growth, and inflammation. PPARgamma agonists are effective at preventing lung cancer in mice and cause regression of human pre-neoplastic lung lesions. However, the mechanisms by which PPARgamma prevents lung cancer progression are not completely understood. Methods: Herein, we examined the effects of endogenous and exogenous PPAR agonists on expression of PPARgamma-regulated genes (E-cadherin and Ptg2) in human lung cancer A549 cells. We treated cells with the endogenous PPARgamma agonist 15-Deoxy- $\Delta$ 12,14-prostaglandin J2 and exogenous agonists pioglitazone and iloprost. We also tested acrolein and 4-hydroxynonenol (4-HNE). These molecules are chemically related to 15-Deoxy- $\Delta$ 12,14-prostaglandin J2, and 4-HNE has been shown to enhance PPARgamma activity. Results: We found that pioglitazone, iloprost, and 15-Deoxy- $\Delta$ 12,14-prostaglandin J2 increased expression of E-cadherin at 24 and 48 hours of exposure. HPGD expression was increased at 24 h with pioglitazone, iloprost, 15-Deoxy- $\Delta$ 12,14-prostaglandin J2, and 4-HNE, but returned to baseline by 48 h. NF $\kappa$ B protein is down-regulated in the presence of PPARgamma, but its gene expression increased with pioglitazone, iloprost, 15-Deoxy- $\Delta$ 12,14-prostaglandin J2, and acrolein exposure at 24 h, indicating that decreased protein leads to increased transcription. The peak of agonist-induced expression effects occurs by 24 h. Conclusion: Increases in expression of the pioglitazone off-target regulated gene HPGD with agonists other than pioglitazone indicates that regulation of these genes is more complicated than was previously thought. Acknowledgements: This research was funded by NIH Grant #R25GM096955.

#### O-031 Parasite Variability and Load in an Outdoor Colony of Rhesus Monkeys (*Macaca mulatta*)

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Background & Objectives: Nonhuman primates living in naturalistic environments such as outdoor gravel corrals are excellent

models to study the relationship between intestinal parasites and social status. This research investigates how stressful environments could influence parasite diversity, prevalence and density and their relationship to primate health. Methods: Two hundred (200) fecal samples were collected from different enclosures in an outdoor colony of rhesus macaques and were analyzed by a concentration technique for intestinal parasite diversity, prevalence (i.e. the proportion of individuals in a population that are infected) and density (i.e. the number of individuals of a particular parasite per sampling unit). Results: Animals in tile floor corrals have lower parasite diversity, prevalence and density but typically develop chronic enteritis that may be caused by other factors such as altered microbiota. Monkeys in gravel floor corrals developed significantly less chronic enteritis but have higher parasite species diversity, prevalence and density. Environmental factors such as floor substrate (gravel versus tile) influence the intestinal parasite diversity, prevalence and density in laboratory rhesus macaques. Conclusions: One possibility is that animals in tile or concrete floor do not usually engage in species typical behaviors, creating a more stressful environment and increasing morbidity due to severe diarrhea. This rhesus macaque colony is unique in its structure and could be used to study chronic enteritis and inflammatory bowel disease and how this relates to psychosocial stress. Further research utilizing rhesus macaques could additionally correlate these findings to human realm of health, disease, and socioeconomic status.

**O-032 Fever and Severe Thrombocytopenia Masquerading Sepsis in an HIV Positive Patient: Hemophagocytic Syndrome**

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We present the case of a 32 years old male patient with medical history of HIV, who presented to the hospital due to generalize malaise, shortness of breath, chest tightness and productive cough of one week duration. Patient was an inmate from a local prison and never received antiretroviral therapy. He was admitted with the diagnosis of pneumonia to receive Intravenous antibiotics. HAART therapy was initiated. He developed thrombocytopenia and workup, including folate, vitamin B-12, and peripheral smear resulted within normal limits. Platelet count became severely low, with associated bleeding, needing several blood and platelet transfusions. Septic process and DIC were suspected as patient also presented fever of 101 F. The patient was started on broad spectrum antibiotic therapy. The first set of blood cultures resulted negative, sputum culture resulted positive for *Pseudomonas aeruginosa* which was already covered by empirical antibiotic therapy and coagulation parameters were within normal limits. Due to unexplained thrombocytopenia, now presenting with anemia and neutropenia, bone marrow biopsy was performed. Surprisingly the pathologic picture showed phagocytosis of basophils and red cells by macrophages. Laboratory

values showed elevated ferritin, transaminitis and hyperbilirubinemia, patient was diagnosed with Hemophagocytic Syndrome and Dexamethasone therapy was started. Hemophagocytic Syndrome is uncommon and the diagnosis is challenging. This condition has an incidence of 1.2 cases per million people. This case presents its life threatening manifestations. This is a rapidly progressive life threatening disease requiring immunosuppressive and anti-inflammatory therapy, making the prompt diagnosis the most important key for the assurance of patient survival.

