THIRD ANNUAL UC SAN DIEGO
PUBLIC HEALTH RESEARCH DAY

APRIL 5, 2017

ABSTRACT BOOK

PRESENTED BY
THE INSTITUTE FOR PUBLIC HEALTH

www.publichealth.ucsd.edu

TABLE OF CONTENTS

FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Kaitlin Cheng	74	Hands for Helpings: A Lesson Equipping 5th Graders to Identify Proper Portion Sizes
Cynthia Cheung	10	Privacy Beliefs and Data Sharing Behaviors among Persons Living with HIV/AIDS
Diana Cortez	75	Anosognosia in Dementia: A Literature Review Seeking to Analyze its Characteristics and Screening Methods
Margaret Crawford	11	ConTxt: Engagement Over One Year in a Bilingual Text Messaging Intervention Predicts Weight Loss Among Overweight/Obese Adults
Amanda de Leon	12	Men's Justifications for Intimate Partner Violence: Qualitative Findings from Rakai, Uganda
Erin Delker	13	The Effects of Timing and Intensity of Weight-Gain on Iron Status among a Cohort of Chilean Infants
Bianca Devoto	14	Parental Dialogue on Sexual Health Topics: Implications on Sexual Risk Behaviors for STI and Unintended Pregnancy among Adolescent Girls at the US-Mexico Border
Jackie Doan	15	Parental Perception of Child Weight

First author	Abstract number	Title
Ashley Du	16	Heart Rate and Blood Pressure Effects of Daily Inhalation of Nicotine Containing E-Cigarette Vapor
Sarah Dunseath	17	NIH Support of Mobile, Imaging, Pervasive Sensing, Social Media and Location Tracking (MISST) Research: Laying the Foundation to Examine Research Ethics in the Digital Age
Monica Dutta	76	Social Determinants of TB Disparities in San Diego County
Kristen Emory	18	LGBT Use More Social Media
Lizbeth Escobedo	20	Engaging Latinos Families to Improve their Health using Mobile Acoustic-Sensing Computing
Elsa Felgar	21	Building a Literature Base and Analytic Protocol for Linking Self-Reported Depression and Anxiety to the Gut Microbiome in the Community of Mine Study
Farwa Feroze	22	Disparities in the Link between Obesity and Cardiovascular Risk between Women and Men
Katherine Garcia	23	Promotion of Health Careers through the Lincoln Health Equity Mentorship Program

First author	Abstract number	Title
Michelle Takemoto	58	Developing a Process Evaluation to Explore the Implementation of a Peer-Led Community-Based Physical Activity Program for Seniors
Crystal Thompson Andreas	85	A Zika Virus Needs Assessment Among Workers at Health Frontiers in Tijuana Clinic
Anupriya Tripathi	59	Atherosclerosis, Sleep Apnea and Obesity: Evidence of a Microbiome Connection
Igor Tsigelny	60	Study of Ciq-C1S Interaction for Elucidation of Possible Points for Pharmacophore-based Drug Design
Anika Ullah	61	Immigrant Health Project San Diego: Interdisciplinary Perspectives (IHPSD)
Anya Umlauf	62	Power Considerations for Crossover and Parallel Design Studies on Effects of Cannabis on Driving in Healthy Adults
Venus Valizadeh	63	Bone Heel Densitometry as Quick Screening Tool for Osteoporosis in Various Asian and Immigrant Groups in San Diego
Devesh Vashishtha	64	The Relationship Between Heat Waves and Kidney Disease in the Outpatient Setting

First author	Abstract number	Title
A. G. Venkatesh	1	Smartphone-based Whole-cell HCV Diagnostics
Daniela G. Vital	65	Acute Glucoregulatory and Vascular Outcomes of Three Strategies for Interrupting Prolonged Sitting Time in Postmenopausal Women: A Laboratory-based Pilot Study
Arvin Wali	66	Analyzing Cost Effectiveness of Oberlin Nerve Transfer to Restore Elbow Flexion and Improve Quality of Life After Upper Brachial Plexus Injury
David Wang	67	Genetic Networks Analysis Elucidate Genes Important in Development of Alzheimer's Disease
Amanda Wilson	68	Safe Mobility for All: Using Universal Design to Create Age and Ability Friendly Communities
David Wing	69	Validating Measures of Physical Activity and Sleep in Children from a Consumer-level Wearable Device
Jingyuan Xiao	70	Providing the Best Care Possible: Clinical Use of the PDQ with Individuals Diagnosed with Cancer
Joyce Xiao	86	Promoting Fruit and Vegetable Consumption among Families at the Preuss School

First author	Abstract number	Title
Jane Xie	71	UC San Diego: A Dynamic Training Ground for Public Health Professions
Yafang Xie	72	Assessment of Risk Factors and Burden of Glucose Intolerance Using Hemoglobin A1C Point-of-Care Test in Asian Populations
Selene Xu	73	Variation in Physical Activity Accumulation and Human Health

ABSTRACTS BY TOPICS

TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Biostatistics and Bioinformatics	Lizbeth Escobedo	20	Engaging Latinos Families to Improve their Health using Mobile Acoustic-Sensing Computing
	Jue Hou	30	A Nonparametric Maximum Likelihood Approach for Partially Observed Cured Data with Left Truncation and Right-Censoring
	Valentina Kouznetsova	37	Molecular Mechanism of GRP78–Cripto Complex Stabilization on the Membrane
	Brian Kwan	39	Sleep Quality Among Deployment of Marines – A Resilience Marker?
	Yuqi Qiu	48	3D morphometric imaging identifies craniofacial features associated with reciprocal rearrangements of 16p11.2
	Hanjie Shen	55	Segmentation of Liver Tumors from CT Scans
	Igor Tsigelny	60	Study of Ciq-C1S interaction for elucidation of possible points for pharmacophore-based drug design
TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Biostatistics and Bioinformatics (cont.)	Anya Umlauf	62	Power Considerations for Crossover and Parallel Design Studies on Effects of Cannabis on Driving in Healthy Adults
	David Wang	67	Genetic networks analysis elucidate genes important in development of Alzheimer's Disease
	David Wing	69	Validating measures of physical activity and sleep in children from a consumer-level wearable

TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
	Venus Valizadeh	63	Bone Heel Densitometry as Quick Screening Tool for Osteoporosis in Various Asian and Immigrant Groups in San Diego
TOPIC	**FIRST AUTHOR**	**ABSTRACT NUMBER**	**TITLE**
Chronic Disease (cont.)	Devesh Vashishtha	64	The Relationship Between Heat Waves and Kidney Disease in the Outpatient Setting
	Yafang Xie	72	Assessment of Risk Factors and Burden of Glucose Intolerance Using Hemoglobin A1C Point-of-Care Test in Asian Populations
Descriptive Program Analysis	Rifaat Malik	42	An Analysis of the First Three Public Health Research Days: Is the Event Metting Its Intended Goals?
Diet, Physical Activity, and Obesity	Laila Al Hasan	3	Study Recruitment Response Rate Varies by Age Group and Past Participation
	Sara Appleton-Knapp	6	Recall of Low Calorie Food Words is Higher than Recall of High Calorie Food words in individuals with overweight or obesity
	Kaitlin Cheng	74	Hands for Helpings: A Lesson Equipping 5th Graders to Identify Proper Portion Sizes
	Margaret Crawford	11	ConTxt: Engagement Over One Year in a Bilingual Text Messaging Intervention Predicts Weight Loss Among Overweight/Obese Adults
	Jackie Doan	15	Parental Perception of Child Weight
TOPIC	**FIRST AUTHOR**	**ABSTRACT NUMBER**	**TITLE**
Diet, Physical Activity, and Obesity (cont.)	Carrie Geremia	24	Validating and Shortening the Environmental Assessment of Public Recreation Spaces (EAPRS) Tool

	Robert Nicholas Guay-Ross	26	Role of Insulin Resistance in Depression-Inflammation Link
	Vennis Hong	29	Relationship between Psychosocial Stress and Intuitive Eating in Overweight Latino and African American Youth
	Vennis Hong	77	Your Heart, Your Life: an Evaluation of a Promotora-led, Heart Health Intervention
	Katrina Kennedy	35	Physical Activity, Time Spent Outdoors, and Mental and Physical Health Outcomes for Older Adults
	Michael Manzano	43	Sleep and eating patterns in pre-school age children

TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Diet, Physical Activity, and Obesity (cont.)	Divya Raman	49	Physical Activity and Mental Health in Older Adults: Changes with a Walking Intervention
	Andrea Ramirez Varela	50	Physical activity surveillance, policy, and research worldwide: The Global Observatory for Physical Activity – GoPA!
	Silvia Rodriguez	51	Importance of Understanding Barriers and Solutions During Goal Setting
	Tanja Schmidt	54	Move the Neighborhood: a community-based participatory neighborhood open space intervention to promote active living in older adults
	Alexandra Soto	56	Recruitment methods of primary care-delivered, physical activity intervention for Latinas with type 2 diabetes.
	Michelle Takemoto	58	Developing a Process Evaluation to Explore the Implementation of a Peer-Led Community-Based Physical Activity Program for Seniors

TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
	Anupriya Tripathi	59	Atherosclerosis, sleep apnea and obesity: evidence of a microbiome connection
	Daniela G. Vital	65	Acute glucoregulatory and vascular outcomes of three strategies for interrupting prolonged sitting time in postmenopausal women: A laboratory-based pilot study
TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Diet, Physical Activity, and Obesity (cont.)	Amanda Wilson	68	Safe Mobility for All: Using Universal Design to Create Age and Ability Friendly Communities
	Joyce Xiao	86	Promoting Fruit and Vegetable Consumption among Families at the Preuss School
Dissemination and Implementation	Peter Abraham	2	Optimizing Door to Groin Puncture Time in the Management of Ischemic Stroke at UCSD
	Alexandra Soto	56	Recruitment methods of primary care-delivered, physical activity intervention for Latinas with type 2 diabetes.
	Michelle Takemoto	58	Developing a Process Evaluation to Explore the Implementation of a Peer-Led Community-Based Physical Activity Program for Seniors
Environmental Health	Jessa Engelberg	19	Considering the ConTxt: Ecological moderators of intervention effects on physical activity among overweight and obese adults
	Kristen Guirguis	27	Heat waves, human health, and disparities in San Diego, California
	Georgia Kayser	34	Water, sanitation, and hygiene in rural health care facilities: a cross-sectional study in Ethiopia, Kenya, Mozambique, Rwanda, Uganda and Zambia
TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE

Topic	First author	Abstract number	Title
Environmental Health (cont.)	Jose Ricardo Suarez-Lopez	57	The Association Between Acetylcholinesterase Activity and Age in Children
	Devesh Vashishtha	64	The Relationship Between Heat Waves and Kidney Disease in the Outpatient Setting
Global Health	A. G. Venkatesh	1	Smartphone-based whole-cell HCV diagnostics
	Guadalupe Alvarez	5	Improving Emergency Services in Tijuana, Mexico
	Amanda de Leon	12	Men's Justifications for Intimate Partner Violence: Qualitative Findings from Rakai, Uganda
	Bianca Devoto	14	Parental Dialogue on Sexual Health Topics: Implications on Sexual Risk Behaviors for STI and Unintended Pregnancy among Adolescent Girls at the US-Mexico Border
	Georgia Kayser	34	Water, sanitation, and hygiene in rural health care facilities: a cross-sectional study in Ethiopia, Kenya, Mozambique, Rwanda, Uganda and Zambia
	Andrea Ramirez Varela	50	Physical activity surveillance, policy, and research worldwide: The Global Observatory for Physical Activity – GoPA!

Topic	First author	Abstract number	Title
Global Health (cont.)	Jose Ricardo Suarez-Lopez	57	The Association Between Acetylcholinesterase Activity and Age in Children
Health Equity and Disparity	Jonathan Barboza	8	Lincoln High School - Health Equity (LHS-HEq) Mentorship Program
	Monica Dutta	76	Social Determinants of TB Disparities in San Diego County

	Kristen Emory	18	LGBT Use More Social Media
	Farwa Feroze	22	Disparities in the Link between Obesity and Cardiovascular Risk between Women and Men
	Katherine Garcia	23	Promotion of health careers through the Lincoln Health Equity Mentorship Program
	Pearl Kuang	38	The Presence of Bisexual Stigma: Literature Review on Bisexual Stigma and Health Implications for Bisexuals
	Santiago Ramirez Nuño	83	Individuals with Coronary Heart Disease from Rural Communities Have Worse Cardiac Rehabilitation Participation Rates than Individuals in Urban Areas

TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Health Equity and Disparity (cont.)	Yafang Xie	72	Assessment of Risk Factors and Burden of Glucose Intolerance Using Hemoglobin A1C Point-of-Care Test in Asian Populations
Health Policy	Sara McMenamin	44	Implications of Dispensing Self-Administered Hormonal Contraceptives in a One-Year Supply: A California Case Study
	Monica Oh	82	Knowledge Management and Transfer in Public Health Administration
	Amanda Wilson	68	Safe Mobility for All: Using Universal Design to Create Age and Ability Friendly Communities
Health Services	Peter Abraham	2	Optimizing Door to Groin Puncture Time in the Management of Ischemic Stroke at UCSD
	Diana Cortez	75	Anosognosia in Dementia: A Literature Review Seeking to Analyze its Characteristics and Screening Methods

Topic	First Author	Abstract Number	Title
	JeongHoon (John) Kim	36	Sharing your Life Story – Benefit of Dignity Therapy on Gratitude and Caregiver Burden for People with Dementia and their Caregivers
	Jacqueline Le	80	Assessing the Quality of an Undergraduate Student Training in the HFiT Undergraduate Internship Program

Topic	First Author	Abstract Number	Title
Health Services (cont.)	Cindy Nguyen	45	Community Hepatitis Education: Using Live Stories to Educate San Diego Residents about Transmission and Prevention of Hepatitis B and C
	Greg Norman	46	The Impact of Urgent Visits on Delivering Home-based Primary Care to Homebound Seniors
	Esther Solis Becerra	84	Linda Vista Health Fair: Evaluating Health Literacy of Existing Resources
	Arvin Wali	66	Analyzing Cost Effectiveness of Oberlin Nerve Transfer to Restore Elbow Flexion and Improve Quality of Life After Upper Brachial Plexus Injury
	Joyce Xiao	86	Promoting Fruit and Vegetable Consumption among Families at the Preuss School
Health Technology	Guadalupe Alvarez	5	Improving Emergency Services in Tijuana, Mexico
	Cynthia Cheung	10	Privacy beliefs and data sharing behaviors among persons living with HIV/AIDS
	Margaret Crawford	11	ConTxt: Engagement Over One Year in a Bilingual Text Messaging Intervention Predicts Weight Loss Among Overweight/Obese Adults

Topic	First Author	Abstract Number	Title
Health Technology (cont.)	Sarah Dunseath	17	NIH support of Mobile, Imaging, pervasive Sensing, Social media and location Tracking (MISST) research:

			Laying the foundation to examine research ethics in the digital age
	Kristen Emory	18	LGBT Use More Social Media
	Lizbeth Escobedo	20	Engaging Latinos Families to Improve their Health using Mobile Acoustic-Sensing Computing
	Eileen Johnson	32	Using wearable cameras to assess free-living behaviors of older adults
	Brittany Lewars	40	The Search for the Ejecting Chair: Participants' Perceptions on the Use of Technology to Change Sedentary Behavior: A Qualitative Analysis
	Alexandra Rooney	53	Social isolation and affect in older adults living with HIV: New insights using mobile technology
	David Wing	69	Validating measures of physical activity and sleep in children from a consumer-level wearable
Immigrant Health	Anika Ullah	61	Immigrant Health Project San Diego: Interdisciplinary Perspectives (IHPSD)

TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Infectious Disease	A.G. Venkatesh	1	Smartphone-based whole-cell HCV diagnostics
	Alexandra Rooney	53	Social isolation and affect in older adults living with HIV: New insights using mobile technology
	Crystal Thompson Andreas	85	A Zika Virus Needs Assessment Among Workers at Health Frontiers in Tijuana Clinic
	Igor Tsigelny	60	Study of Ciq-C1S interaction for elucidation of possible points for pharmacophore-based drug design

Topic	First author	Abstract number	Title
Injury and Violence Prevention	Linda Hill	28	Promoting sober driving among youth through community and parent partnerships
	Caroline Hou	78	Evaluating the Impact of the Alzheimer's San Diego Wandering Prevention Pilot Program
	Callan Parra	47	Thoracic Spine Muscle Quality and Bone Mineral Density in a Population at Risk for Rheumatoid Arthritis (RA)
Integrative Health	Erik Groessl	25	Yoga for Military Veterans with Chronic Low Back Pain: A Randomized Clinical Trial

Topic	First author	Abstract number	Title
Integrative Health (cont.)	Brandon Khuu	79	Stress Management and Mindfulness Promotion at The Preuss School
	Jingyuan Xiao	70	Providing the Best Care Possible: Clinical Use of the PDQ with Individuals Diagnosed with Cancer
Intimate Partner Violence	Amanda de Leon	12	Men's Justifications for Intimate Partner Violence: Qualitative Findings from Rakai, Uganda
Maternal and Child Health	Kerri Bertrand	9	The Detection of Cannabinoids in Human Milk Samples
	Erin Delker	13	The effects of timing and intensity of weight-gain on iron status among a cohort of Chilean infants
	Jackie Doan	15	Parental Perception of Child Weight
	Jue Hou	30	A Nonparametric Maximum Likelihood Approach for Partially Observed Cured Data with Left Truncation and Right-Censoring
	Emily Judd	33	Treating Women's Mood Changes with Wake and Light Therapy

TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Maternal and Child Health (cont.)	Crystal Thompson Andreas	85	A Zika Virus Needs Assessment Among Workers at Health Frontiers in Tijuana Clinic
Mental Health	Daniel Araiza	7	Association between inflammation and quality of life in breast cancer survivors
	Diana Cortez	75	Anosognosia in Dementia: A Literature Review Seeking to Analyze its Characteristics and Screening Methods
	Elsa Felgar	21	Building a literature base and analytic protocol for linking self-reported depression and anxiety to the gut microbiome in the Community of Mine study
	Vennis Hong	77	Relationship between Psychosocial Stress and Intuitive Eating in Overweight Latino and African American Youth
	Emily Judd	33	Treating Women's Mood Changes with Wake and Light Therapy
	Katrina Kennedy	35	Physical Activity, Time Spent Outdoors, and Mental and Physical Health Outcomes for Older Adults
	Brandon Khuu	79	Stress Management and Mindfulness Promotion at The Preuss School
TOPIC	FIRST AUTHOR	ABSTRACT NUMBER	TITLE
Mental Health (cont.)	Brian Kwan	39	Sleep Quality Among Deployment of Marines – A Resilience Marker?
	Divya Raman	49	Physical Activity and Mental Health in Older Adults: Changes with a Walking Intervention
	David Wang	67	Genetic networks analysis elucidate genes important in development of A

Topic	First author	Abstract number	Title
Muscle and Bone Health	Callan Parra	47	Thoracic Spine Muscle Quality and Bone Mineral Density in a Population at Risk for Rheumatoid Arthritis (RA)
Needs Assessment	Marylin Miranda-Garcia	81	Linda Vista Health Fair: Assessing the need for a Diabetes Health Education Program
Occupational Health	Arvin Wali	66	Analyzing Cost Effectiveness of Oberlin Nerve Transfer to Restore Elbow Flexion and Improve Quality of Life After Upper Brachial Plexus Injury
Overview of Public Health at UC San Diego and IPH	Jane Xie	71	UC San Diego: A Dynamic Training Ground for Public Health Professions
Public Health Administration Services	Jacqueline Le	80	Assessing the Quality of an Undergraduate Student Training in the HFiT Undergraduate Internship Program

Topic	First author	Abstract number	Title
Reproductive Health	Bianca Devoto	14	Parental Dialogue on Sexual Health Topics: Implications on Sexual Risk Behaviors for STI and Unintended Pregnancy among Adolescent Girls at the US-Mexico Border
	Emily Romero	52	Factors Influencing Pregnancy Intentions and Contraceptive Use Among Adolescent Girls in San Diego County: A Qualitative Exploration
Research Ethics and Integrity	Rasheed Al Kotob	4	Towards an Effective CORE Platform: Participatory Design of the Connected and Open Research Ethics Initiative
	Sarah Dunseath	17	NIH support of Mobile, Imaging, pervasive Sensing, Social media and location Tracking (MISST) research: Laying the foundation to examine research ethics in the digital age
Sedentary Behavior	Brittany Lewars	40	The Search for the Ejecting Chair: Participants' Perceptions on the Use of Technology to Change Sedentary Behavior: A Qualitative Analysis

Topic	First author	Abstract number	Title
Stakeholder and Community Engagement	Rasheed Al Kotob	4	Towards an Effective CORE Platform: Participatory Design of the Connected and Open Research Ethics Initiative
	Jonathan Barboza	8	Lincoln High School - Health Equity (LHS-HEq) Mentorship Program
	Cynthia Cheung	10	Privacy beliefs and data sharing behaviors among persons living with HIV/AIDS
TOPIC	**FIRST AUTHOR**	**ABSTRACT NUMBER**	**TITLE**
Stakeholder and Community Engagement (cont.)	Caroline Hou	78	Evaluating the Impact of the Alzheimer's San Diego Wandering Prevention Pilot Program
	Marylin Miranda-Garcia	81	Linda Vista Health Fair: Assessing the need for a Diabetes Health Education Program
	Cindy Nguyen	45	Community Hepatitis Education: Using Live Stories to Educate San Diego Residents about Transmission and Prevention of Hepatitis B and C
	Anika Ullah	61	Immigrant Health Project San Diego: Interdisciplinary Perspectives (IHPSD)
Tobacco, Alcohol, and Other Drugs	Kerri Bertrand	9	The Detection of Cannabinoids in Human Milk Samples
	Ashley Du	16	Heart Rate and Blood Pressure Effects of Daily Inhalation of Nicotine Containing E-Cigarette Vapor
	Linda Hill	28	Promoting sober driving among youth through community and parent partnerships

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1.A.G. VENKATESH

SMARTPHONE-BASED WHOLE-CELL HCV DIAGNOSTICS

CATEGORY
Global Health
Infectious Disease

COLLABORATORS
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ABSTRACT

Introduction: Hepatitis C Viral (HCV) infection affects 130 – 150 million people worldwide and is a global healthcare concern due to high morbidity and mortality associated with chronic infection. The HCV diagnostic market is expected to reach 20 billion USD by the end of the decade, and an affordable point-of-care (POC) diagnostic device is needed for effective treatment in resource limited settings.

Objectives: We propose that the combination of synthetic biology, scalable electrochemical sensing, and smartphone integration has the potential to offer low cost, cutting edge diagnostics for many settings.

Methods: Yeast cell lines were genetically engineered to display HCV core antigen linked to a gold binding peptide (GBP) as biobrick chimera. The chimera's dual affinity enables yeast cells to directly adhere to the gold sensor surface while simultaneously acting as a capture reagent for anti-HCV core antibody. The new capture reagents were tested and validated first with anti-HCV core polyclonal antibodies by traditional immuno-fluorescent assays and then with a novel electrochemical ELISA using a low cost (20 USD) smartphone-based reader.

Results: Dual affinity chimera were successfully expressed and bound to gold electrodes by single step purification and reagent preparation. The developed biosensors were stable at room temperature with high levels of surface adduction and accessible surface antigen. in-vitro testing demonstrated reproducible and specific antibody detection with sensitivity in the low nanomolar range.

Conclusion: We have developed and demonstrated a novel approach to low-cost HCV diagnostics by combining an efficient and economical reagent production and preparation method with a POC oriented smartphone-based biosensing platform.

2. PETER ABRAHAM

OPTIMIZING DOOR TO GROIN PUNCTURE TIME IN THE MANAGEMENT OF ISCHEMIC STROKE AT UCSD

CATEGORY
Health Services
Dissemination and Implementation

COLLABORATORS
Michael Brandel, Arvin Wali, Vincent Cheung, David R. Santiago Dieppa, Brian Hirshman, Jeffrey Steinberg, Scott Pannell, Alexander Khalessi

ABSTRACT
Background: Ischemic brain injury is a major public health problem leading to morbidity and death. Delays in door to groin puncture time (DGPT) in the management of ischemic stroke due to acute large vessel occlusion (LVO) correlate with worse clinical outcomes.
Objective: From 2015 to 2016, a comprehensive quality improvement protocol at the University of California, San Diego (UCSD) significantly reduced DGPT.
Methods: In July 2015, the UCSD stroke team implemented a series of measures to decrease DGPT (target of 90 minutes or less). After each case, direct feedback from neurointerventionalists and staff prompted changes including: 1) activating the entire neurointerventional team simultaneously through a pager group notification system, 2) involving anesthesia with each intervention, 3) streamlining communication between vascular neurology and neurointerventional teams, and 4) parallelizing workflows to expedite mobilization. R statistical software was used to compare DGPT before and after process improvements. Patients were divided into 3 groups: 23 patients treated from July-December 2015, 24 patients treated from January-July 2016, and 14 patients treated from July 2016-December 2016. A regression model was used to capture predictors of compliance with target DGPT. Variables included date of intervention, mode of admission (transfer, direct admit from ED, inpatient), hospital location, age, and gender.
Results: 61 patients underwent mechanical thrombectomy for acute LVO from July 2015 to December 2016. Patients treated from July 2016 to December 2016—after process improvements—were 5.9 times more likely to meet target DGPT compared to patients treated July 2015 to December 2015 (p<0.04). These patients were 14.4 times more likely to meet target DGPT after adjusting for covariates that may predict DGPT (p<0.008).
Implications: UCSD's quality improvement process led to clinically and statistically significant improvement in DGPT, demonstrating the utility of a formal qUCSD's quality improvement process led to clinically and statistically significant improvement in DGPT, demonstrating the utility of a formal quality improvement system at a large, academic comprehensive stroke center. These quality improvements allow UCSD to provide greater comprehensive stroke care for the San Diego community.

3. LAILA AL HASAN

STUDY RECRUITMENT RESPONSE RATE VARIES BY AGE GROUP AND PAST PARTICIPATION

CATEGORY
Diet, Physical Activity, and Obesity

COLLABORATORS
Carrie Geremia, Edith Bonilla, Kelli Cain, Terry Conway, Christina Thornton, James Sallis

ABSTRACT
Background: Study recruitment is a critical step in the research process that is becoming more challenging. An ongoing study allowed a comparison of response rates across four age groups and by past participation in the lab's studies.

Methods: SAFE (Safe and Fit Environments) is an NIH-funded study of the relation of crime and fear to physical activity and other health indicators. Participants in 4 age groups from adolescents to older adults were recruited by mail and telephone to complete surveys and wear accelerometers to assess physical activity. The study was designed to recruit participants from high- and low-crime areas and high- and low-income areas. Recruitment began by contacting participants in past studies. When this source was completed, 'new' names were obtained from a marketing company, as had been done for past studies. Recruitment was defined as 'agree/contacts' because many people could not be contacted. Analyses were conducted on the 1818 who have agreed so far, with a final target of 2000. Participants were paid $30 for completing measures.

Results: Recruitment rates for past participants varied from 75% (adolescents) to 94% (adults 40-65 years). Recruitment rates for 'new' participants varied from 22% (adolescents and adults 66+ years) to 68% (adults 40-65 years). The overall recruitment rate was 88% for past participants and 36% for 'new' participants.

Discussion: Recruiting past study participants is a highly efficient strategy, but there is a likelihood of bias because the group may not be representative of the overall recruitment pool. The recruitment rate for 'new' participants was similar to the rate for the original studies. These rates are relatively low because the studies impose more respondent burden than a simple survey. There were substantial differences in recruitment rate by age group, with adolescents being much less likely to participate in both groups. Middle-aged adults consistently had the highest recruitment rates, so an age bias in recruitment was documented. Because a general decline in research participation has been documented, research evaluating potential solutions is a high priority.

4. RASHEED AL KOTOB

TOWARDS AN EFFECTIVE CORE PLATFORM: PARTICIPATORY DESIGN OF THE
CONNECTED AND OPEN RESEARCH ETHICS INITIATIVE

CATEGORY
Research Ethics and Integrity
Stakeholder and Community Engagement

COLLABORATORS

Rasheed Al Kotob, Vincent Chan, John Harlow, Camille Nebeker, Nadir Weibel

ABSTRACT

Background: Human research involving Mobile Imaging, pervasive Sensing, Social-media and location Tracking (MISST) data is challenging due to the new ethical, legal, and social implications it introduces. To support researchers and IRBs towards addressing these increasingly complex needs, we created the Connected and Open Research Ethics (CORE) platform, a web-based tool offering a forum, a resource library and a network of stakeholders engaged with MISST. The goal is to facilitate the ethical design of MISST research by allowing stakeholders to share and exchange relevant resources.

Objectives: Our goal was to document and evaluate the efficacy of a participatory design approach in developing the CORE platform. By understanding the factors that influenced the design of specific features, and linking them to both needs and uptake of our platform use, we aimed to demonstrate the utility of our approach and the quality of the result.

Methods: We analyzed the development of the CORE platform from January to June 2016 by examining 84 distinct events, including team meetings (29), conferences (4), feature developments (45), and focus groups (6). Access to the platform, network growth, and social media statistics were documented to track progress and uptake.

Results: The participatory development of the CORE platform over 6 months yielded 55 new features that were directly mapped to specific needs identified in collaboration with 43 different stakeholders. In the same period the CORE platform saw a steady increase in use to 1,508 visits, with 51.9% of the users being new users. The CORE network increased by 20 members per month on average, with a peak of 80 after the platform was launched, and a total reaching 262 in February 2017. Social media statistics show 193 followers on Twitter, confirming engagement.

Conclusions: The participatory design approach that drove the development of the CORE platform, was a key factor in determining the needs of researchers. Our agile methodology allowed us to iteratively address these needs by involving them in the development of the platform. This approach is further validated by the continuous growth of the network.

5.GUADALUPEALVAREZ

IMPROVING EMERGENCY SERVICES IN TIJUANA, MEXICO

CATEGORY
Health Technology
Global Health

COLLABORATORS
Yazmin Maldonado, Leonardo Trujillo, Carlos Vera, Mauricio de Oliveira, Oliver Schütze

ABSTRACT
One of the most relevant problems for Emergency Medical Services (EMS) is to determine the location, relocation and optimal dispatch of pre-hospital units and ambulances. In the city of Tijuana, Baja California, Mexico, the Tijuana Red Cross (TRC) serves more than 1,600,000 inhabitants with 13 ambulances that must respond to 90% of the region's calls. These ambulances are located in seven bases around the city that currently can't meet the demand for emergency calls adequately.

In previous works we have proposed to solve the problem of optimally locating ambulances in Tijuana by using a Robust DSM (Double Standard Model). The algorithm uses parameters such as the type of day (weekday/weekend), time of day, number of ambulances, maximum arrival time and probability of demand being covered, using data collected by the TRC. In a nutshell, the algorithm aims to maximize the demand covered at least twice taking into account different call scenarios.

In the present work we discuss two of our recent efforts to make such algorithm available for practical use by the TRC. First, we present a web-based interface to the optimization algorithm that allow for solutions to the problem to be quickly visualized under a variety of scenarios. This tool allows the TRC to analyze how the optimal solution to the problem changes over time, which can be used to detect consistencies or patterns that can help decision makers plan for future scenarios. Second, we present work by a group of UCSD undergraduate students under the Global TIES program on developing a platform for data collection and visualization that can be used for realtime data gathering using mobile devices.

6.SARA APPLETON-KNAPP

RECALL OF LOW CALORIE FOOD WORDS IS HIGHER THAN RECALL OF HIGH CALORIE FOOD WORDS IN INDIVIDUALS WITH OVERWEIGHT OR OBESITY

CATEGORY
Diet, Physical Activity, and Obesity

COLLABORATORS
Sara Appleton-Knapp, June Liang, Teresa Monreal, Dawn Eichen, David Strong, Kerri Boutelle

ABSTRACT

Background: Memory has been identified as one of the factors in determining eating behavior. Individuals with overweight or obesity may have biased recall of food stimuli.

Objective: To evaluate food related memory, we developed a food version of the California Verbal Learning Test (CVLT-food) that includes high calorie food words (HCFW), low calorie food words (LCFW), and non-food words (NFW).

Methods: Seventy adults (74% female; M age = 42.29 years (SD=10.36); M BMI=33.01kg/m2 (SD=4.64); 69% Caucasian) seeking weight loss treatment, completed the CVLT-food, the Godin Leisure Time Exercise Questionnaire, other questionnaires, and had their BMI measured.

Results: Recall of LCFW (79%) was significantly higher than HCFW (68%; t(138)=7.54 p<.001) on the sum of five list learning trials, despite the more frequent usage of HCFW in the English language. Recall of HCFW did not differ from NFW (69%; t(138)=0.82 p=.42). Recall of NFW was negatively correlated with BMI (r=-.26, p<.05). Recall of LCFW was significantly correlated with exercise on the Godin (r=.24, p<.05).

Implications: These results suggest that individuals with overweight or obesity seeking weight loss treatment are able to remember more LCFW and could be inhibiting HCFW. Higher BMI seems to impair the learning or retrieval of NFW but not HCFW or LCFW. Exercise may facilitate learning of LCFW because they are more salient to those engaging in healthy behaviors. Overall, these results suggest that memory for high and low calorie food words can be evaluated using the CVLT-food. Future studies could use this task for evaluating the impact of memory on eating and weight.

7. DANIEL ARAIZA

ASSOCIATION BETWEEN INFLAMMATION AND QUALITY OF LIFE IN BREAST CANCER SURVIVORS

CATEGORY
Chronic Disease
Mental Health

COLLABORATORS
Sheri Hartman, Suneeta Godbole, Katie Crist, Ruth Patterson, Dorothy Sears, Loki Natarajan, Jacqueline Kerr

ABSTRACT
Background: Inflammation plays a role in eight of the top 10 leading causes of death in the United States and pro-inflammatory markers like ICAM, leptin, and CRP are associated with breast cancer risk. Emotional stress can trigger increased inflammatory activity in the body. Exploring the relationship between inflammatory markers and psychosocial factors, like perceived quality of life, is warranted.

Objective: This study aims to explore associations between pro-inflammatory biomarkers and quality of life in post-menopausal breast cancer survivors.

Methods: Reach for Health, a randomized controlled trial examining biomarkers associated with breast cancer mortality, collected blood samples and administered surveys to 333 women. We examined baseline associations using Pearson's r correlations among pro-inflammatory biomarkers (ICAM, leptin, CRP) and health-related Quality of Life (SF-36).

Results: Preliminary results showed that the physical health summary score was associated with ICAM ($r = -0.16$, $p < 0.001$) and leptin ($r = -0.27$, $p < 0.001$), but not CRP ($r = -0.09$, $p = 0.10$). The mental health summary score was associated with ICAM ($r = -0.12$, $p = 0.03$), but not leptin ($r = -0.02$, $p = 0.74$) and CRP ($r = -0.10$, $p = 0.08$).

Implications: Controlling for covariates may detect associations between CRP and quality of life and further analyses are needed. These associations do not elucidate causal mechanisms, but highlight the link between patient reported quality of life and physical health.

8.Jonathan Barboza

Lincoln High School - Health Equity (LHS-HEq) Mentorship Program

Category
Health Equity and Disparity
Stakeholder and Community Engagement

Collaborators
Nicole Tantoco, Christian Lopez Ramos, Brittany Burton, Kathryn Choo-loy, Jacqueline Lee

Abstract

Background: The Lincoln Park neighborhood of Southeast San Diego largely consists of working class, immigrant, and low-income families. Lincoln High School (LHS), located at the heart of this community has faced dramatic academic challenges, as reflected by the low percentage of students meeting the University of California A-G Subject requirements. The disadvantaged status of Lincoln Park and LHS's low-performance environment creates a setting in which the opportunity to enter a healthcare profession may seem out of reach for students.