**O-033 Aging with HIV: The Experience of Women Older than 50 Living with HIV in Puerto Rico**

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Background & Objectives: The population of older adults, over the age of 50, living with HIV has been increasing over the past decade. HIV in older adults pose a challenge with the synergistic effects of the physiological, psychological, and social processes associated with both aging and HIV. Methods: 23 women living with HIV were recruited. Participant ages ranged from 50 to 71 and averaged 12 years since HIV diagnosis. Qualitative in-depth semi-structured interviews were conducted eliciting information about: 1) Experience of living with HIV; 2) perception of the aging process. Data were analyzed using a grounded theory approach. Results: Data analysis revealed the following findings: 1) A changing perception of HIV as a chronic disease with minimum impact on participants' daily lives; 2) A general population stigmatizing perception of HIV that impacts participants' decisions and relationships; 3) Programs for people living with HIV have been successful in helping women lead a normal life; 4) Denial of the aging process; 5) Lack of knowledge about the connection between aging and HIV. Conclusion: The experience of the women in the study indicate that HIV interventions have been successful for people living with HIV in helping them lead full lives into old age. However the prejudices and myths that are the foundation of stigmatization is still a challenge for Public Health. More research and education about the connection between HIV and aging is needed. Acknowledgements: Funded by the Mentoring Institute for HIV and Mental Health Research of Puerto Rico. IRB Protocol A9610113

**O-034 Polyneuritis Cranialis: a Rare Manifestation of the Guillain-Barré Syndrome**

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Purpose: Guillain-Barré syndrome (GBS), an immune-mediated peripheral neuropathy characterized by acute progressive weakness and areflexia, may present with various clinical variants. Since there is no biomarker for the diagnosis, it relays in the clinical presentation for early treatment. One unusual presentation consists of polyneuritis cranialis characterized by

multiple cranial nerves palsies without spinal cord involvement. Being a rare manifestation of the GBS, its urgent recognition is imperative to install timely and appropriate treatments. Case description: 24 year-old healthy male who suddenly developed double vision and voice changes after a febrile illness. Was diagnosed with a CNS infection and started on broad-spectrum antibiotics and acyclovir. Despite treatment, symptoms progressed to facial weakness and difficulty swallowing, requiring transfer to our hospital. Neurological examination showed bilateral ptosis, ophthalmoplegia, facial diplegia, and palatal palsy. Also presented general deep tendon areflexia. Mental status and muscular strength were normal. Clinical approach: A brain MRI was normal. A lumbar puncture revealed elevated CSF proteins without pleocytosis. Anti-GM1 was negative. Clinical findings: The main diagnostic considerations included a variant of GBS versus acute myasthenia gravis. Since areflexia was present, an acute polyneuropathy was favored. Treatment with intravenous immunoglobulins resulted in dramatic clinical improvement. Electrodiagnostic study was remarkable for a demyelinating polyneuropathy. Hypothesis: GBS may present with atypical clinical manifestations. Once recognized, installing the appropriate treatment may result in full recovery of neurologic manifestations. In the absence of a biomarker for GBS, early suspicion and evaluation is warranted to avoid the high morbidity and mortality of the disease.

#### O-035 Having Hypospadias Diminishes the Level of Parental Satisfaction with Surgical Repair of their Own Children

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**Background and Objective:** Hypospadias is a congenital condition in males where the urethral meatus is located anywhere along the urethral groove instead of the tip of the glans penis. It is unknown whether having hypospadias affects parental satisfaction when evaluating hypospadias repair of their own children. **Methods:** One hundred and eleven (111) patients diagnosed with hypospadias were recruited from three pediatric urology clinics. The sample of this study consisted of forty-two patients (n=42) who had undergone surgery at the time of recruitment. Questionnaires were administered to identify clinical diagnoses of the father and by using a Likert scale, surgical satisfaction with hypospadias repair was evaluated by parents and urologists. Paired t-tests were employed with significance attained at  $p < 0.05$ . **Results:** We found that from 42 children who underwent surgical repair, 12 fathers had hypospadias while 30 did not have the condition. Fathers who have the condition were less satisfied with surgical outcomes (Likert value  $2.41 + 0.25$ ) than fathers who did not show the condition (Likert value  $3.03 + 0.16$ ;  $p < 0.02$ ).

As expected, the level of physician satisfaction with surgery was similar for children born to hypospadiac fathers (Likert value  $3.58 + 0.25$ ) versus those with a parent without the condition (Likert value  $3.55 + 0.12$ ;  $p < 0.97$ ). **Conclusion:** While hypospadiac fathers show low to moderate level of satisfaction with surgical repair of their children, doctor's satisfaction is moderate to high. Thus, fathers who present the condition are more demanding with surgery results than those who do not present hypospadias.

#### O-036 Giant Abdominal Mass in a Female Newborn: Ovarian or Hepatic Etiology?

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**Purpose:** Congenital biliary duct dilatation is rare. We report a novel giant type I choledochal cyst in an asymptomatic neonate. **Case Description:** This is a newborn female, appropriate for gestational age, born at 41 weeks of gestation, by C-section to a 22 year old primigravida. The newborn did not present complications at the delivery room. She had a prenatal diagnosis of a right ovarian cystic mass and was admitted for evaluation and management. **Clinical Approach:** Ultrasound imaging was used as a screening tool and the mass origin was identified from the cystic duct in continuity with the gallbladder. Since an accurate diagnosis was important CT-Scan and magnetic resonance cholangiopancreatogram (MRCP) were done as a method of adequate visualization confirming the diagnosis of a giant type I choledochal cyst. Choledochal cyst excision, cholecystectomy and hepaticoduodenostomy reconstruction were performed at eight days of age. The choledochal cyst measured 8 cm x 8 cm. Intraoperative pancreatogram confirmed the pathogenesis of a long common channel as caused of the biliary cyst. **Clinical Findings:** Other than a palpable mass over the right abdomen causing mass effect and displacing abdominal structures towards the left side, the newborn had no associated clinical findings. Normal hepatic and renal function were preserved before and after excision. She was sent home at 23 days of age. **Hypothesis:** This patient had ultrasonography, CT, and MRCP performed to establish the diagnosis. Future studies may focus on the best diagnostic study for a newborn with a cystic intra-abdominal mass where etiology is controversial.

#### O-037 Effect of Knowledge on Breastfeeding Practices

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**Background:** Breastfeeding and human milk are the norm for infant feeding and nutrition. The American Academy of Pediatrics recommends exclusive breastfeeding to at least 6 months of age, given the health benefits to both mother and infant. The objective of this study is to identify the effect of knowledge on breastfeeding practices. **Methods:** Prospective cohort study that recruited in-

infants from 0 to 6 months of age a primary care center from March to October 2014. Patient information was collected via survey and follow-up phone interviews. Results: A total of 104 infants were recruited with a mean age of 2.5 months; 63% female and 37% male. Breastfeeding was found in 48% of recruited infants (partial 63%, exclusive 37%) versus 52% formula fed ( $p < 0.001$ ). Breastfeeding prevalence upon follow-up of 24 mothers showed that 96% of infants remained breastfeeding ( $p < 0.001$ ). Mothers were more likely to learn about breastfeeding from a breastfeeding specialist ( $p < 0.001$ ), or a brochure ( $p = 0.002$ ). Prior lactation influenced their interest for continued breastfeeding with other pregnancies ( $p = 0.012$ ). Conclusions: Upon recruitment, 1/2 of the mothers were already providing breastfeeding, identifying that the first 3 months of age are of great importance to help protect, promote, and support breastfeeding. An evaluation of current information delivery system on breastfeeding is needed, with emphasis on the development of innovative ways to educate our community on the benefits of breast milk. Given the documented short- and long-term medical and neurodevelopmental advantages of breastfeeding, infant nutrition should be considered a public health issue and not only a lifestyle choice.