Objectives: LHS-HEq engages LHS students to explore health care fields via healthcare professional-led after-school small group sessions that empower LHS students to be advocates for their community. This program offers mentorship opportunities for students who may not otherwise have access to health care professionals.

Methods: LHS-HEq launched in the fall of 2014 with 10 regular attendees, up to 10 occasional participants, and 10 premed/medical school mentors. Nine after-school sessions covered topics of health disparities/health equity, steps/resources for applying to college, and medical case scenarios. Each LHS student was paired with a medical student mentor. The program concluded with an event at UCSD composed of a school tour, a mock multiple mini-interview, and a certificate of completion ceremony.

Results: Due to the program's success in 2014, represented by consistent member attendance and increased program interest by the participants and their peers, it has become a sustained partnership between UCSD and LHS. In fall 2015, 18 new members participated in LHS-HEq, which continued with a similar structure. Survey responses at the start and conclusion of the program showed an increased positive outlook and interest into the medical field by the participants. LHS-HEq is now in its third year.

Implications: The increased participation in LHS-HEq reveals a need for mentorship among students at LHS, where the exposure to health care fields is not currently being met. LHS-HEq can serve as a model to facilitate increased interest for the health care fields among students in other underserved communities.

9. KERRI BERTRAND

THE DETECTION OF CANNABINOIDS IN HUMAN MILK SAMPLES

CATEGORY
Maternal and Child Health
Tobacco, Alcohol, and Other Drugs

COLLABORATORS
Brookie Best, Christina Chambers

ABSTRACT

Background: Marijuana is the most commonly used recreational drug in the United States. Approximately 11% of users are women of childbearing age. Although data are limited regarding the fetal safety of marijuana use in pregnancy, larger cohort studies of pregnant women using marijuana have suggested concerns for long-term neurobehavioral effects in the offspring. Similar concerns could be raised regarding postnatal exposure through breastfeeding, as infant brain development continues long after birth. The APA advises against marijuana use while breastfeeding. However, in an era of increasing access to legal recreational marijuana, pediatricians have little concrete evidence to support this advice. A single letter to the editor published in 1982 in the NEJM addressed the presence of tetrahydrocannabinol (THC) in human milk and reported concentrations eight times higher than maternal plasma levels. While these findings are suggestive of the potential for infant risk, at present, there are insufficient data to support the need for caution.

Objective: The objective of this study was to utilize a validated assay to measure cannabinoid concentrations in human milk samples collected from mothers who breastfed while using marijuana.

Methods: A cross-sectional study was conducted to analyze cannabinoid concentrations in human milk samples that were collected and stored at Mommy's Milk. Maternal report interview data was linked to the associated samples. As of March 2017, 35 samples were analyzed using a sensitive and quantitative assay for cannabinoids by alkaline saponification–solid phase extraction combined with isotope dilution using LC/MSMS.

Results and Implications: Thirty-five samples were analyzed for cannabinoid concentration and the results are currently being interpreted. The results from this analysis will help to fill a critical gap in the literature on marijuana exposure through breastfeeding. These findings will provide an evidence basis for pediatricians to advise, evaluate and manage infants who are breastfed by mothers who are using marijuana.

10. CYNTHIA CHEUNG

PRIVACY BELIEFS AND DATA SHARING BEHAVIORS AMONG PERSONS LIVING WITH HIV/AIDS

CATEGORY
Health Technology
Stakeholder and Community Engagement

COLLABORATORS
Matthew J. Bietz, Raeanne C. Moore, Cinnamon S. Bloss

ABSTRACT

Introduction: There is an absence of any standardized regulatory framework to protect personal health data collected or stored by health technologies, and little is known about the distinct privacy needs of persons living with HIV/AIDS (PLWHA). It is currently unknown whether PLWHA have reservations about sharing their health information, and if so, what their primary reservations are. Thus, the purpose of this study was to understand the unique factors influencing privacy beliefs and concerns among PLWHA.

Methods: Thirteen PLWHA, recruited from UCSD's HIV Neurobehavioral Research Program (HNRP), participated in two semi-structured focus groups. One group included newly infected PLWHA (20 years). Audio recordings from the two focus groups were transcribed and analyzed for themes related to participant attitudes toward privacy.

Results: Participants from both the newly infected and long-term infection cohorts felt their primary care providers had the right to know their serostatus. However, newly infected PLWHA were more concerned about the potential value judgments assigned by care providers and clinical staff once their status was revealed. While some long-term survivors desired to share their experiences with HIV as a form of activism, PLWHA from both cohorts feared their personal health information would be used against them (i.e., blackmail or employment discrimination). These uncertainties were exacerbated by unclear knowledge of data sharing and storage policies, as well as any legal obligations to disclose their serostatus.

Conclusions: Emerging health technologies such as patient portals or mobile health (mHealth) apps are increasingly recognized for their value in supporting patient self-management. PLWHA are generally willing to utilize emerging health technologies and share their personal health information for research, but may exhibit privacy-protecting behaviors in response to perceived threats to personal privacy. Ambiguous information supplied by mHealth apps and other health technologies should be clarified with the addition of easily palatable privacy information.

11. MARGARET CRAWFORD

CONTXT: ENGAGEMENT OVER ONE YEAR IN A BILINGUAL TEXT MESSAGING INTERVENTION PREDICTS WEIGHT LOSS AMONG OVERWEIGHT/OBESE ADULTS

CATEGORY
Health Technology
Diet, Physical Activity, and Obesity

COLLABORATORS
Gina Merchant, Matthew Allison, Job Godino, Cheryl Rock, Simon Marshall, Elva Arredondo, William Griswold, Gregory Norman, Fred Raab, Lindsay Dillon, Kevin Patrick

ABSTRACT
Purpose: Text messaging is a promising weight-loss intervention tool because it allows for continuous support, minimizes cost, and maximizes distribution. There is limited research on how participant engagement with study-delivered messages impacts weight loss. We present a quantification of engagement and its association with change in weight in a 12-month intervention.

Methods: Within a larger randomized control trial, 197 participants were randomized to receive the text messaging intervention (BMI 27-40, ages 21-62, 69 male, 66 Hispanic). Our analyses include participants who had complete information for the respective timepoints: 171 participants at 6 months and 159 participants at 12 months. Participants received 2-4 messages/day, some interactive, and promoting self-monitoring of physical activity and diet. Engagement was defined as the number of messages participants replied to/the number of messages received that asked for a reply (interactive). Engagement was anchored to participants' individual study start dates and was calculated within two time periods: baseline-6 months and 6-12 months.

Results: From baseline-6 months and 6-12 months, participants received a mean(SD) of 210(24) and 278(36) interactive messages and sent 230(98) and 230(140) replies, respectively. For the respective time periods, the mean(SD) engagement score was 1.1(0.48), and 0.85(0.52) and weight change was -2.5kg(5.79) and 0.05kg(4.73). In multiple linear regression models that adjusted for baseline weight, age, sex, and ethnicity, higher engagement was significantly associated with lower weight at 6 & 12 months. From baseline-6 months, for every SD increase in engagement, participants lost 1.63kg of weight (p<.001). From baseline-12 months, participants lost 1.62kg of weight for every additional SD of engagement (p<.001).

Conclusion: An engagement score that accounts for replying to text messages and the number of interactive messages received predicts weight loss at 6 months in participants who received a 12-month texting intervention. Our findings indicate that participants who have higher levels of engagement with the texting system are more successful in losing weight.

12.AMANDA DE LEON

MEN'S JUSTIFICATIONS FOR INTIMATE PARTNER VIOLENCE: QUALITATIVE FINDINGS FROM RAKAI, UGANDA

CATEGORY
Global Health
Intimate Partner Violence

COLLABORATORS
Erika Bonnevie, Jennifer Wagman

ABSTRACT

Background: Intimate partner violence (IPV) is a serious public health concern associated with numerous negative health outcomes. In Uganda's rural Rakai District, 59% of women have experienced IPV in their lifetime. While most research has examined IPV from the woman's perspective, few studies have examined men's justifications of IPV perpetration.
Objectives: This study explored the context for male IPV perpetration; assessed men's justifications of IPV perpetration; and examined ways to involve men in the development of programs that effectively reduce IPV.
Methods: Data were collected as part of the Safe Homes and Respect for Everyone (SHARE) Project in Rakai, Uganda. SHARE, implemented by the Rakai Health Sciences Program (RHSP), is a community-based intervention that significantly reduced IPV and HIV incidence among communities exposed to the program. This study includes 10 interviews with men 21-37 years old who self-reported IPV perpetration. Topics discussed in these interviews included men's constructions of their experience of violence, rationale for violence perpetration, and family experiences and gender roles that influence normalization of violence.
Results: Three factors emerged as justifications for men's IPV perpetration. First, 80% used violence as a reaction to feeling undermined, particularly if their wives made a unilateral decision, or acted in a way different than previously agreed. Second, 60% justified violence as a teaching method. Finally, 50% felt that their inability to financially provide for their family led them to perpetrate IPV.
Implications: Men's justifications of IPV perpetration centered on their need to enforce ideals of masculinity, particularly if they felt their authority was being undermined. Violence was justified as a means of teaching, and men condoned violent teaching methods used against them by their parents. Financial insecurity was considered emasculating, especially if the wife made a decision that was financially detrimental to the family. Research is needed to explore how programs can address these justifications to involve men in effective IPV prevention programs.

13. ERIN DELKER

THE EFFECTS OF TIMING AND INTENSITY OF WEIGHT-GAIN ON IRON STATUS AMONG A COHORT OF CHILEAN INFANTS

CATEGORY
Maternal and Child Health

COLLABORATORS
Niko Kaciroti, Estela Blanco, Sheila Gahagan

ABSTRACT
Background: Iron plays a critical role in infant brain development. In the first year of life, iron levels depend on infant iron endowment at birth, and availability of dietary iron via breastfeeding and/or formula supplementation. Previous studies suggest that absolute weight gain increases demand on infant iron supply and therefore may be related to poor iron status at 12 months.

Objective: (1) To generate infant-specific measures of weight gain in terms of size, tempo and velocity between 0 and 12 months using mixed effect growth curve models, and (2) To assess the effects of these parameters on 12-month iron status.

Methods: Participants are from a cohort of Chilean infants (N = 1,657). Eligible infants were singleton, full-term births, born via routine vaginal delivery, had birth weight ≥ 3.0 kg and were nonanemic at 6 months. A venous blood sample was obtained from all infants at 12-months. We fit a Super Imposition by Translation and Rotation (SITAR) growth model, which generates three infant-specific random effects: (1) size (mean weight relative to overall sample weight), (2) tempo (timing of peak growth velocity) and (3) velocity (peak growth velocity, grams/month). We used multivariable linear regression to assess the effect of the growth parameters on 12-month hemoglobin, mean corpuscular volume (MCV), free erythrocyte protoporphyrin (FEP) and ferritin. Models adjust for sex, age at first bottle, socioeconomic status, gestational age and iron supplementation.

Results: Infant size across time was significantly associated with 12-month hemoglobin. More rapid growth (velocity) predicted lower 12-month hemoglobin. In addition, infants who achieved peak velocity at an older age had significantly reduced MCV, increased FEP and reduced ferritin levels at 12-months.

Conclusions: Findings provide support for the hypothesis that rapid growth during infancy has a negative effect on iron status; infants with more rapid growth velocity and later timing of peak growth may be at increased risk for iron deficiency. Further, this study demonstrates the utility of examining SITAR growth parameters as predictors of health outcomes, such as infancy iron status.

14. BIANCA DEVOTO

PARENTAL DIALOGUE ON SEXUAL HEALTH TOPICS: IMPLICATIONS ON SEXUAL RISK BEHAVIORS FOR STI AND UNINTENDED PREGNANCY AMONG ADOLESCENT GIRLS AT THE US-MEXICO BORDER

CATEGORY

Reproductive Health
Global Health

COLLABORATORS

Marissa Salazar, Anita Raj, Elizabeth Reed

ABSTRACT

Background: While most parents are uncomfortable to talk to their children about sexual health, communication between parents and children regarding these issues has shown to be protective against adolescents' risky sexual behaviors. For families near the US-Mexico border, where rates of STI and unintended pregnancy are high among girls, barriers related to the separation of families across the border and cultural norms prohibiting open discussion may further limit parental dialogue on sexual health.

Study Objectives: To better understand parental communication on sexual health and the primary sources of health information among adolescent girls in this region.

Methods: In-depth interviews (n=23) were conducted focusing on risk factors for STI and unintended pregnancy. Analyses focused on common themes related to girls' sources of sexual health information and parental dialogue on sexual health.

Setting and Subjects: Sexually active girls aged 15-19 were recruited from a SD County health clinic near the US-Mexico border.

Results: Most participants reported lack of parental dialogue on sexual health. Girls often reported that parents would voice disapproval over early pregnancy but would not provide information on how to protect against unintended pregnancy. Friends and other family members were the primary sources of sexual health information, but this information was often incomplete or inaccurate. Girls reported receiving inadequate information at school as well. Altogether, girls reported they did not receive sufficient information on the types or function of contraception, where to get contraception, and that the sources of information did not consider social and relationship factors that may interfere with girls' contraceptive use.

Conclusions: Our findings suggest that parental dialogue on sexual health is largely absent in this population and that girls are not receiving accurate or sufficient sexual health information from other sources. Improved sexual health communication is needed to ensure that girls can make informed sexual decisions, and ultimately, to prevent STIs and unplanned adolescent pregnancies in this region.

15. JACKIE DOAN

PARENTAL PERCEPTION OF CHILD WEIGHT

CATEGORY
Maternal and Child Health
Diet, Physical Activity, and Obesity

COLLABORATORS
Sheila Gahagan, Christine Williams, Carissa McMasters, Nancy Saavedra

ABSTRACT
Background: Among Mexican Americans, the rate of childhood obesity is extremely high; close to 34% of school-aged Mexican American girls and 40% of Mexican American boys are overweight. Family level factors, including parental perception of child weight status, as well as home environment factors related to diet and activity, are important to consider when examining obesity rates and designing interventions to target both obesity prevention and treatment. The goal of this research was to test and evaluate the feasibility of implementing a survey to examine parental perception of child weight and to examine the relationship between parental perception of child weight and actual child weight.

Methods: This project was carried out via survey in the waiting room of the pediatrics department at Vista Community Clinic. The study consisted of 16 different versions of the same survey, each varying only in language (English vs. Spanish), gender (boy vs. girl), or age (2-5,6-9,10-13,14-18). There were a total of 41 questions, ranging from questions regarding their child's health to their family's length of stay in the United States. Each gender and age range was unique with figures for parents to gauge their child's body and to signify the ideal body image for their child.

Results: From the surveys we analyzed, we learned that most of those surveyed were parents of children age 2-9 years old with the average child age mean being 7.1 years. The majority of parents identified themselves as Hispanic and chose to take the survey in Spanish. In addition, almost 50% of parents expressed some concern about their child's weight, either a little or quite/very concerned. Furthermore, the majority of parents perceived child's weight in a category associated with normal weight even if child was overweight or obese.

Conclusion: From our results, we observed that parents tend to view their child as having a normal weight even if their child is considered overweight or obese, according to objective BMI measurements. This can be due to the parent feeling uncomfortable with the fact their child may be overweight or simply not realizing their child is overweight or obese. Cultural beliefs and norms about healthy/unhealthy practices, weight and appearance, and discussion of weight-related topics are important to understand in order to fully understand how to approach child weight related issues.

16. ASHLEY DU

HEART RATE AND BLOOD PRESSURE EFFECTS OF DAILY INHALATION OF NICOTINE CONTAINING E-CIGARETTE VAPOR

CATEGORY
Tobacco, Alcohol, and Other Drugs

COLLABORATORS
John Shin, Zachary Yong

ABSTRACT
Introduction: As e-cigarette use continues to rise in popularity, many have questioned how e-cigarette vapor inhalation actually affects mammalian systems. Because >99% of commercially available e-cigarettes contain nicotine, and nicotine has been found to have effects on cardiac physiology, we hypothesized that daily inhalation of e-cigarette vapor (EV) would lead to alterations in both heart rate (HR) and blood pressure (BP).

Methods: 6-8 week-old C57BL/6 mice were obtained from Jackson Labs. Mice were placed into restraints in the SciReq inExpose system where they were exposed nose-only for 60min daily to freshly made EV for 3 months. The e-liquid used contained 50% propylene glycol, 50% vegetable glycerin and 24 mg/mL nicotine. For the week prior to harvest, mice were placed into restraints and taped down to a warming table. The mouse's temperature was taken to ensure temperatures were between 36-37C during observation. Two cuffs were placed on the tail to measure HR and BP over 5-10min.

Results: HR of e-cigarette vapor (EV) exposed mice were significantly lower than that of controls (592 vs 671, respectively; p=.003; Figure A). HR of the EV mice had a much larger standard deviation, a measure of HR variability, than controls (20.8-59.6 vs 7.5-142.2, respectively; Figure B). The systolic blood pressure (SBP) of EV exposed mice was found to be significantly higher than controls (117 vs 102, respectively; p=.0165; Figure C). The diastolic blood pressure (DBP) of EV mice trended up in comparison to controls (92.3 vs 77.5, respectively; Figure D). The mean arterial pressure (MAP) of EV mice trended up in comparison to controls (91.4 vs 87.9, respectively; Figure E).

Conclusions: The results from our data suggest that chronic inhalation of nicotine containing e-cigarette vapor (EV) affects cardiac function. Although it is know that in humans heart rate increases acutely during nicotine inhalation (demonstrated by both cigarette smoke and EV inhalation studies), our results from a mouse model of chronic inhalation imply that over repeated exposures, HR tend to decrease. These results imply that e-cigarette users may be at risk for adverse effects.

17. SARAH DUNSEATH

NIH SUPPORT OF MOBILE, IMAGING, PERVASIVE SENSING, SOCIAL MEDIA AND LOCATION TRACKING (MISST) RESEARCH: LAYING THE FOUNDATION TO EXAMINE RESEARCH ETHICS IN THE DIGITAL AGE

CATEGORY
Health Technology
Research Ethics and Integrity

COLLABORATORS
Nadir Weibel, Cinnamon Bloss, Camille Nebeker

ABSTRACT
Background: Mobile Imaging, pervasive Sensing, Social media and location Tracking (MISST) tools used in research are raising new ethical challenges for scientists and the Institutional Review Boards (IRBs) charged with protecting human participants. Yet, little guidance exists to inform the ethical design and regulatory/IRB review of MISST research. MISST tools/methods produce personal health data, yet much of these data are not protected by existing policies like the Common Rule. This study examines the prevalence of these studies and whether the increasing availability of this technology is shaping funding by federal agencies associated with the National Institutes of Health (NIH).

Objective: The NIH Research Portfolio Online Reporting Tools (RePORTER) database was used to identify MISST-related studies supported by the NIH in 2005, 2010 and 2015 to: 1- examine the extent to which the NIH is supporting this research and, 2- identify how these tools are being used in research.

Methods: Forty-three keywords were used to identify MISST studies supported by the NIH in 2005, 2010, and 2015 using NIH RePORTER. Abstracts containing keywords were read and coded using a thematic analysis based on the technology used, the funding institute, the amount of funding, and the funding recipient.

Results: The number of funded MISST research projects increased 384% from 2005 to 2015. Over that decade, the most widely used MISST tool shifted from geographic information systems in 2005 to mobile applications in 2015. Results revealed that while funding of MISST research is growing, it only represented about 1% of the total NIH budget in 2015; yet, the number of institutes, agencies, and centers supporting MISST research has increased by roughly 50%.

Conclusions: This study examines the increase in quantity and scope of MISST research funding, specifically in terms of the expansion of the federal support for this research. Given our findings that MISST research represents 1% of the NIH budget and is on an increasing upward trajectory, it is essential to also fund research that can inform the ethical and social issues associated with this research.

18. KRISTEN EMORY

LGBT USE MORE SOCIAL MEDIA

CATEGORY
Health Technology
Health Equity and Disparity

COLLABORATORS
Francisco Buchting, Sherry Emery

ABSTRACT
Introduction: There is scientific debate over whether or not lesbian, gay, bisexual and transgender (LGBT) populations are more frequent users of Social Media. This has important implications for preventing health disparities among LGBT populations, particularly for the field of tobacco control and prevention, where it is known exposure to media and marketing plays a large role in uptake and use of tobacco products. However, lessons learned here can be applied to other health behaviors as well.

Methods: This study reports results from LGBT (N=1,092) and non-LGBT (N=16,430) respondents to a 2013 nation ally representative cross-sectional online survey of US adults (N=17,522). Media use is assessed between LGBT and Non-LGBT (e.g. not identifying as LGBT) populations. Raw numbers, weighted percentages, and significance levels will be described in detail.

Results: LGBT reported significantly more social media use across all social media platforms assessed: Facebook (81.8%), LinkedIn (22.3%), Twitter (28.5%), YouTube (34.9%), Instagram (11.9%), and MySpace (17.1%); compared to non-LGBT (68.6%, 17.9%, 18.0%, 18.6%, 7.0%, 8.9%; respectively). Conversely, Non-LGBT reported significantly more likely to not be involved in any social media than did LGBT (24.6% compared to 9.4%). LGBT also reported significantly higher ownership of smartphones (63.2%), tablets (40.1%) and MP3 players (31.7%) than did non-LGBT (52.2%, 35.8%, and 25.2%; respectively). There were no significant differences in how LGBT access the internet (e.g. dial-up modem, broadband, smartphone/tablet, or other).

Implications: This data can be used to inform future health-related campaigns targeted to LGBT individuals. Further research is needed to determine if LGBT are also more frequent users of health-related social media, such as tobacco, which might have important implications for prevention of corresponding unhealthy behaviors.

19. LIZBETH ESCOBEDO

ENGAGING LATINOS FAMILIES TO IMPROVE THEIR HEALTH USING MOBILE ACOUSTIC-SENSING COMPUTING

CATEGORY
Health Technology
Biostatistics and Bioinformatics

COLLABORATORS
Lizbeth Escobedo, Raina Ahuja, Elmer Barrera, Connie Guan, Enrique Zavala, Robert El-Kareh, Kyung E Rhee, Wei Peng, Guoliang Xing, Jina Huh

ABSTRACT
Childhood obesity is a serious problem putting kids at risk for poor health. Childhood obesity is also more common among certain populations; rates are significantly higher in Latino families than other ethnic groups. Family behavior routines play a significant role in childhood obesity. Here, we present our work in studying and designing SHINE-L for Mexican immigrant families. The SHINE-L system senses family routines, including family meal frequency, sleep, physical activity, and screen time through acoustic sensors of smartwatches. These behavior data will be translated into visual feedback in ambient displays and shared among families for social learning. Mexican immigrant families, due to complex immigration status and socio-economic diversity, bear unique design constraints. We conducted interviews and focus groups with 17 Mexican immigrant parents with children around the ages 5-12 years old. We present implications in choosing the target population and strategies for social learning using ubiquitous sensors in socioeconomically and culturally diverse populations

20.ELSA FELGAR

BUILDING A LITERATURE BASE AND ANALYTIC PROTOCOL FOR LINKING SELF-REPORTED DEPRESSION AND ANXIETY TO THE GUT MICROBIOME IN THE COMMUNITY OF MINE STUDY

CATEGORY
Mental Health

COLLABORATORS
Marta Jankowska, Dorothy Sears, Lindsay Dillon, Jacqueline Kerr

ABSTRACT

Background/Context: Recent microbiome research has established a microbiome-brain axis linking brain activity to gut microbiota health and diversity. This link is central to a number of new studies focused on depression and anxiety. These stress-related conditions occur when the brain overly intensifies emotion without being able to self-regulate, which may be tied back to the microbiome-brain axis. We will explore these links in a cross-sectional cohort of 700 San Diegan adults.

Study Objectives: Conduct a literature review and develop a study analysis protocol for linking depression score outcomes in the Community of Mine (CoM) Study to participant-matched microbiome results obtained from the American Gut Project (AGP).

Setting and Subjects: CoM is a cross-sectional study of objectively measured physical activity, diet, environmental exposure, and biomarkers in 700 Hispanic and Caucasian adults living in San Diego County. A collaboration with AGP offers additional microbiome specimen collection to CoM participants.

Methods/Design: Using the Cohen's Perceived Stress scale, a distress tolerance scale, and the PROMIS Pain short form collected in CoM, we will assess connections between gut microbiota and mental health outcomes from our study population. The literature review will inform microbiome outcomes as well as modeling techniques.

Conclusions: Research regarding the link between mental health and gut microbiome is in its infancy, with small study samples that lack diversity. We will propose a methodology and analytic plan for assessing the link between microbiome and depression/anxiety in a 700 person cross-sectional study with both Hispanic and Caucasian participants.

21.FARWA FEROZE

DISPARITIES IN THE LINK BETWEEN OBESITY AND CARDIOVASCULAR RISK BETWEEN WOMEN AND MEN

CATEGORY
Chronic Disease
Health Equity and Disparity

COLLABORATORS
Suzi Hong, Stoyan Dimitrov, Farah Shaikh, Kathy Wilson

ABSTRACT
Obesity has long been shown as a risk factor for cardiovascular disease (CVD), but the nature and magnitude of this relationship are thought to differ based on sex.
Objective: We investigated whether sex is a significant moderator for the relationship between adiposity and estimated future CVD risk. We hypothesized that adiposity related CVD risk will differ by sex and that this disparity may be based on the pattern of adiposity distribution.
Methods: In 177 currently asymptomatic adults aged 18 to 65 years with normal (n= 105) to mildly elevated BP (125< SBP <140 mmHg, n= 66), we compared the associations between adiposity and estimated CVD risk (Framingham risk scores, FRS) between women (n= 90) and men (n= 87). Adiposity was indicated by waist circumference and by %total and %trunk fat assessed using DEXA.
Results: An independent samples t-test to compare the levels of adiposity, BP and estimated CVD risk between men and women revealed that waist circumference, systolic BP and 10 and 30-year FRS were higher in men. Percent trunk and total fat was greater in women. (all p's< .05). A series of multiple regression revealed that sex was a significant predictor of FRS even after controlling for age, race and adiposity. Lastly, a series of multiple regression analyses were performed separately by sex to compare the magnitude of adiposity-CVD risk associations after controlling for age and race. Based on standardized beta values for adiposity indices, %trunk fat was a significant predictor for all FRS for both sexes but at a greater magnitude for women. %total fat was a predictor for all FRS for men only. The waist circumference-FRS associations were greater for men.
Discussion: Our findings support the hypothesis that sex is a moderator for adiposity-CVD risk. These sex-related disparities are dependent upon adiposity pattern such that overall vs. upper body adiposity is differentially associated with CVD risk for men vs. women. Central adiposity indicated by waist circumference, in particular, was a more salient predictor of CVD risk for men. Future investigations of sex-related biological (e.g., estrogen) and psychosocial factors in CVD outcomes are warranted.

22. KATHERINE GARCIA

PROMOTION OF HEALTH CAREERS THROUGH THE LINCOLN HEALTH EQUITY MENTORSHIP PROGRAM

CATEGORY
Health Equity and Disparity

COLLABORATORS
Jacqueline Lee, Kiana Choo-Loy, Lindia Willies-Jacobo

ABSTRACT
Background: UC San Diego School of Medicine, PRIME-Health Equity program has a 10+ year partnership with Lincoln High School, located in Southeast San Diego. PRIME-HEq medical students provide a health education curriculum every year. Lincoln Health-Equity Mentorship program began in 2013 as a result of medical students realizing the need for mentoring relationships to guidance high school students in the pursuit of health careers in Southeast San Diego. Lincoln Health-Equity is an afterschool mentorship program in its third year providing hands on activities, mentorship, field trips, and programming with a focus on health disparities.

Objective: The main aim of our research was to objectively assess the Lincoln Health Equity Program and to gain a better understanding of high school students in Southeast San Diego. The following will be assessed, student's educational aspirations and knowledge of health disparities. The study will allow a better understanding of student's social capital network in their homes and schools in their pursuit of health careers.

Methods: Students were surveyed on the first day of the program regarding their interest in health careers. A post survey will be conducted at the conclusion of the final event. Descriptive statistics will be conducted along with comparison tests.

Results: The following results will be reported after the final event on Feb 18th, descriptive statistics – age, gender, family/education background, community and mentors. Also, a program evaluation of Lincoln Health Equity program.

Implications: Results of survey will be used to increase awareness of the Lincoln High School students and their needs to pursuit a health career path. Also, to share lessons learned from a sustained university and high school partnership.

23. CARRIE GEREMIA

VALIDATING AND SHORTENING THE ENVIRONMENTAL ASSESSMENT OF PUBLIC RECREATION SPACES (EAPRS) TOOL

CATEGORY
Diet, Physical Activity, and Obesity

COLLABORATORS
James Sallis, Terry Conway, Brian Saelens, Kelli Cain

ABSTRACT

Objective: Objective assessment of park characteristics is important to guide the design of more activity-supportive parks. The present study aims to use the Environmental Assessment of Public Recreation Spaces (EAPRS) to construct a "mini" version of the tool, and to evaluate the construct validity of these tools to assess park use and physical activity (PA) by comparing their scores to observed park use and physical activity.

Methods: Data was collected in 40 parks in San Diego, CA using the full 663-item EAPRS to assess park characteristics and quality and SOPARC (System of Observing Play and Recreation in Communities) to assess park use and activity. EAPRS data was scored using the full tool methods, and a 38-item mini version was constructed, using only "presence" scores for each of 38 park elements. Subscales were created for PA, amenity and aesthetic park elements, and an overall score was computed for each park. Associations were computed for SOPARC measures (user counts and estimated PA levels) with the EAPRS full and mini scales.

Results: PA elements were positively associated with park use and PA across both tools, with the highest for trails (.45 for use and .51 for PA using the full tool; .38 for use and .43 for PA using the mini tool). The presence of amenities such as restrooms was highly correlated with both park use (.64) and PA (.59) using the mini tool. Aesthetic elements were not significantly related to outcomes. The overall park score using the mini EAPRS tool had very similar correlations with both park use (.72) and PA (.70) as the full EAPRS tool (.71 and .73).

Conclusion: Directly observed park environment characteristics were strongly related to both park use and PA, supporting the construct validity of EAPRS. EAPRS-Mini was demonstrated to have similar explanatory power as the original version, and can be used to document associations with outcomes such as park use and PA in parks.

24. ERIK GROESSL

YOGA FOR MILITARY VETERANS WITH CHRONIC LOW BACK PAIN: A RANDOMIZED CLINICAL TRIAL

CATEGORY
Integrative Health
Chronic Disease

COLLABORATORS
Lin Liu, Douglas Chang, Julie Wetherell, Jill Bormann, J. Hamp Atkinson, Sunita Baxi, Laura Schmalzl

ABSTRACT
Introduction: Chronic low back pain (cLBP) is highly prevalent, especially among military veterans. Although many cLBP treatment options exist, the benefits are often limited or accompanied by side effects. This fact is reflected in recent efforts to reduce opioid use and embrace non-pharmacological pain treatments. Evidence from community cLBP samples indicates that yoga can improve health outcomes and has few side effects. Our study was designed to study the benefits of yoga among military veterans.

Study Design: We randomized 150 military veterans with cLBP to either yoga or usual care (UC) between 2013-2015. Outcomes were assessed at baseline, 6 weeks, 12 weeks, and 6 months. Intention-to-treat analyses were conducted in 2016.

Intervention: Yoga classes (with home practice), occurred 2x weekly for 12 weeks, and consisted primarily of physical posture, movement, and breathing techniques.

Main outcome measures: The primary outcome was Roland-Morris Disability Questionnaire (RMDQ) scores after 12 weeks. Secondary outcomes included pain intensity, pain interference, depression, fatigue, quality of life, and medication usage.

Results: Participant characteristics include: mean age = 53 years, 26% female, 35% unemployed or disabled, and mean back pain duration of 15 years. Yoga participants had greater reductions in RMDQ scores than UC participants at 6 months -2.48 [95% CI, -4.08, -0.87], but both groups improved and RMDQ scores did not differ at 12 weeks. Yoga participants improved more on pain intensity, pain interference, SF-12 physical scores, and fatigue at 12 weeks, with many effects sustained at 6 months. Among all participants, opioid medication use declined, but no group differences were found.

25. ROBERT NICHOLAS GUAY-ROSS

ROLE OF INSULIN RESISTANCE IN DEPRESSION-INFLAMMATION LINK

CATEGORY
Chronic Disease
Diet, Physical Activity, and Obesity

COLLABORATORS
Yesenia Cabrera Tiefu Cheng, Chris Pruitt Suzi Hong

ABSTRACT
Knowledge of the underlying mechanisms of obesity-related inflammation is incomplete, perpetuating limited options for efficacious therapeutics, including behavioral interventions. With up to 50% of obese individuals, reporting clinically relevant depressive symptoms, challenges in implementing health behavior interventions are only compounded. Depression and obesity both present with chronic low-grade inflammation. Adipose tissue acts as an endocrine organ, secreting inflammatory cytokines, and contributes to insulin resistance (IR). We previously reported that glucocorticoid receptor-mediated dysregulation of inflammatory processes underlies obesity and elevated depressive symptoms. In this study we investigated the role of insulin resistance in the depression-obesity-inflammation link among 129 asymptomatic men (49.6%) and women (50.4%) of 18 – 65 years of age. Depressive symptoms were measured using Beck Depression Inventory (BDI). Fasting insulin and leptin levels in plasma were measured using a multiplex immunoassay. Homeostatic model assessment was calculated to indicate insulin resistance ("HOMA-IR"). 31%, 40% and 30% of the participants were lean, overweight and obese, respectively. The average total BDI score was 5.7 (± 6.2). Levels of insulin and leptin were 342.7 (± 346.4) pg/mL and 19.06 (± 24.04) ng/mL. Mean HOMA-IR was 1.78 (± 1.96), indicating normal insulin resistance on average, while 8% and 6% of the sample exhibited moderate and severe IR, by showing HOMA-IR > 3 and > 5, respectively. Total and somatic BDI scores were correlated with BMI (r= .30 for total; .35 for somatic), leptin levels (r= .28, .34), and HOMA-IR (r= .27, .32; p's .05 to .001). In multivariate models HOMA-IR (β= .24, p< .05) remained a significant predictor for BDI somatic scores even after adjusting for covariates (age, gender, ethnicity, mean blood pressure) and BMI. We found that even subclinical insulin resistance is associated with depressive mood and underlying inflammation. The insulin pathway may be a promising target in scrutinizing the depression-inflammation link in metabolic disorders.

26. KRISTEN GUIRGUIS

HEAT WAVES, HUMAN HEALTH, AND DISPARITIES IN SAN DIEGO, CALIFORNIA

CATEGORY
Environmental Health

COLLABORATORS
Kristen Guirguis, Alexander Gershunov, Al-Delaimy Wael, Devesh Vashishtha, Brittany Haily, Rachel Clemesha, Rupa Basu

ABSTRACT

Background: Weather extremes in a changing climate are affecting public health worldwide but understanding of how regional impacts vary with acclimatization to the surrounding environment is limited. San Diego is home to a demographically diverse population and spans starkly different climate zones where some residents live in desert conditions just inland of coastal populations who are used to relatively mild summertime temperatures.

Methods: We used patient discharge data from the California Office of Statewide Health Planning and Development during 1999-2013 to determine the impact of daily temperature variability on hospital admissions in three regions of San Diego County. We compared hospitalizations on days exceeding a given temperature threshold to the historical record using random resampling for several disease categories. Additionally, we investigated how access to air conditioning (AC) affects outcomes using data from the 2009 California Residential Appliance Saturation Study by comparing hospitalizations in zipcodes with differing levels of AC prevalence.