**O-038 Bipolar Disorder Patients at Risk of Cardiovascular Disease: Exploring Patterns of Non-adherence to Psychiatric Medication for Intervention Development**

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**Background & Objectives.** The prevalence of Cardiovascular Disease (CVD) risk factors in Bipolar Disorder (BD) patients is about twice as high as that in the general population and Latinos with BD may be at elevated risk. Non-adherence to psychiatric and CVD treatment worsens illness course and increases risk of CVD. The aim of this study is understand Latino patients' perspectives on the barriers to adherence in to aid in the development of a targeted intervention to promote treatment adherence in both conditions. **Methods.** The study involved four focus groups (one session, 20 patients, 23 to 60 years old) who were outpatients in Puerto Rico (ASSMCA and CMHC-Carlos Albizu University). All patients had BD, Type I or II and one or more CVD risk factors (hypertension, obesity, diabetes, high level of cholesterol, smoking, poor diet, no exercise, high level of stress). Baseline demographic measures were taken. Audio-recordings were transcribed and a content analysis was performed, with transcripts coded and analyzed using NVivo software. **Results.** Among the reasons most commonly identified for patients' lack of adherence to psychiatric treatment were: stigma to the psychiatric condition (fear to be labeled as "crazy" by their families and others), poor support from family members, (pressure to stop their medication because it is not necessary); side effects of medi-

cations; patient-related risks (denial of condition), and provider relationship factors (nolistenthe needs of patients). **Conclusion.** Results support the need for interventions that consider stigma both in patients and their families, in providers, and side effects of medications, when considering adherence enhancement therapies. **Acknowledgements.** This research was supported by the National Institute on Minority Health and Health Disparities of the National Institutes of Health Award No. R25MD007607.

**O-039 Clinical and Laboratory Findings in 60 Laboratory Positive Chikungunya Infection Cases in Puerto Rico**

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Chikungunya fever (CF) is an acute febrile viral disease, transmitted by the *Aedes* species mosquitoes, first reported in Puerto Rico in May 2014. We present the clinical and laboratory characteristics of 60 laboratory-positive, locally-acquired CF cases in Puerto Rico. As part of an acute febrile illness surveillance project at a university affiliated hospital in Puerto Rico, patients with fever or history of fever for  $< 7$  days evaluated at the emergency room were asked to participate. Consented patients had a blood sample collected which were tested by polymerase chain reaction and immunodiagnostic methods for several pathogens including chikungunya virus. Upon recruitment, medical history, signs, symptoms, and laboratory results are gathered and participants are prospectively followed. From June 9 to August 11, 2014, 60 (30%) of the 201 patients recruited with AFI were laboratory-positive for CF. The mean age was 19 years (range: 5 months to 84 years), most cases were males (31,51%), 15 (25%) were hospitalized and there were no fatalities. Presenting symptoms included headaches (49,82%), tiredness (47,78%), chills (38,63%), and anorexia (38,63%). Rash was reported in 33 (55%) patients. Gastrointestinal complaints included nausea (34,57%), abdominal pain (24,40%) and diarrhea (16,27%). Myalgias (47,78%) and arthralgias (46,77%) were commonly reported. Most arthralgias were symmetrical and located in the ankles, wrists, hips, knees, and elbows. Laboratory findings included lymphopenia (56,93%), thrombocytopenia (5,8.3%), and transaminitis (6,10%). Clinical findings were compatible with previous literature reports. Surveillance studies to further existing knowledge about the clinical and long term sequelae of CF in Puerto Rico are needed. This project was supported with Grant SU01CK000274 from Centers for Disease Control and Prevention and Grants 5S21MD000242 and 5S21MD000138, from National Center for Minority Health and Health Disparities, National Institutes of Health.

**O-040 Enhanced Surveillance for Acute Febrile Illness in Puerto Rico**

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**Background:** Dengue has been endemic in Puerto Rico since the late 1960s but information is lacking on other acute febrile illnesses (AFI) on the differential. **Methods:** An AFI surveillance site was developed at a university affiliated regional hospital in Puerto Rico. Patients with fever or history of fever for <7 days that sought care at the emergency room were asked to participate. Consented patients had a blood sample and nasopharyngeal swab collected which were tested by polymerase chain reaction and immunodiagnostic methods as appropriate for *Leptospira* spp, *Burkholderia pseudomallei*, 5 enteroviruses, influenza A, influenza B, and 10 other respiratory viruses including adenovirus, respiratory syncytial virus, metapneumovirus, parainfluenza viruses 1-3, and three coronaviruses, and 4 dengue viruses. **Results:** 565 (11%) of the 5,214 AFI patients seeking care were enrolled between July 28, 2013 and October 21, 2014; 146 (25.8%) were hospitalized, 270 (47.8%) were female, and the median age was 13.0 years (range: 0-90 years). A pathogen was detected in 208 (36.8%) cases; 64 (31%) chikungunya virus, 43 (21%) influenza B, 37 (18%) influenza A, 25 (12%) dengue virus, 16 (8%) adenovirus, and 11 (5%) parainfluenza virus 3. Dengue patients were more likely to be admitted than other enrolled patients (OR 4.8, 95% CI 2.0-11.5). **Conclusions:** The majority of AFIs were caused by Chikungunya, respiratory viruses, and DENV. **Acknowledgements:** This project was supported with Grant SU01CK000274 from Centers for Disease Control and Prevention and Grants 5S21MD000242 and 5S21MD000138 from National Center for Minority Health and Health Disparities, National Institute of Health.

**O-041 La Experiencia de los Docentes con el Uso del Portafolio como Estrategia de Assessment en el Proceso de Enseñanza y Aprendizaje de los Estudiantes de la Escuela de Farmacia del Recinto de Ciencias Médicas, Universidad de Puerto Rico**

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**Objetivo:** Auscultar la experiencia de los docentes con el uso del portafolio como estrategia de *assessment* en el proceso de enseñanza y aprendizaje de los estudiantes de la Escuela de Farmacia (EF), del RCM de la UPR. **Justificación:** Creación de un documento escrito que presente la credibilidad y consistencia del proceso, impacto, beneficios, identificación de áreas de problemas, apoyos académicos y administrativos; además de evidenciar el *assessment* como componente importante en el *accountability*. **Marco Teórico:** Se fundamentó en la Teoría de Aprendizaje

Transformador de Mezirow. **Método:** El diseño utilizado para esta investigación cualitativa fue el estudio de caso. Los participantes seleccionados fueron nueve docentes de la EF. La recopilación de datos fue por medio de una entrevista semiestructurada y la revisión de documentos. Para el análisis de los datos se utilizó el modelo de Wolcott. **Hallazgos:** Entre los hallazgos más relevantes se destacan: la necesidad de mayores responsabilidades, compromisos, capacitación y requerimiento de tiempo. Los resultados obtenidos apoyan la Teoría de Mezirow al señalar que el proceso de aprendizaje más difícil es la transformación de los hábitos de la mente. **Implicaciones:** Se concluye que el impacto de la función del portafolio en el proceso de enseñanza y aprendizaje para los docentes de la EF fue significativo, de transformación de prácticas educativas, revelador y permitió evidenciar el desarrollo de las diez competencias en los estudiantes a través de su aprendizaje. IRB Protocolo #: A8360113, Aprobado: 22 de febrero de 2013

**O-042 Collaboration that Matters: Schools of Nursing and Dental Medicine building Capacity for Research**

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**Background:** In an effort to firmly establish a research culture within the nursing discipline in Puerto Rico, a collaboration was established between the Schools of Nursing (SON) and Dental Medicine (SDM) to build research capacity within the SON and develop research to address health disparities confronted by people in Puerto Rico. This inter-professional experience in building infrastructure and research capacity, promoting inter-professional research collaborations, and promotion of research between the SON and SDM will be described. **Methods:** The journey of the first two years of partnership includes how inter-professional collaborations were built, outcomes in the area of pilot projects, faculty and students' development, and challenges encountered. **Results:** The Center for Nursing Research (CNR) was formally established in 2013 at the SON to provide direct support and mentoring to faculty and students of the SON and SDM. Outcomes are: pilot studies, poster and oral presentations, inter-professional work with other disciplines, workshops, seminars, participation in SON's courses, research links with other national universities, and career development plans for junior investigators. **Conclusion:** The collaborative initiative between the SON and SDM is considered vital and has given the opportunity for enhancing research endeavors between both schools. The joint experience has raised awareness of the importance of inter-professional collaborations that could be the basis to positively influence the next phases of this type of work within the Medical Sciences Campus. **Acknowledgements:** This project is supported by Award UPR-MFP-6251123