Findings: Coastal residents were found more sensitive to heat than inland residents. Within the coastal community, heat sensitivity was found to be reduced through access to central air conditioning (CAC). Disparities in CAC ownership were associated with income level, race/ethnicity, and home ownership. Latinos were more vulnerable to heat than other ethnic groups, and were also less likely to have CAC.

Discussion: Our results demonstrate the importance of acclimation when considering the health risks associated with heat. In San Diego, inland residents are generally better acclimated than are coastal residents who are used to milder temperatures. Air conditioning helps reduce health risks from heat, but there are socioeconomic disparities in AC access. Given that more heat waves are expected with climate change, understanding the health impacts is critical for improving future outcomes.

27.LINDAHILL

PROMOTING SOBER DRIVING AMONG YOUTH THROUGH COMMUNITY AND PARENT PARTNERSHIPS

CATEGORY
Injury and Violence Prevention
Tobacco, Alcohol, and Other Drugs

COLLABORATORS
Jill Rybar, Jana Jahns, Andrew Cuffel, Susan Writer

ABSTRACT
Background: There were 9,967 deaths in alcohol impaired driving crashes in the United States in 2014, accounting for 31% of all motor-vehicle deaths. Drivers under the age of 21 are responsible for a disproportionate number of these crashes.
Objective: The purpose of this presentation is to describe the development and evaluation of an inter-agency, community-based intervention for parents and their teens on sober driving.
Methods: Through a partnership with the San Diego Police Department (SDPD) and Social Advocates for Youth (SAY) San Diego, the UC San Diego Training, Research, and Education for Driving Safety Program (TREDS) developed an educational curriculum to change behaviors related to impaired driving. SDPD's Teen Alcohol Awareness Program (TAAP) provides parents and teens education on impaired driving subject matter. This training is delivered to teens and parents in the evening at police headquarters, and then teens are brought to directly observe all phases of a DUI check point. Parents then receive further education from a facilitator utilizing the TREDS curriculum. This session focuses on parent-teen communication by specifically addressing negotiations, behavioral rules, and consequences of teen driving under the influence. In conjunction with SAY, TREDS is also conducting education to teens and their parents in the schools on alcohol and driving, and also addressing social hosting. Evaluation is being conducted by TREDS on both programs.
Results: This is a unique partnership between three agencies committed to teen driving safety. The successes of this inter-agency partnership included resolving content, scheduling, public image concerns, and recruitment methods. This poster will outline the curriculum and the results of the pre- and post-evaluation surveys, administered to both teen and parent participants.
Implications: TREDS has successfully implemented a teen driving sober program with SDPD and SAY. The program partnerships and curriculum may be useful as a model intervention design to be implemented in other communities.

28.VENNIS HONG

RELATIONSHIP BETWEEN PSYCHOSOCIAL STRESS AND INTUITIVE EATING IN OVERWEIGHT LATINO AND AFRICAN AMERICAN YOUTH

CATEGORY
Diet, Physical Activity, and Obesity
Mental Health

COLLABORATORS
Claudia Toledo-Corral

ABSTRACT
Background: Intuitive eating (IE) is the practice of eating in accordance with physiological cues and natural hunger signals. It is characterized by three essential facets: 1) no restrictions on food choices, 2) eating strictly for physical reasons, 3) responding to physiological hunger and satiety cues. IE has been identified as a potential long-term strategy for reducing obesity rates, yet little is currently known about factors that determine intuitive eating choices and behaviors.

Objectives: The objectives of this study are 1) to investigate the relationship between psychosocial stress and IE and 2) to determine whether cortisol is mediating this relationship.

Methods: This cross-sectional study includes a one-time survey assessing participants' stress levels and IE behaviors. Urinary-free cortisol, salivary cortisol, and serum cortisol measures were collected through an overnight inpatient stay. The participants and data for this study are from the DREAM (Diabetes Risk due to Ectopic Adiposity in Minority youth) study done at the University of Southern California. Participants (N = 183) are African Americans and Latinos ages 8 and 17 (μ = 14.87, σ = 2.61). Participants are overweight or obese (BMI at the 85th percentile and higher; for BMI, μ = 30.83, σ = 7.16) but healthy.

Results: Multivariate linear regressions reveal significant associations between perceived stress and IE (β = -0.023, p = <0.001). No significant differences are found between stressful life events and IE. While salivary cortisol at 2200hrs is associated with IE (β = -0.079, p = 0.020), cortisol is not a mediator in the relationship between stress and IE.

Conclusion: Greater levels of perceived stress were associated with less IE habits, suggesting that, in minority children and adolescents, IE is influenced by psychosocial stressors but that the relationship was not mediated by cortisol. Understanding characteristics.

29. JUE HOU

A NONPARAMETRIC MAXIMUM LIKELIHOOD APPROACH FOR PARTIALLY OBSERVED CURED DATA WITH LEFT TRUNCATION AND RIGHT-CENSORING

CATEGORY

Biostatistics and Bioinformatics
Maternal and Child Health

COLLABORATORS

Christina Chambers, Ronghui Xu

ABSTRACT

Partially observed cured data occur in the analysis of spontaneous abortion (SAB) in observational studies in pregnancy. In contrast to the traditional cured data, such data has an observable 'cured' portion as women who do not abort spontaneously. The data is also subject to left truncate in addition to right-censoring because women may enter or withdraw from a study any time during their pregnancy. Left truncation in particular causes unique bias in the presence of a cured portion. In this paper, we study a cure rate model and develop a conditional nonparametric maximum likelihood approach. To tackle the computational challenge we adopt an EM algorithm making use of "ghost copies" of the data, and a closed form variance estimator is derived. Under suitable assumptions, we prove the consistency of the resulting estimator involving an unbounded cumulative baseline hazard function, as well as the asymptotic normality. Simulation results are carried out to evaluate the finite sample performance. We present the analysis of the motivating SAB study to illustrate the power of our model addressing both occurrence and timing of SAB, as compared to existing approaches in practice.

30. EILEEN JOHNSON

USING WEARABLE CAMERAS TO ASSESS FREE-LIVING BEHAVIORS OF OLDER ADULTS

CATEGORY
Health Technology

COLLABORATORS
Suneeta Godbole, Jacqueline Kerr

ABSTRACT

Background: Older adults are the least active and most sedentary group in the US, with less than 3% meeting the physical activity guidelines. Physical activity is important for mobility, quality of life and cognitive functioning in older adults. The SenseCam wearable camera can objectively capture the environment and context in which free-living behaviors (i.e.: driving, activities of daily living) occur.

Objective: The purpose of this pilot study was to test the feasibility and acceptability of using the SenseCam to measure behaviors in free-living older adults.

Methods: Participants (N=40) aged 60-100 were recruited as a sub-sample from the Stein Successful Aging Evaluation (SAGE) Study. Participants wore the SenseCam for 7 days and images were annotated for postures, behaviors, and environments using previously published protocols.

Results: Over 280 participant-days of image data were collected. Due to feasibility in this pilot study, a larger study collected free-living SenseCam data of 210 older adults, adults, and children. Annotated image data from this pilot study has been used to train physical activity recognition algorithms in older women. Wearable camera image data annotated for indoor and outdoor environments have been used to validate person-worn GPS location data. In place of direct observation, day-level SenseCam image data have been compared to self-report estimates of time spent in sedentary behaviors.

Implications: The SenseCam can be used in older adult populations to objectively measure free-living behaviors. Wearable camera technologies offer opportunities to capture activities of daily living as well as behaviors in clinical and rehabilitation settings.

31. EMILY JUDD

TREATING WOMEN'S MOOD CHANGES WITH WAKE AND LIGHT THERAPY

CATEGORY
Mental Health
Maternal and Child Health

COLLABORATORS
Taylor Brown, Charles Meliska, Ana Lopez, Luis Martinez, Diane Sorenson, Barbara Parry

ABSTRACT
Introduction: Depressive risk in women is increased during reproductive epochs, which may be due to chronobiological disturbances. Critically-timed wake therapy alters melatonin and sleep timing relationships and improves mood in one day in most depressed patients (DP). Adding bright light therapy after wake therapy can extend the duration of these sleep and mood improvements.

Methods: Mood, sleep, and melatonin were measured at baseline and after one night of wake therapy (early wake therapy [EWT]: sleep 3:00 - 7:00 am; late wake therapy [LWT]: sleep 9:00 - 1:00 am) followed by multiple days of morning or evening bright light in peri-menopausal, peri-partum, and premenstrual DP and normal controls. Changes in sleep quality, melatonin timing, and depressive symptomatology were assessed.

Results: Melatonin rhythms are phase advanced in pregnant DP, and phase delayed in premenstrual, postpartum, and peri-menopausal DP. Critically-timed wake therapy plus bright light exposure improved mood in premenstrual, pregnant, postpartum and peri-menopausal depressed women depending on the timing of their sleep and melatonin rhythms. In pregnant DP, EWT improved mood more than LWT, whereas in premenstrual and postpartum depression, LWT improved mood more than EWT.

Conclusions: Wake therapy and light therapy improve circadian timing and depressive symptoms in depressed women, and may offer non-pharmacological antidepressant treatment for women's mood changes associated with the reproductive cycle.

32. GEORGIA KAYSER

WATER, SANITATION, AND HYGIENE IN RURAL HEALTH CARE FACILITIES: A CROSS-SECTIONAL STUDY IN ETHIOPIA, KENYA, MOZAMBIQUE, RWANDA, UGANDA AND ZAMBIA

CATEGORY
Global Health
Environmental Health

COLLABORATORS
Amy Guo, Michael Bowling, Jamie Batram

ABSTRACT

Background: Safe and sufficient water, sanitation, and hygiene (WaSH) prevent the spread of disease in health care facilities (HCF). Limited research has been conducted on WaSH in HCF in sub-Saharan Africa, a region with the highest rates of neonatal and maternal mortality in the world, where infections cause 39% of neonatal deaths.

Methods: We carried out a cross-sectional study of WaSH in 1318 randomly selected rural HCF (hospitals, health centers, health posts, and clinics) in rural regions throughout Ethiopia, Kenya, Mozambique, Rwanda, Uganda, and Zambia. Methods included questionnaires with head doctors and nurses to document WaSH access, continuity, functionality, quality, quantity and reliability and water quality analysis of drinking water samples (enumeration of Escherichia coli).

Results: We found that fewer than 50% of rural HCFs across all countries had access to improved water sources on premises, improved sanitation, and consistent access to water and soap for handwashing (Ethiopia (7%), Kenya (30%), Mozambique (29%), Rwanda (50%), Uganda (30%) and Zambia (21%)). While adequate hand hygiene is one of the most important infection control interventions to prevent disease transmission in HCF, fewer than 25% of HCF in each country reported that a combination of water, soap, and hand-drying materials were always available.

Implications: There is increasing interest in understanding and monitoring WaSH services in non-household settings, such as health care facilities (HCF) in low-income countries. Adequate WaSH in these settings are essential for realizing the human right to health and the human right to water. Our research points to a lack of basic WaSH services in HCFs in rural regions of Ethiopia, Kenya, Mozambique, Rwanda, Uganda, and Zambia, which represents an immediate threat to patient health and a desperate need for improvements in WaSH in rural HCF in these settings.

33. KATRINA KENNEDY

PHYSICAL ACTIVITY, TIME SPENT OUTDOORS, AND MENTAL AND PHYSICAL HEALTH OUTCOMES FOR OLDER ADULTS

CATEGORY
Mental Health
Diet, Physical Activity, and Obesity

COLLABORATORS

Jacqueline Kerr Dori Rosenberg, Rachel Millstein Khalisa Bolling, Katie Crist Kevin Moran, Suneeta Godbole Cynthia Sweet, David Buchner Marta Jankowska, Kristin Meseck Jasper Schipperijn, Yan Kestens Michelle Takemoto, Loki Natarajan

ABSTRACT

Physical activity is known to provide numerous health benefits. Physical activity has also been linked to increased quality of life in older adults . Studies have shown that time spent outside of the home in natural settings is associated with lower mortality rates, and improved physical and mental health. This association includes fewer depressive symptoms, less fear of falling, and greater physical functioning.

Objective: The objective of this study is to examine the association of outdoor time and mental and physical health outcomes.

Adults over the age of 65 years (N=307) were recruited from retirement community sites in San Diego, CA to participate in a cluster-randomized physical activity trial. Evaluations at baseline, 6-months and 12-months included objective assessment of physical functioning using the SPPB and 400m walk test, and self-report of depressive symptoms. Participants also wore a GPS device to assess outdoor time. The intervention arm focused on increasing physical activity education and multiple walking programs. Participants in the intervention were provided with safe walking routes.

Methods: Using separate linear mixed effects models for each outcome, we fit an interaction of outdoor time and study arm, while adjusting for gender, age, marital status, education, and device wear time, with a random intercept to account for participant clustering and a random slope for outdoor time allow individual trajectories.

Results: We saw a 0.18 decrease in depressive symptoms from 30 additional minutes of outdoor time in the intervention group while the control group saw a 0.07 increase in depressive symptoms for the same increase in outdoor time. There were no significant interactions for the SPPB and 400m walk models.

Conclusions: Our results demonstrate a significant interaction between the intervention, to increasing walking, and outdoor time for depressive symptoms. More analysis is needed to explore the relationship between outdoor time and exposure to greenness in relation to health outcomes and quality of life. In order to improve this analysis, more work is needed to determine the best objective measure of time spent outdoors.

34. Jeong Hoon (John) Kim

Sharing your Life Story – Benefit of Dignity Therapy on Gratitude and Caregiver Burden for People with Dementia and their Caregivers

Category
Health Services

Collaborators
Desiree Aspiras, Anna Hendricks, Jessica Empeño, Lori Montross-Thomas

Abstract
Background/Contextual Information: People with dementia are susceptible to a loss of dignity due to reduced mental and physical functioning. Dignity Therapy aims to instill greater self-worth and alleviate depression for people with dementia by encouraging them to share their valued memories, life lessons, and hopes for their loved ones through personal storytelling. Although Dignity Therapy has been shown to be effective in hospice and palliative care populations, this treatment has never been modified for people with dementia in the United States, nor have the possible benefits conferred to caregivers been measured.

Population of Interest: People with dementia and their care partners from Alzheimer's San Diego.

Description of the Project/Intervention: Personal stories of 26 people with early-stage dementia were documented, and keepsake story books were created as gifts for each family. Preliminary data showed that the pre-and-posttest measures of The Gratitude Questionnaire (GQ-6) and the Quality of Life – Alzheimer's Disease scale increased for people with dementia once completing Dignity Therapy. For the caregivers, the mean GQ-6 also increased while self-reported caregiver burden levels decreased. After treatment, all persons with dementia and their caregivers completed qualitative interviews to learn about their overall experience with the intervention.

Implications for Health Equity or Organizational Policy: Dementia cannot be cured through medications, which can only slow symptoms at this time. However, Dignity Therapy is a new psychosocial intervention that may have the potential to improve the quality of life for people with dementia. These optimistic study results suggest that Dignity Therapy may be beneficial, and could potentially be adopted by local Alzheimer's chapters across the country to support the quality of life of people with dementia and their caregivers.

35. VALENTINA KOUZNETSOVA

MOLECULAR MECHANISM OF GRP78–CRIPTO COMPLEX STABILIZATION ON THE MEMBRANE

CATEGORY
Biostatistics and Bioinformatics
OtherCancer Studies

COLLABORATORS
Hannah Hu, Knut Teigen, Maurizio Zanetti, Igor Tsigelny

ABSTRACT
The transforming growth factor beta (TGF-beta) pathway regulates a broad range of cellular processes, including proliferation, differentiation, survival, apoptosis, and homeostasis. Cripto is an extracellular protein, which acts as a receptor to the TGF-beta ligand Nodal, controlling the phosphorylation and formation of a protein complex, which then regulates the transcription of additional genes. The interaction between the molecular chaperone glucose-regulated protein 78 (GRP78) and the Cripto protein at the cell surface causes the formation of a complex, which has been shown to oppose growth inhibition of cancer cells, thus enhancing tumor growth. Recent studies showed that, individually, GRP78 and Cripto do not have a sufficient energies of interaction to remain tethered to the cell membrane. In contrast, when complexed, they acquire a stable membrane-bound configuration, which is responsible for signaling cancer cell growth. We modeled the optimal docking positions of the GRP78-Cripto complex on the outer cell membrane using programs for protein–membrane interactions and protein–protein docking. Then we conducted molecular dynamics simulations to study the stability of the GRP78–Cripto complex on the cell membrane. Our results show that the GRP78–Cripto complex is stable on the membrane within 100 ns simulation time whereas separate GRP78 and Cripto molecules detach form the membrane. These studies will help to design the anticancer compounds to prevent GRP78–Cripto interactions that promote cancer cell growth.

36. PEARL KUANG

THE PRESENCE OF BISEXUAL STIGMA: LITERATURE REVIEW ON BISEXUAL STIGMA AND HEALTH IMPLICATIONS FOR BISEXUALS

CATEGORY
Health Equity and Disparity

COLLABORATORS
Laramie Smith

ABSTRACT
The purpose of this theory-building literature review is to summarize and examine how current scientific literature evaluates the manifestation of bisexual stigma (bi-stigma) while highlighting potential areas to focus in for future research. This review will also examine the potential impact that bi-stigma has on the overall wellness of bisexual individuals. There was a total of seventeen articles examined, specifically twelves quantitative articles and five qualitative articles. Building on the Stigma Framework, a content analysis was used to examine how bi-stigma, as a bridging identity, manifested in non-bisexuals (i.e., heterosexuals and lesbian/gay) populations through the forms of stereotypes, prejudice, and discrimination towards bisexuals. We also examined how bi-stigma was experienced by bisexual individuals (i.e., enacted, anticipated, internalized) and how these experiences might be related to psychosocial or other health problems. The majority of the qualitative articles explored how bi-stigma was internalized by bisexuals, while the quantitative articles measured bi-stigma among the heterosexual and lesbian/gay population. Overall, there is still a lack of research independently examining bi-stigma, because bisexuals are often grouped and examined under the umbrella label of "gay, lesbian, and bisexual", despite bisexuals having greater health disparities relative to their lesbian/gay counterparts. There was a lack of scientific articles that addressed how bi-stigma may be buffered; therefore, future research should establish potential strategies to overcome prejudice or discrimination. There should also be more qualitative research that explores the underlying origin of bi-stigma as it manifests from heterosexuals relative to lesbian/gay populations.