**O-043 Diseño Participativo de Herramientas para la Capacitación Comunitaria**

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Según el más reciente Estudio del Tercer Sector (2007), en PR existen 6,378 organizaciones sin fines de lucro (OSFL) que ofrecen servicios directos; entre los que predominan los servicios sociales, educativos y de salud. Actualmente, el 65.1% de las OSFL reflejan limitaciones económicas y destacan que entre sus principales retos se encuentra la falta de capacidad del personal. Considerando esta realidad y por su rol de facilitador del conocimiento, la academia debe colaborar con los procesos de fortalecimiento de las OSFL. El objetivo de este trabajo es presentar el proceso de diseño participativo de una serie de manuales relacionados con el desarrollo de esfuerzos en Salud Pública. Desde el peritaje de varias disciplinas, el equipo de Asesoramiento Programático de la División de Servicios Comunitarios del CIES-RCM desarrolló una serie de manuales relacionados con procesos de estudio de necesidades, planificación estratégica e implementación de estrategias basadas en evidencia. Luego del diseño se convocó a un grupo de siete OSFL, quienes a través de grupos de discusión proveyeron insumo del contenido y utilidad de los manuales. El resultado del trabajo produjo una serie de cinco manuales, que se encontrarán a partir de enero 2015 de manera gratuita en internet. Este trabajo evidencia la importancia de la colaboración entre la academia y el tercer sector para fortalecer los esfuerzos que se realizan por el bienestar de la comunidad. Se agradece la participación de las OSFL que colaboraron en la validación de los manuales. Asociación Puertorriqueña del Pulmón, Boys and Girls Club de Puerto Rico, Inc., Coalición de Coaliciones Pro Personas sin Hogar, Corporación Milagros del Amor, Fundación Puertorriqueña del Riñón, Jóvenes de Puerto Rico en Riesgo, Inc., Oficina para la Promoción y el Desarrollo Humano, Inc., Programa de Apoyo y Enlace Comunitario, Susan G. Komen for the Cure, Taller Salud, Inc.

**O-044 Lessons obtained about Infectious, Chronic Diseases and Mental Health Issues in El Salvador: Exporting Health Concepts and Measures to International Sites**

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An international health project was performed in alliance with a faith base community to assist health needs related to HIV/AIDS, diabetes, cancer, violence, alcohol use and resiliency. Interdisciplinary leaders from different fields joined efforts for working in a rural community at San Vicente, El Salvador in all topics. Standardized and validated instruments were taken for measuring work with communities showing similar results with the work performed elsewhere. Nevertheless, reflections from team members were obtained for contextualizing the measures obtained by surveys and evaluations. This presentation works the need for contextualizing the statistical and evaluation work in a framework of social, political, environmental and other frameworks which otherwise made data senseless. Analysis was performed through the gathering of team ideas and statements collected in debriefing exercises while in the health initiative and after arrival to homeland. Presentation intends to work the need for researchers to re-focus approaches within a self-evaluation of values, personal and community ethics, and the community empowerment.

**O-045 Using Simulation to Enhance First Year Medical Students Clinical Approach to Transgender Persons**

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Medical education curriculum must include learning objectives regarding the importance of meeting health care needs of medically underserved populations and developing core professional attributes to provide effective care in a multi-dimensionally diverse society. Responding to the curricular needs in health disparities, an educational activity related to the clinical approach to the Transgender (TG) persons was introduced in the clinical skills course for first-year medical students. The objectives of this activity were: perform a comprehensive adult medical history to a TG patient; use effective communication skills displaying professionalism with sensitive patient information; and recognize personal and emotional challenges influencing the care of patient's reproductive/sexual health needs. As pre-requisites, students (n=112) completed a module about health disparities and answered a post-test. Afterwards, students were divided in 3 groups. Within each group, 3 students were chosen to perform a comprehensive medical history to a transgender patient while other students observed the interaction. A standardized patient simulated the script for the interaction. An attending physician facilitated the activity, guided students to use a non-judgmental language and discussed important aspects of a medical evaluation of a TG patient including health care access, and safe sex practices, among others. Finally, students completed a self-reflection exercise. Students emphasized that the activity was very helpful and rewarding. Most of them reported that the most important point learned was how to provide an emphatic and respectful care to the TG persons. Simulation is a valuable stra-



tegy to educate medical students about health care needs of the underserved populations.