37. BRIAN KWAN

SLEEP QUALITY AMONG DEPLOYMENT OF MARINES – A RESILIENCE MARKER?

CATEGORY
Biostatistics and Bioinformatics
Mental Health

ABSTRACT

Background/Context: Unresolved post-deployment sleep disturbance is a concern of troops returning from war, considered to be attributable to deployment-related causes, physical conditions, and mental health outcomes, such as posttraumatic stress disorder. Findings from two cohort studies, the Strong-STARR and Millennium cohort study, have provided strong evidence that pre-deployment sleep quality serves as a behavioral proxy for stress resilience. Preliminary analyses of our own study, the Marine Resilience Study (MRS), also show strong relationships between participants' self-report of pre-deployment sleep quality and mental health.

Study Objectives: We aim to look at rates of reported "good" vs. "bad" sleep and see if and how they relate with psychosocial measures as well as biological measures. We will also develop models to examine relationships between self-reported sleep quality and validated sleep measures so that our results can be compared with findings reported based on the formal sleep measures.

Setting/Subjects: We used data collected from MRS and MRS-II, which contain a wealth of psychosocial measures, sleep measures, and biological measures.

Methods/Design: We will focus on pre-deployment data and apply statistical models for categorical outcomes to examine relationships of sleep quality with psychosocial and biological outcomes.

Results: Our preliminary results based on a subset of psychosocial measures indicate significant association of such measures with self-reported quality of sleep. By including additional psychosocial, formal sleep measures and biological measures, we will develop a better understanding of how sleep is related to military personnel's mental and physical health and determine pre-deployment resilience proxy for future analyses that relate such proxy outcomes to pre-deployment risk of mental and physical health.

Conclusion: Our findings will be used as pilot data for future analyses that examine pre-deployment resilience on post-deployment health risks.

38. BRITTANY LEWARS

THE SEARCH FOR THE EJECTING CHAIR: PARTICIPANTS' PERCEPTIONS ON THE USE OF TECHNOLOGY TO CHANGE SEDENTARY BEHAVIOR: A QUALITATIVE ANALYSIS

CATEGORY
Sedentary Behavior
Health Technology

COLLABORATORS
Michelle Takemoto, Khalisa Bolling, Katie Crist, Jacqueline Kerr

ABSTRACT

Background: Recent epidemiological evidence indicates that on average, people spend approximately 7.7 hours per day sedentary. There are deleterious effects of prolonged sedentary behavior (SB) that are separate from participation in physical activity and include increased risk of weight gain, cancer, metabolic syndrome, diabetes, and heart disease. Wearable activity trackers (WATs) represent a novel strategy for reducing SB; however, additional research is needed to fully understand how this technology can be used to disrupt SB. The purpose of the current study was to explore the acceptability and usability of WATs to change SB through a qualitative analysis.

Methods: We conducted 4 focus groups with 15 participants to discuss 7 different WATs with SB capabilities. Participants commented on the wearability, functionality, and interfaces of each device and were asked to vote for their two favorite and two least favorite devices. Finally, participants were asked to design and describe their dream WAT. Data Analysis: Data from the focus groups were coded and analyzed by two researchers (MT, BL) who have expertise analyzing qualitative data. A thematic analysis approach guided data analysis as the data were organized into themes that reflected participants' perspectives and all analysis took place using Dedoose software.

Results: Three themes emerged: 1) Features of the device; 2) Data the device collects; and 3) How data are displayed.

Conclusions: Current WATs available for changing SB are lacking in key features to target SB change, which was especially evident when participants were asked to vote. Several participants reported using a "process of elimination" as opposed to choosing favorites because none of the devices were ideal for SB. Based on the limitations in current devices, future WATs designed to change SB should include the following features: waterproof, long battery life, accuracy in measuring SB, real-time feedback on progress, and options for prompts to remind participants to take a break from sitting.

39. AUDREY LUNDE

BASELINE RELATIONSHIPS BETWEEN CANCER TREATMENT VARIABLES AND
COGNITION IN BREAST CANCER SURVIVORS

CATEGORY
Chronic Disease

COLLABORATORS
Audrey Lunde, Sandahl Nelson, Emily Myers, Samaneh Keshavarz, Jillian Tom, Sheri
Hartman

ABSTRACT

Introduction: Cancer treatments such as chemotherapy can negatively affect cognition.
Using baseline data from a randomized controlled trial, we examined the relationship
between cancer treatments and cognition in breast cancer survivors (BCS).
Methods: Breast cancer survivors were enrolled in a trial testing the impact of increasing
physical activity on cognition. Cognition was measured with the NIH Toolbox that provided 9
scores (fluid and crystalized composite scores and seven component test scores). Cancer
pathology and treatment information was obtained through medical chart review. Linear
regression models assessed associations for each cognition score regressed on the breast
cancer variable of interest. All models controlled for education status. A Benjamini-
Hochberg correction at 0.05 was used to account for multiple comparisons.
Results: Participants (n=87) were a mean of 57 years (SD=10.4), diagnosed with breast
cancer 2.5 years ago (SD=1.3); 53% had chemotherapy and 70% were taking hormone
therapy (56% Aromatase Inhibitor (AI), 14% Tamoxifen (TAM). Cognition scores did not
significantly differ between those who had and had not received chemotherapy. No
significant relationship was found between cognition scores and current hormone therapy.
When examining AI and TAM separately, cognition was not associated with TAM but was
associated with AI. Specifically, those currently taking an AI scored, on average, 10.7 points
higher on the fluid composite score, 14.0 points higher on a measure of episodic memory,
and 6.5 point higher on a measure of attention (p < 0.001). No significant relationship was
found between time since breast cancer diagnosis and cognition scores.
Conclusion: In this sample of breast cancer survivors, chemotherapy, time since diagnosis,
and TAM were not associated with cognition. Surprisingly, current AI use was associated
with better cognition, which is in contrast to previous research. These findings emphasize
the importance of looking beyond chemotherapy for the source of cognitive deficits among
BCS. Future fully powered trials looking at the impact of hormone therapy on cognition
should consider AI and tamoxifen separately.

40. RIFAAT MALIK

AN ANALYSIS OF THE FIRST THREE PUBLIC HEALTH RESEARCH DAYS: IS THE EVENT MEETING ITS INTENDED GOALS?

CATEGORY
Descriptive Program Analysis

COLLABORATORS
Michael Pratt, Sheri Thompson

ABSTRACT
Background: This year the UC San Diego Institute for Public Health (IPH) will host the 3rdAnnual Public Health Research Day (PHRD), to highlight research accomplishments and real world Public Health activities involving the UC San Diego Public Health community. Each year, the PHRD Event includes a Poster Session and Speaker Presentations, designed to introduce Campus and community attendees to current, multidisciplinary public health research and local interventions. Consistent with the Mission of the IPH, PHRD goals include bringing together undergraduate and graduate students, post-doctoral fellows, research staff, faculty, community partners, and the general public, to disseminate findings, further education, and foster partnerships.
Study objective: To conduct a descriptive evaluation of PHRD over time, with an emphasis on: 1) Whether Public Health Research Day successfully attracted presentations and attendance by a broad range of students, faculty, and community members from multiple disciplines and experience levels. 2) Whether overall attendance, topics, and composition of presenters/attendees expanded across years.
Methods: Data from 2015 through 2017 sign in forms, Abstract Booklets, and Abstract Submission Applications were analyzed for trends. Content analysis of poster topics is underway, to detect possible, more granular changes in content. Presenter and attendee characteristics/affiliations are also being evaluated.
Results: Abstract submissions increased from 89 abstracts in 2015, to 100 abstracts in 2016. The 2017 abstract submission period is still open; 2017 data will be added to this Poster. Overall attendance increased from 200 in 2015, to 300 in 2016. Results of pending analyses will also be included in the 2017 PHRD Poster.
Conclusion: The number of attendees, number of abstracts submitted, and PHRD Topic Areas substantially increased from 2015 to 2016. Results of pending content, presenter and attendee analyses will be completed and presented at PHRD 2017.

41. MICHAEL MANZANO

SLEEP AND EATING PATTERNS IN PRE-SCHOOL AGE CHILDREN

CATEGORY
Diet, Physical Activity, and Obesity

COLLABORATORS
Allison Green, Kyung Rhee

ABSTRACT
Background: Sleep problems in children are associated with poor academic performance and behavior problems. Furthermore, while both short sleep duration and poor sleep quality are associated with worsened weight status, little is known about their association with eating behaviors in children.

Objective: Our goal was to examine the relationship between various sleep behaviors and eating behaviors in young children.

Methods: A secondary analysis of data collected from the CHIC Play Study was conducted to examine this relationship. Parent report of child sleep habits were measured using the Child Sleep Habit Questionnaire (CSHQ), which assesses multiple sleep behaviors from bedtime resistance to sleep-disorder breathing. The General Sleep Information questionnaire (GSI) was used to assess nightly sleep duration. Eating behaviors were assessed using the Child Eating Behavior Questionnaire (CEBQ), specifically emotional over-eating, satiety responsiveness, and food fussiness.

Results: Partial correlations were performed in R 3.1.0. The sample comprised 92 children, 54.0% male, mean age 60.6 months (SD 9.1), 60.3% White, and 43.2% Hispanic. Average length of sleep was 10.2 hours (SD 0.7). 8.9% had sleep disordered breathing and 26.7% had parasomnias. Partial correlations controlling for age and gender revealed that sleep-disordered breathing and parasomnias were associated with emotional overeating (r=.29, p<.01 and r=.25, p<.05, respectively). Both bedtime resistance and nighttime waking were associated with food fussiness (r=.33, p=.001 and r=.24, p<.05, respectively). Sleep duration as measured by the GSI questionnaire was inversely associated with satiety responsiveness (r=-.26, p<.05).

Discussion: These findings suggest that sleep quality and duration may be closely linked to certain eating behaviors, even in early childhood. We hypothesize that poor sleep habits may affect eating behaviors, which may be mediating the relationship with weight. Further research is needed to determine the causal relationship between sleep and eating, and whether modifying sleep behaviors and duration would have an impact on child eating behaviors, and ultimately weight status.

42. SARA MCMENAMIN

IMPLICATIONS OF DISPENSING SELF-ADMINISTERED HORMONAL CONTRACEPTIVES IN A ONE-YEAR SUPPLY: A CALIFORNIA CASE STUDY

CATEGORY
Health Policy

ABSTRACT

Research Objective: In 2016, California became the 6thstate to pass legislation (SB 999) allowing consumers to receive a 12-month supply of FDA-approved contraceptives by requiring health plans and insurers to cover an annual supply should a consumer request it. This study provides an evaluation of the estimated costs, utilization, and health impacts of this legislation to expand consumer choice in contraceptive dispensing patterns.

Study Design: An analysis of SB 999 was prepared by the California Health Benefits Review program, housed in the University of California, which engages multi-disciplinary faculty and researchers to conduct impartial analyses of proposed health insurance-related legislation. To aid in the building of our cost, coverage, and utilization model we performed a literature review, surveyed the five largest California health insurance providers, and combined this information with the MarketScan claims database of Truven Health Analytics.

Principal Findings: If SB 999 were to be enacted, 25% of current contraceptive users would receive a 1-month supply, 37% would receive a 3-month supply, and 38% would receive a 12-month supply dispensed at one time. A 30% reduction in the odds of an unintended pregnancy post-implementation was estimated to result in a reduction of 15,000 unintended pregnancies leading to 6,000 fewer live births, 2,000 fewer miscarriages, and 7,000 fewer abortions. It was estimated that this legislation would decrease total net health care expenditures across the state by 0.03% due to the avoidance of unintended pregnancies and related costs. This includes costs from increased pill wastage and savings from reduced office visits and hospital costs related to averted abortions, miscarriages, and live births.

Conclusions: Dispensing 12-month supplies of contraceptive pills, patches, and rings at one time increases the likelihood of consistent, effective use, and thereby reduces unintended pregnancies. These reductions lead to direct cost savings, due to decreased numbers of live births, miscarriages and abortions.

43. CINDY NGUYEN

COMMUNITY HEPATITIS EDUCATION: USING LIVE STORIES TO EDUCATE SAN DIEGO RESIDENTS ABOUT TRANSMISSION AND PREVENTION OF HEPATITIS B AND C

CATEGORY
Health Services
Stakeholder and Community Engagement

COLLABORATORS
Binh Tran, Palmer Taylor, Brookie Best, Danh Truong

ABSTRACT

Background: Over 5 million Americans are estimated to be living with hepatitis; however most of them remain undiagnosed. With thousands of new infections each year, community education efforts vis-à-vis viral hepatitis screening is of paramount importance. Asian Americans make up less than 5% of the US population, yet account for more than 50% of Americans with hepatitis B. Without diagnosis, proper treatment and monitoring, 1 in 4 chronic HBV patients will die from HBV-induced liver failure, cirrhosis, and liver cancer. Attempts to improve HBV/HCV outreach efforts have included both policy and educational strategies, but results have varied.

Objective: The objective of this study was to pilot a novel educational intervention to increase perception and knowledge of HBV/HCV risk. This study sought to determine whether a brief video intervention consisting of patient testimony and educational components regarding disease detection and prevention changes patients' knowledge, attitudes, beliefs, and hepatitis screening behaviors in at-risk populations.

Methods: The present study employed a matched pre/post experimental study design conducted at community outreach events hosted by the Asian Pacific Health Foundation. Prior to watching the video intervention ("Hepatitis Video"), subjects completed pre-video surveys to assess baseline HBV/HCV-related knowledge and attitudes. The same subjects then watched an eight minute video consisting of patient testimony and education regarding HBV/HCV transmission and prevention. Subjects then completed post-video surveys (consisting of the same questions as pre-video surveys).

Results: Subjects who watched the Hepatitis Video significantly increased their knowledge regarding hepatitis. Out of a total of 10 questions, the pre-video mean score was 6.8 ± 1.6 (95% CI, 6.3-7.4) and post-video mean score 8.2 ± 1.5 (95% CI, 7.7-8.6) ($p<0.001$). Pearson's correlation between pre-video mean score and post-video mean score found each variable to have a a moderately strong positive association with the other ($r =0.41$; $p=0.008$).

44. GREG NORMAN

THE IMPACT OF URGENT VISITS ON DELIVERING HOME-BASED PRIMARY CARE TO HOMEBOUND SENIORS

CATEGORY
Health Services
Chronic Disease

COLLABORATORS
Kristann Orton, Julie Beecher

ABSTRACT
Background: Home-based primary care (HBPC) is a multidisciplinary care delivery model that provides comprehensive longitudinal care to medically complex seniors in the home. The over four million homebound seniors in the US represent a significant proportion of the most costly Medicare beneficiaries. These seniors are typically frail with multiple chronic conditions, behavioral health conditions, and functional disabilities. Without easy access to primary care, homebound seniors resort to the emergency department and hospitalizations when they experience exacerbations of their chronic conditions.

Methods: A clinical practice quality improvement project was undertaken at one mid-Atlantic HBPC practice to determine potential efficiency solutions. The nature and impact of urgent visits on nurse practitioners' (NPs) daily workflows was examined to determine ways to improve how the practice managed these unscheduled appointments. GPS software on mobile tablets tracked patient visits of 5 NPs from September 29th to December 24th in 2015.

Results: During the data collection period NP's visited 416 of the 589 patients in the practice (71%) at least once. The majority of house call visits were scheduled regular visits (79%), 6% were follow-up visits after hospitalization, and 15% were urgent visits. Patients with a greater number of visits had a greater proportion of urgent visits ($X2(5) = 32.7$, $p < .001$). Hospital follow-up visits were more likely to occur at the end of the day and less likely at the beginning of the day ($X2(4) = 30$, $p < .001$), but urgent visits did not vary by time of day.

Implications: Although NPs reported they reserve time in their schedules in anticipation of urgent visits, these visits only occurred 15% of all house call visits. In many respects, urgent visits did not differ in nature from routine house call visits. The commonly used ICD-9 codes across all visit types suggest some urgent appointments might not need a same-day visit. Changing the work flow and management of urgent visits across NPs in the practice might allow for an increase in the volume of house call visits/day without decreasing quality of care delivery.

45.Callan Parra

Thoracic Spine Muscle Quality and Bone Mineral Density in a Population at Risk for Rheumatoid Arthritis (RA)

Category
Muscle and Bone Health
Injury and Violence Prevention

Collaborators
David Berry, Bahar Shahidi, Samuel Ward, Kevin Deane, Jan Hughes-Austin

Abstract
Background: Sarcopenia and osteoporosis are age-related diseases that are characterized by loss of lean muscle mass and bone mineral density (BMD), respectively, and may be linked. These processes have been recognized in the setting of RA, as RA patients experience loss of lean muscle mass and BMD. Less is known regarding these processes in a RA-free population who are at risk for RA based on RA-related autoantibodies (Abs), and how they may be associated. Therefore, we sought to determine whether muscle quality (MQ) was associated with BMD in the thoracic spine in this at-risk population.

Methods: We evaluated associations between MQ and BMD using computed tomography (CT) in 23 individuals at risk for RA from the Studies of the Etiology of RA (a prospective study designed to examine RA risk factors and disease progression) who were RA-free based on the 1987 ACR and 2010 EULAR criteria. Using axial CTs, we manually traced thoracic paraspinal muscle area (MA) from the mid-vertebral regions of T7-T12. Within each MA, fat fraction (FF) was calculated using a threshold set at 0 Hounsfield Units to differentiate between adipose (-100 to -50) and muscle (10 to 40) tissue. We used linear regression to evaluate associations between average FF, MA, BMD and Tscore at all levels, adjusting for age, gender (for BMD only), body mass index (BMI), and being positive for RA-related Abs (Ab(+)).

Results: Among 23 SERA participants, average age was 52±13 years, BMI was 26±5 kg/m2, BMD was 193±52 mg/cm3, Tscore was -0.8±1.5; 43% were female and 61% were Ab(+). For every % increase in FF, there was a 5±1 mg/cm3 decrease in BMD (p<0.0001); and a 0.15±0.03 decrease in Tscore (p<0.0001). Adjusting for age, gender, BMI, and Ab(+), BMD decreased by 2±1.5 mg/cm3 (p=0.23) and Tscore decreased by 0.06±0.05 (p=0.20). In unadjusted and fully adjusted analysis, MA was not significantly associated with BMD (B=0.67 p=0.76) or Tscore (B=0.02, p=0.72).

Conclusion: In a population at risk for RA, there was no association between FF, MA, and BMD after adjusting for covariates. Limited by sample size, additional research is needed to further clarify whether muscle quality is linked to BMD.

46.YUQIQIU

3D MORPHOMETRIC IMAGING IDENTIFIES CRANIOFACIAL FEATURES ASSOCIATED WITH RECIPROCAL REARRANGEMENTS OF 16P11.2

CATEGORY
Biostatistics and Bioinformatics

COLLABORATORS

Shih Tang , Oanh Hong, Tim Pang, Shawn Cho, Jasper Estabillo, Theresa Gadomski, Curtis Deutsch, Christina Corsello, Karen Messer, Jonathan Sebat, Honying Li

ABSTRACT

Background: Deletions or duplications in chromosome 16p11.2 form a relatively common genetic syndrome, associated with cognitive impairment, autism spectrum and psychiatric disorders, and differences in head size and BMI. However the effect on craniofacial features is unknown.

Setting and Subjects: The Simons VIP cohort of 231 subjects (46 deletions, 45 duplications and 140 familial controls).

Methods:3-dimensional morphometric imaging and landmarking of faces, using the 3DMD camera system, blinded to genotype. 156 pairwise distances between facial landmarks was analyzed using linear mixed models. LASSO was used to classify¬¬ subjects into genotypes from facial characteristics.

Results: Eighteen craniofacial features differed significantly by genotype (Holm-adjusted p < 0.05). Duplications have longer distances between eyes, eyes and nose or opposing brow, and relatively shorter distances between mouth and nose. Facial features of deletions appear to be more compact than controls and duplications, above a horizontal line drawn just below the nose.

Conclusions: There is a strong relationship between craniofacial conformation and the genetic status of 16p11.2. Several specific facial areas demonstrate consistent differences, and may offer insights into the biology of the associated syndrome.

47. DIVYA RAMAN

PHYSICAL ACTIVITY AND MENTAL HEALTH IN OLDER ADULTS: CHANGES WITH A WALKING INTERVENTION

CATEGORY
Mental Health
Diet, Physical Activity, and Obesity

COLLABORATORS
Michelle Takemoto, Suneeta Godbole, Rachel Millstein, Brittany Lewars, Jacqueline Kerr

ABSTRACT

Background: Mental health among older adults is critical for healthy aging. However, many older adults suffer from depression and anxiety symptoms, as well as stress from a variety of sources.

Study Objectives: This study explored the impact of increased physical activity (PA) from a community-based walking intervention at 3 different PA intensities (i.e., low-light (LL), high-light (HL), and moderate-to-vigorous (MVPA)) on mental health outcomes (i.e., depressive symptoms (DS), stress, and quality of life (QOL)).

Methods: The present analyses used baseline and 6-month data from participants over 65 years old randomized to the Multilevel Intervention for Physical Activity in Retirement Communities (MIPARC). Data included PA measured by accelerometers and self-report surveys. Separate linear mixed effects models regressed mental health outcomes on PA with models adjusted for covariates.

Results: A total of 151 participants from 4 retirement communities were included in the analyses. There was a significant association between change in HL and MVPA and reduced DS and between change in MVPA and decreased stress. Although not statistically significant, there were trends towards significance between changes in: HL and MVPA with increased QOL, LL and HL with decreased stress and LL and decreased DS.

Conclusions: The results indicate a dose response relationship between PA intensity and mental health. Higher intensity PA was associated with reduced DS and stress. While the relationship between lower intensity PA did not reach significance, there were trends in the right direction. The results add merit to the "every step counts" approach to encourage older adults to remain as active as they can to promote healthy aging.

48. Andrea Ramirez Varela

Physical activity surveillance, policy, and research worldwide: The Global Observatory for Physical Activity – GoPA!

CATEGORY
Global Health
Diet, Physical Activity, and Obesity

COLLABORATORS
Michael Pratt, Pedro Hallal

ABSTRACT
Background: GoPA! is the first global observatory exclusively dedicated to monitoring and reporting on surveillance, policy and research indicators related to physical activity. The GoPA! Country Card project is designed to periodically collect country comparable indicators worldwide.

Purpose: To present the first set of 139 Country Cards information about surveillance, policy and research on physical activity.

Methods: Using a standardized methodology, physical activity indicators up to 2013 were collected for all 217 countries worldwide and summarized in physical activity profiles called "Country Cards". Representatives from 139 countries reviewed, revised and approved their specific card and these were launched at GoPA! website and published as the "GoPA! 1st physical activity almanac".

Results: In two years of operations, GoPA! published data from 139(64.1%) of the world's 217 countries, representing a global coverage of 85.4% based on the world´s population in 2013. Globally 83.4% of the countries had national estimates of physical activity; 23.4% had 3 or more national surveys including physical activity questions; 28.1% had a standalone physical activity plan; and, more than 76.0% of the research came from the US and some European countries. A more than 50-fold difference in research publications per 100 million population per country was found between high and low income countries. Low income countries had the largest data gaps and were the least covered by GoPA! Due to difficulties finding country representatives. In relation to region, Sub-Saharan Africa was the region with most surveillance, policy and research data gaps, followed by Latin America and the Caribbean and Middle East and North Africa.

Conclusion: An unequal distribution of indicators was found around the world, with the African, region and low income countries being the most affected. This information is useful for encouraging countries to take action and increase efforts to develop and implement national policies, surveillance systems, research, and strategies aimed at promoting physical activity.

49.SILVIARODRIGUEZ

IMPORTANCE OF UNDERSTANDING BARRIERS AND SOLUTIONS DURING GOAL SETTING

CATEGORY
Diet, Physical Activity, and Obesity

COLLABORATORS
Bess H. Marcus, Britta Larsen

ABSTRACT
Background: Goal setting and identifying barriers are important components of physical activity interventions. Latina women report less physical activity and more barriers than non-Latina White women. In order to design effective interventions, it is important to understand the goals Latinas set and the barriers they anticipate, and the types of goals, barriers and solutions associated with success.

Objectives: To understand physical activity goals, barriers and solutions among Latinas, and to analyze how these predict meeting goals one month later.

Methods: Women engaged in a baseline goal-setting session, where they planned activity and solutions for potential barriers. One month later they received phone call to check whether they were meeting their goals.

Setting and Subjects: Participants were Latinas aged 18-65 assigned to the intervention arm of the Pasos Hacia La Salud study who were generally healthy and lacking chronic conditions.

Results:103 women completed goal setting sessions. The most common activity planned was walking (80.2%) with the most common barrier anticipated being lack of time (31.6%). One-month data were available for 34 participants, 22 of whom reported meeting their goal. Participants met their goal 76% of the time when their exercise was outdoors and walkable with 50% meeting their goal in all other location categories. Those who did and did not meet their goals after one month did not differ in the number of minutes of activity they planned to do (105.5 vs. 105.8, respectively, p=0.99). Those reporting a physical barrier as their main barrier had the lowest rate of meeting goals (40%) while those with family obligations had the highest (100%). Among those meeting goals at one month, the most common solution to barriers was having detailed backup plans, while those not meeting goals most often relied on time management strategies

Conclusions: Similar to non-Latina White women, Latinas most often anticipated lack of time preventing them from exercising. Women appear to have the greatest success when they plan to do activities that are outdoors near their home and have detailed backup plans for facing barriers.

50. EMILY ROMERO

FACTORS INFLUENCING PREGNANCY INTENTIONS AND CONTRACEPTIVE USE
AMONG ADOLESCENT GIRLS IN SAN DIEGO COUNTY: A QUALITATIVE
EXPLORATION

CATEGORY
Reproductive Health

COLLABORATORS
Sara Kidman, Marissa Salazar, Anita Raj, Elizabeth Reed

ABSTRACT

Background: Adolescent motherhood increases neonatal health risks, including prematurity and low birth weight. Hispanics are disproportionately represented among adolescent mothers; 57% of US Hispanic adolescent births occur at the US-Mexico border. However, little is known regarding girls' perceptions of pregnancy and contraceptive use among adolescent girls in this border region.

Objective: This study examines factors that influence adolescent girls' perceptions of the costs and benefits of adolescent pregnancy and contraceptive use in the US-Mexico border region.

Methods: Sexually active girls aged 15-19 were recruited from a health clinic in San Diego near the US-Mexico border. Participants (n=137) completed a survey that explored pregnancy intentions, sexual health, and relationships with male partners. A subset of participants (n=23) were invited to complete interviews which explored contraceptive use, discussions with parents about sex, and discussions with male partners about contraceptives and pregnancy. Descriptive statistics were generated for survey variables and interviews were analyzed for themes related to pregnancy intentions and contraception.

Results: Survey participants were majority Latina (76%), and 50% were in a relationship. Condoms were the most reported contraception used (46%); 37% used long term contraception (e.g. implant, IUD, or Depo shot); 16% used Plan B; 5% used withdrawal, and 12% didn't use contraception. Interview participants reported wanting to delay pregnancy in order to achieve their educational, financial, and career goals. Emergent themes highlighted the barriers to delayed pregnancy: 1) parents' not wanting their adolescent girls to use contraceptives 2) girls' intimate partners wanting them to become pregnant and 3) inconsistent contraceptive use.

Conclusion: The current study highlights that most adolescent girls from this population wish to avoid pregnancy, but many do not effectively use contraception, due at least in part to pressures from parents and partners. Findings suggest that interventions to prevent adolescent pregnancy may need to address these barriers interfering with girls' pregnancy intent.

51. ALEXANDRA ROONEY

SOCIAL ISOLATION AND AFFECT IN OLDER ADULTS LIVING WITH HIV: NEW INSIGHTS USING MOBILE TECHNOLOGY

CATEGORY
Health Technology
Infectious Disease

COLLABORATORS
Christopher Kaufmann, Brent Mausbach, Bin Tang, Colin Depp, Anne Heaton, Jeremy Delgadillo, Florin Vaida, Sheena Dev, David Moore, Raeanne Moore

ABSTRACT
Background: Older adults with HIV are more likely to live alone than those without HIV, which puts them at risk for loneliness and social isolation. Social isolation is a major and prevalent health problem and often under-assessed in this population. Repeated sampling of daily experiences in a naturalistic setting, known as ecological momentary assessment (EMA), offers a potentially useful method to examine social state in relation to other health-related factors.

Methods: We examined the relationship between social interactions with affect and physical symptoms in a sample of older HIV+ adults. Twenty older adults (Mean (M) age=59; 85% male; 70% Caucasian; M current CD4: 476.21; M duration of HIV: 20.4 years) participated in one week of daily monitoring via smartphones. Participants' provided five real-time reports a day of their social state (alone vs. not alone and social interactions since last report), plus their current affective state (sadness, stress, happiness), tiredness, and pain. HIV disease characteristics were obtained prior to the EMA portion of the study.

Results: Participants spent an average of 63% of their time alone. HIV disease characteristics were unrelated to being alone or number of social interactions. Mixed-effects models showed being alone was related to lower concurrent happiness (Wald F=10.22, p<0.01); however, it was unrelated to the other concurrent states. The average number of social interactions was unrelated to affect, tiredness, or pain. Within-day time-lagged analyses were conducted with alone vs. not alone at one time point predicting affect and physical symptoms at the next time point. Lagged analyses found participants felt more pain (coef=0.027, p=0.02), were more tired (coef =0.17, p<0.001) but had less stress (coef=-0.05, p<0.001) over the course of the day. Increases in social activity predicted greater increases in tiredness.

Conclusion: Participants experienced greater happiness when spending time with others as compared to being alone, they also became more tired and had increasing pain over the day. Clinical interventions that promote social engagement, may positively impact well-being in this growing population.

52. TANJA SCHMIDT

MOVE THE NEIGHBORHOOD: A COMMUNITY-BASED PARTICIPATORY NEIGHBORHOOD OPEN SPACE INTERVENTION TO PROMOTE ACTIVE LIVING IN OLDER ADULTS

CATEGORY
Diet, Physical Activity, and Obesity
Built Environment

COLLABORATORS
Sidse Carrol, Jacqueline Kerr, Jasper Schipperijn, Charlotte Pawlowski

ABSTRACT
Background: Traditionally, new developments like neighborhoods have been built by first, thinking about the buildings you want to build, then the spaces around those buildings, and then perhaps life. This has led to neighborhoods that are not built for active lifestyles – especially not for seniors. Additionally, a limited amount of research has examined the effect of changing neighborhood open spaces (NOS) on active living in seniors.

Objective: This paper will present the study protocol of an intervention study, designed in an interdisciplinary collaboration between health scientists and architects, that built on principles of Community-Based Participatory Research to develop urban installations tailored to promote active living among older adults (age 60+).

Method: The study builds on a quasi-experimental study design including quantitative and qualitative pre- and post-intervention measurements. The intervention will be developed, designed and implemented in collaboration with architects and local seniors, using different co-design tools. Measurements are further being used to evaluate the effects of the intervention on seniors´ use of the new-built urban installations using accelerometers, GPS, VERITAS (interactive online map-based interview method) and the System for Observing Play and Recreation in Communities. A process evaluation with focus groups consisting of the various stakeholders and seniors involved in the intervention will be used to gain knowledge on the intervention processes.

Discussion: This study proposed an intervention design opposite from the traditional mentioned earlier, by focusing on first; what kind of life do older adults want to live, what kind of spaces do we need to create for this life, and how can building urban installations be supportive of these life's within spaces? Presenting new approaches in the field of NOS interventions by using participatory co-design methods to tailor changes to local needs and wishes, through interdisciplinary collaboration and a combination of several measurements, these results can be used to guide future urban renewal projects focusing on older adults in deprived neighborhoods.

53. Hanjie Shen

Segmentation of Liver Tumors from CT Scans

Category
Biostatistics and Bioinformatics

Collaborators
Armin Schwartzman

Abstract
In this project, we apply statistical image analysis methodology to automatically segment and assess liver tumors from CT scans in coordination with to the Liver Imaging Reporting and Data System (LI-RADS) developed at UCSD. In particular, a novel aspect of our proposed approach is to view the data at each pixel as a four-dimensional vector representing its measurements at the four imaging phases non-contrast, hepatic arterial, portal venous and delayed. At the beginning, we apply Gaussian smoothing techniques to increase signal-to-noise ratio and improve classification performance. Further, based on smoothed data, we obtain soft and hard classification results from multivariate Gaussian Mixture Model and K-means algorithm, which produce accurate tumor segmentation when comparing with original images and labels.

54. ALEXANDRA SOTO

RECRUITMENT METHODS OF PRIMARY CARE-DELIVERED, PHYSICAL ACTIVITY INTERVENTION FOR LATINAS WITH TYPE 2 DIABETES

CATEGORY
Diet, Physical Activity, and Obesity
Dissemination and Implementation

COLLABORATORS
Alexandra Soto, Britta Larsen, Skylar Rains

ABSTRACT

Background: Past successful interventions that increased moderately physical activity in healthy, community-based samples of Latinas have used diverse passive methods of recruitment. Further exploration is needed to find effective methods of recruitment in which clinical staff have an active roll in recruitment/referral in collaboration with research staff. This could potentially lead to a greater number of participants willing to engage in an intervention.

Study Objectives: Purpose of this study was to compare the effectiveness of different methods of recruitment in clinics for the study 'Camino a la Salud.'

Setting/Subjects: Latinas with Diabetes Mellitus type 2 ages 18-70, receiving primary care through 4 different clinics in the UCSD Healthcare System.

Methods/Design: Four different methods were used. First method, in-person consisted of a research assistant (RA) who looked through a schedule of all physicians in EPIC for each clinic, and messaged each potential participant's physician. An RA was on-site to speak with the patient after the end of the primary care visit and screen for eligibility. For the second method of recruitment, physician referral, no RA was present on-site to talk to the patient after the visit but instead physician obtained verbal consent from patient to have an RA contact her and screen by phone. Third method of recruitment consisted letters sent to their personal address. Fourth method, flyers and pocket cards placed in the clinic reception area.

Results: There were a total of 98 potential participants identified and 87 of those were screened; 39% of all patients screened were eligible, 49% ineligible, 12% eligible but not interested. Out of the 19 participants currently enrolled in the study, 17 have been screened in person, 1 through physician referral, and 1 through flyer.

Conclusion: This clinic-based intervention used innovative methods of recruitment for a physical activity intervention. This required collaboration among clinical and research staff and has shed a light in the advantages/challenges of actively recruiting using different methods for further behavioral interventions.

55. JOSE RICARDO SUAREZ-LOPEZ

THE ASSOCIATION BETWEEN ACETYLCHOLINESTERASE ACTIVITY AND AGE IN CHILDREN

CATEGORY
Environmental Health
Global Health

COLLABORATORS
Devesh Vashishtha

ABSTRACT

Background: Children living in agricultural areas worldwide are often exposed to organophosphate pesticides. Despite the well-understood health effects of organophosphate pesticide exposure in children, there are no clear standards for AChE levels in children. The objective of this study was to understand the association between age and AChE levels in children.

Methods: Children aged 4-to-9 years residing in the agricultural county of Pedro Moncayo, Pichincha, Ecuador were examined in 2008 as part of the Secondary Exposure to Pesticides Among Children and Adolescents (ESPINA) study (n=313). Children in the study did not work in agriculture. We measured erythrocytic AChE activity and hemoglobin from a finger stick blood sample. Z-scores for anthropometric measures were based on World Health Organization standards. We excluded children who lived with a agricultural worker or lived within 185 meters of a flower plantation because of their greater risk of exposure to cholinesterase inhibitor pesticides. A total of 123 participants were included in the present analyses.