#### **O-046 Un Café por el Alzheimer: Iniciativa Innovadora de Educación en Salud Pública**

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**Background & Objectives:** A principios del 2014 el Departamento de Salud de Puerto Rico constituyó el Comité Asesor de Alzheimer. Un grupo de miembros del Comité organizamos una actividad, o más bien un evento, dirigido a educar y crear conciencia en Puerto Rico sobre la Enfermedad de Alzheimer (EA). Quisimos lograr este objetivo proveyendo información precisa de forma masiva, y estimulando la conversación pública y cotidiana sobre un tema que con frecuencia es visto como desagradable, indeseable y hasta tabú. **Methods:** El evento, que tomó el hábito del “coffee break” como punto de encuentro para hablar de la Enfermedad de Alzheimer, se llamó “Un café por el Alzheimer” (UCxALZ) y tuvo lugar la semana del 21 al 27 de Septiembre de 2014. Las actividades educativas tuvieron el formato de conversatorio en torno a las preguntas más comunes que la gente tiene sobre la EA, con sesiones de preguntas del público y respuestas de los expertos que ofrecieron el conversatorio sobre el tema. En todas las actividades se sirvieron café y meriendas suplidas por los patrocinadores del evento. Tratamos de generar la mayor cantidad posible de interés y cobertura sobre este evento a través del uso de medios masivos de comunicación, redes sociales e involucramiento de familiares, amigos, estudiantes y empleados, así como patrocinadores corporativos, agencias gubernamentales y organizaciones no-gubernamentales. Durante la semana del evento tuvimos 10 actividades educativas en 8 municipios desde Carolina hasta Mayaguez. **Results:** Durante la semana del evento tuvimos 10 actividades educativas en 8 municipios desde Carolina hasta Mayagüez, con una asistencia total estimada en 1,000 personas. En apenas cuatro semanas reunimos 2,277 seguidores de varios países en Facebook, con un alcance máximo de 8,524 personas, y recibimos docenas de preguntas en nuestras páginas, que fueron contestadas por los miembros del grupo organizador. La recepción del público y los medios a esta iniciativa fue muy positiva, y hemos recibido docenas de peticiones para llevarla a varios municipios y recintos universitarios. **Conclusion:** UCxALZ ha demostrado que una iniciativa multisectorial, donde se unan los recursos humanos y las voluntades de organizaciones interesadas puede ser muy exitosa aunque se cuen-

te con poco o ningún presupuesto, y se puede realizar en muy poco tiempo. **Acknowledgements:** Nuestro agradecimiento a Starbucks, Departamento de Salud de Puerto Rico, Deacnato de Asuntos Académicos del Recinto de Ciencias Médicas de la Universidad de Puerto Rico (RCM-UPR), Escuela de Medicina RCM-UPR, Programa de Gerontología, Escuela Graduada de Salud Pública RCM-UPR, OPAPA, AARP, Puerto Rico TV, CATA, Café Colegial – La Cueva de Tarzán, UPR Mayaguez, Sabores Gourmet – Guánica, AEEDSA y Save Green Corp. y sobre todo, a don Jacobo Morales y doña Blanca.

### • Poster Presentations •

#### **A-001 Locomotor Analysis of Drosophila Mutants Affecting Neurotransmitter Release**

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**Introduction:** Neurotransmitter-release is regulated by several presynaptic-proteins where Syntaxin and Complexin are crucial. We look the locomotor activity of Drosophila adult animals to evaluate if altered motor behavior could be a consequence of an abnormal central nervous system or altered peripheral nervous system output. **Hypothesis:** Mutants display poorer motor performance in agreement with altered synaptic transmission. **Methods:** To discriminate between central and peripheral motor alteration we look at the locomotor behavior in animals with and without head. Climbing assays, grooming and flip over were tested in entire animals. Stepping and flip over were tested in decapitated individuals. **Results:** Complexin null and Syntaxin hypomorph mutant display similar phenotype in synaptic transmission but different behaviors. Complexin could not climb, Syntaxin has the lower climbing speed and the other genotypes have indistinguishable performance. Complexin flip over in 15min in turn, other genotypes flip over in few seconds. Decapitated animals are not able to climb but they stay on their feet readjusting the position. Surprisingly, decapitated animals are able to fly without control and flip over. Complexin and Syntaxin display the slower performance compared with the other genotypes. **Conclusion:** Locomotion is a complex behavior which includes central and peripheral control. Flight and stepping is encoded in an independent circuit in the peripheral nervous system in turn navigation requires the central nervous system. Severe synaptic transmission defects observed in Complexin impair all type of locomotion. Less severe synaptic transmission defects allow the animals to perform all types of locomotion but with lower performance.