Findings: 54% of participants were male, with a mean (sd) age of 6.80 (1.58) years and AChE of 3.23 (0.46) U/mL. In multivariable linear regression, each one-year increase in age was independently associated with an increase in AChE of 0.07 U/mL (95% CI: 0.025 to 0.111, $p < 0.01$), after adjustment for gender, race, height-for-age and BMI-for-age z-scores, and hemoglobin. There was no interaction by gender in this association ($p = 0.74$).

Discussion: We observed a linear relationship between age and AChE levels among children living in agricultural communities but who did not have any direct contact with pesticides either from work, cohabitation with agricultural workers or living in proximity to crops. Our findings may provide a basis for determining age-based standards of AChE levels in children and provide important public health implications regarding pesticide exposure screening in children.

56. MICHELLE TAKEMOTO

DEVELOPING A PROCESS EVALUATION TO EXPLORE THE IMPLEMENTATION OF A PEER-LED COMMUNITY-BASED PHYSICAL ACTIVITY PROGRAM FOR SENIORS

CATEGORY
Dissemination and Implementation
Diet, Physical Activity, and Obesity

COLLABORATORS
Khalisa Bolling, Gregory Aarons, Porchia Rich, Brittany Lewars, Eileen Johnson, Kelsie Full, Katie Crist, Jacqueline Kerr

ABSTRACT

Background: Less than 3% of older adults meet physical activity (PA) guidelines. There is a dearth of research on implementation of PA interventions into real world settings. Few PA interventions in community settings are designed for long-term sustainment.

Objective: We employed mixed-methods to evaluate concepts across the exploration, preparation, implementation, sustainment (EPIS) framework including perceived and actual fit of a 2 year Peer Empowerment Program for PA (PEP4PA).

Methods: PEP4PA is a hybrid type 2 effectiveness-implementation randomized control trial designed to promote & assess delivery and sustainment of a peer-led multi-level PA program in senior centers. Peer health coaches and a center staff member complete a 16-hour training course and certification to lead the program and build a sustainment plan. At baseline, participants, peer health coaches, center staff, and directors complete a perceived fit survey and semi-structured interview evaluating implementation outcomes of relevance, compatibility, and acceptability of PEP4PA in community-based senior centers. Measures assess levels of the program (e.g. coaching, community advocacy) and levels of support (e.g., peer coach, organization, local policy). PEP4PA intervention fidelity is assessed continually through an online tablet. Assessments are repeated every 6 months, to assess the dynamic, changing fit of the intervention and progress towards sustainment.

Results: Results demonstrate how interviews and surveys have been used to modify the peer & staff training to improve program fit, promote successful implementation, and actively address sustainment.

Implications: Continuously evaluating program fit throughout the course of an intervention and modifying delivery as needed ensures that the program is acceptable and appropriate within the setting thereby increasing the likelihood of sustainment. Given the impending population shift expected in 2030 when the number of older adults is expected to double, it is imperative that PA programs are designed to build capacity within communities to promote long-term sustainment.

57.Anupriya Tripathi

Atherosclerosis, sleep apnea and obesity: evidence of a microbiome connection

Category
Chronic Disease
Diet, Physical Activity, and Obesity

Collaborators
Michael Meehan, Jin Xue, Dan Zhou, Orit Poulsen, Gregory Humphrey, Jon Sanders, Gabriel Haddad, Pieter Dorrestein, Rob Knight

Abstract
Background: Cardiovascular diseases are the leading cause of mortality in the United States, causing more deaths than all forms of cancer combined. The most common form is characterized by a buildup of atherosclerotic plaques in coronary arteries, claiming nearly 380,000 lives annually. Obesity and sleep apnea, leading to oxidative and metabolic stresses, are strongly associated with increasing risk of atherosclerosis. However, the interplay between these conditions and the molecular events leading to the development of fatal coronary plaques remain elusive. As gut microbiome plays a vital role in the metabolism of cholesterol and fat in host diet, we used an atherosclerosis mouse model for investigating the role of these commensals in the accumulation of cholesterol plaques in arteries.

Experimental Design: It was previously shown in mice that simulated hypoxia in the presence of high-fat diet induces atherosclerosis. We used C57BL/6 mice with low-density lipoprotein receptor (LDLR) knock-out as our rodent model. These mice were either kept in well-aerated cages (normoxia) or in chambers with intermittently low oxygen levels (hypoxia) to simulate sleep apnea. Fecal samples from control and treatment groups were compared using 16S sequencing, shotgun sequencing, and untargeted metabolomics to understand the impact of sleep apnea on gut health.

Discussion: Using multi-omics-based approaches, we identified candidate gut bacteria, specific pathways and their molecular products that potentially play a role in atherosclerosis phenotype in mice. This knowledge opens up avenues to design microbiome-based interventions to treat coronary artery disease. Additionally, these findings strongly suggest that studying gut microbiome may provide missing links in understanding the origins of other metabolic and cardiovascular diseases.

58. IGOR TSIGELNY

STUDY OF C1Q-C1S INTERACTION FOR ELUCIDATION OF POSSIBLE POINTS FOR PHARMACOPHORE-BASED DRUG DESIGN

CATEGORY
Biostatistics and Bioinformatics
Infectious Disease

COLLABORATORS
Seth Darensburg, Valentina Kouznetsova

ABSTRACT
Background: C1q is a subcomponent of the larger C1 complex. C1q is composed of eighteen polypeptide chains, six chains for each of three subunits: C1qA, C1qB, and C1qC. Each C1q chain has an N terminus—collagen-like stalk domain and a C terminus—a globular head domain. It helps with the activation of the classical pathway of complement in the C1 complex. C1q also deals with antibody-dependent and -independent immune functions that are mediated by C1q receptors. Different receptors exist for the globular head domain and the collagen-like stalk domain, C1r and C1s, correspondingly. These receptors can trigger or enhance various cellular responses.

Objectives: Elucidation of molecular mechanisms of C1q complex formation and its interaction with other proteins. The results can be useful in development of means to control a function of complement system.

Methods and Results: We studied interactions between the collagen-like peptide of C1q and a complement C1s subcomponent heavy chain. For further analysis, we selected a crystal structure of a protein complex including C1q and C1s subcomponent (PDB ID 4lor). At the interface site, we elucidated the interface residues involved in the interaction of C1q and C1s and selected the atoms for the pharmacophore centers. On the base of this analysis we created pharmacophore models with four pharmacophore centers (two hydrophobic and two donor/cationic), using MOE program (CCG, Montreal) and its Pharmacophore Editor. Then we provided pharmacophore virtual screening of 3D-structure Open NCI Database containing approximately 265 000 compounds with MOE Pharmacophore Search module. Twenty-four compounds were selected. They were analyzed for Lipinski rules, efficacy, toxicity, and synthetic feasibility.

Conclusion: Affecting with small molecules found aforementioned proteins interactions may be important for control of the complement system involved in interactions with viruses.

59. ANIKA ULLAH

IMMIGRANT HEALTH PROJECT SAN DIEGO: INTERDISCIPLINARY PERSPECTIVES (IHPSD)

CATEGORY
Immigrant Health
Stakeholder and Community Engagement

COLLABORATORS
Kevin Patricio, Megan Chang, Nina Escueta, Javier Ambrosio, Tokio Shimamura, Saakib Akbany

ABSTRACT
IHPSD is an undergraduate run multidisciplinary narrative-centric research project that aims to explore and portray the realities of health related experiences for immigrant populations in the greater San Diego area to promote cohesive community activism and undergraduate activism. Photography, film, audio-visual data, written articles, and data visualizations will be used to narrate these ethnographic stories via an interactive spatial map of San Diego on our project website. The methodology of our project has six core actions: (1) use publicly available socioeconomic data, a review of academic and journal articles, and connections to San Diego community to identify geospatial regions to research for our project, (2) network with UCSD faculty and community to find connections to community-based activism organizations [CBAOs], (3) utilize qualitative interview techniques to engage in dialogue with members of CBAOs to unearth contemporary health-related issues in identified regions, illuminate current work that is being done to alleviate such issues, and highlight the needs of CBAOs for successful operation (4) base leads from CBAOs to engage in dialogue and gather audio-visual data of community spaces and ethnographic stories from community members that experience aforementioned health-related issues, (5) portray aggregated audio-visual data on an interactive spatial map of San Diego on our website in conjunction with organization-specific modes of action in order to make these experiences more accessible for the viewer and foster student activism, (6) provide a multilingual spatial map that may serve as a resource for immigrants and CBAOs by encouraging awareness of shared experiences and opportunities for activism driven collaboration. Our website will be available for the general public to discover the multifaceted health related issues pertinent to San Diego's immigrant communities, create a conduit for student and community activist involvement with such issues, and serve as a resource for immigrants to connect with existing organizations that work to provide aid to alleviate these issues, in the hopes of advancing San Diego immigrant health.

60. ANYA UMLAUF

POWER CONSIDERATIONS FOR CROSSOVER AND PARALLEL DESIGN STUDIES ON EFFECTS OF CANNABIS ON DRIVING IN HEALTHY ADULTS

CATEGORY
Biostatistics and Bioinformatics

COLLABORATORS
Barth Wilsey, Thomas Marcotte, Florin Vaida

ABSTRACT
Background: As more states legalize medical or recreational cannabis use, research is needed to evaluate the effects of cannabis on driving performance. Designing such a study poses significant statistical challenges.

Study Objectives: Compare statistical power (1) between a parallel-arms (PA) and a crossover design with same number of participant visits and (2) between the longitudinal mixed-effects model (MEM) and the summary change score (SCS) analysis to detect intervention effects.

Setting/Subjects: A double-blind cannabis and driving study organized by the Center for Medicinal Cannabis Research at UCSD, and funded by the California Legislature (Assembly Bill 266, the Medical Marijuana Regulation and Safety Act) will assign healthy adults to one of three treatments: 0% (placebo), 5.9%, or 13.4% Δ9-tetrahydrocannabinol (THC) smoked cannabis. The participants' performance on a driving simulator, as well as Δ9-THC concentrations in bodily fluids (blood, saliva, and breath) will be measured prior to THC administration (baseline) and at four time points, 1-5 hours later.

Methods: Power calculations were performed under two design assumptions, PA and a crossover design, for testing a hypothesis that changes in outcomes from baseline to post-smoking differ between doses. A power simulation was conducted under PA to compare MEM approach to one using SCS within subjects, i.e., area under the curve for the change from baseline.

Results: A PA study with n participants per arm (total=3n) has the same power as a crossover study involving 3 visits with n participants. With n=60 per arm, the study has 80% power to detect Cohen's d=0.33 under MEM, but d=0.52 under SCS.

Conclusions: In this setting, subjects serve as their own control in both designs as each visit consists of a baseline measurement and follow-up measurements, with the outcome under each experimental condition being the change from baseline. Thus, the crossover design has no clear advantages, and important practical disadvantage (e.g., learning effects), compared to the PA design. The power of the study depends on the within-subject variation, but not on the between-subject variation in the outcome.

61. VENUS VALIZADEH

BONE HEEL DENSITOMETRY AS QUICK SCREENING TOOL FOR OSTEOPOROSIS IN VARIOUS ASIAN AND IMMIGRANT GROUPS IN SAN DIEGO

CATEGORY
Chronic Disease

COLLABORATORS
Binh Tran, Kayla Giang , Brookie Best , Robert Gish, Sarah McBane

ABSTRACT
Background: Osteoporosis is a disease in which bones become brittle and fragile due to low bone mass and bone tissue loss. It is the most common type of bone disease, according to the National Institutes of Health, and increases risk of fractures, particularly of the hips, spine, and wrists. While anyone can develop osteoporosis, Asian and Caucasian women and men are at higher risk. Factors including genetics, bone mineral density, differences in body size, calcium intake, physical activity and hormonal status have been identified to explain the risk variation among different ethnic groups.

Objectives: To determine whether osteoporosis prevalence varies among Asian and immigrant groups in San Diego County. To differentiate risk factors predisposing subjects to osteoporosis from various populations.

Methods: A cross sectional study conducted at health fairs sponsored by Asian Pacific Health Foundation between May- September 2016.

Population: Asian and immigrant groups in San Diego County

Data Collected: Heel Bone Mass Density (Z-score) was measured using a portable GE Achilles bone densitometer.

Statistical Analysis: RStudio

Discussion: Bivariate analysis: There are no significant differences in z-scores among different ethnicities. Age, Gender, BMI, Smoking and Regular exercise were not significantly associated with Z-score.

Multivariate analysis:After controlling for age, gender, alcohol consumption and use of bone health medication, no significant association between Z-score and ethnicity was found (P >0.05).

After controlling for the other variables, interestingly, Z-score of those who did not consume alcohol was found to be significantly lower than those who consume alcohol, and this contrary result may have been due to the small number of individuals who reported alcohol consumption. Z-score of those who use bone health medication was significantly lower than those who did not use medication, which may suggest that these populations initiate preventative care when already at risk of having osteoporosis. Health fair outreaches are helpful tools in educating high risk populations regarding preventive care.

62. DEVESH VASHISHTHA

THE RELATIONSHIP BETWEEN HEAT WAVES AND KIDNEY DISEASE IN THE OUTPATIENT SETTING

CATEGORY
Environmental Health
Chronic Disease

COLLABORATORS
Brittany Hailey, Kristen Guirguis, Wael Al-Delaimy, Alexander Gershunov

ABSTRACT

Background: Climate change is known to be increasing the frequency and intensity of heat waves. Heat waves have been linked to a number of adverse health outcomes in the acute setting, including renal diagnoses due to dehydration. However, little is known about how heat waves affect chronic or sub-acute kidney diseases in the outpatient setting.

Methods: We analyzed eight years of outpatient family medicine clinic data (2008-2016) from 67,000 individuals. We linked this information to aggregated climate data on heat waves in San Diego County. For each of ten heat waves from 2008-2016, we selected two control periods, the first being two weeks before the heat wave and the second being two weeks after. The day of visit (heat wave versus control day) was the primary predictor, and the diagnosis of ICD codes 580-589 for nephritis, nephrotic syndrome, and nephrosis was the primary outcome.

Findings: In logistic regression adjusted for age and gender, the heat wave period was associated with a 24% increased odds of visits for ICD codes 580-589 ($\beta = 1.24$, $p<0.01$). In the multivariable model adjusted for age, gender, race, marital status, climate zone and frequency of visits per person, the heat wave period was associated with a 21% increased odds of visits for ICD codes 580-589 ($\beta = 1.21$, $p<0.01$).

Discussion: Our results suggest that in a large, demographically diverse population, heat waves are associated with higher numbers of outpatient visits for renal diagnoses ICD 580-589. Moreover, there are noticeable disparities by age, gender, race, marital status and climate zone. These results contribute novel findings to the existing literature on heat and kidney disease and suggest opportunities for intervening in vulnerable populations.

63. Daniela G. Vital

Acute glucoregulatory and vascular outcomes of three strategies for interrupting prolonged sitting time in postmenopausal women: A laboratory-based pilot study

Category
Diet, Physical Activity, and Obesity

Collaborators
Jacqueline Kerr, Katie Crist, Lindsay Dillon, Suneeta Godbole, Matthew A. Allison, Simon Schenk, David Dunstan, Loki Natarajan, Andrea Z. LaCroix, Dorothy D. Sears

Abstract
Background: Prolonged sitting increases with age and is associated with age-related, cardiometabolic disease. Despite emerging evidence that interrupting sitting time is beneficial, laboratory studies on the acute effects of practical interruptions of sitting time are lacking in postmenopausal women. Objective: In a 4-condition, 4-period crossover study we tested the acute glucoregulatory and vascular effects of 3 different sitting interruption modalities compared to a prolonged sitting control condition in postmenopausal women.
Methods: Ten overweight/obese (BMI 25-45 kg/m2), postmenopausal women who self-reported ≥6 hr sitting time per day were enrolled. The 5hr-sitting interruption modalities included: a) 2 min standing every 20 min; b) 2 min walking every hour; and c) 10 min standing every hour. During each condition, participants consumed 2 identical meals, meal 1 (M1) at 0hr and meal 2 (M2) at 3hrs. Blood samples, blood pressure, and heart rate were collected and measured every 30 min. Endothelial function of the superficial femoral artery was measured at the baseline and end of each condition using flow mediated dilation (FMD).
Results: The average postprandial glucose concentration for every condition except the control across the post-M2 period was significantly lower than across the post-M1 period.The average insulin concentration was significantly higher across the post-M2 period than across the post-M1 period in the control condition. Whereas, the insulin concentration was significantly lower in the post-M2 period than in the post-M1 period for the 2-min standing every 20 min condition. The end-of-condition FMD response was significantly improved compared to baseline after the 10-min standing every hour condition but not significantly changed after the other conditions.
Conclusions: Our results suggest that brief interruptions in sitting have modality-specific glucoregulatory and vascular benefits. Larger laboratory and real-world intervention studies of pragmatic and effective methods are needed to define beneficial aspects of changing sitting habits.

64. ARVIN WALI

ANALYZING COST EFFECTIVENESS OF OBERLIN NERVE TRANSFER TO RESTORE ELBOW FLEXION AND IMPROVE QUALITY OF LIFE AFTER UPPER BRACHIAL PLEXUS INJURY

CATEGORY
Occupational Health
Health Services

COLLABORATORS
Charlie Park, Madhawi Mitwalli, Abdulwahab Shararah, Justin Brown, Ross Mandeville

ABSTRACT

Background: Loss of elbow flexion secondary to upper brachial plexus injury (BPI) is a complication associated with motor vehicle accidents (MVA) most commonly affecting males with a median age of 24-29. Loss of elbow flexion leads to disability and dramatic reduction in quality of life (QOL) over a patient's remaining lifespan – and places significant financial burdens on individuals and society. Peripheral nerve transfers to regain elbow flexion, the "Oberlin nerve transfer", is a surgical option of proven clinical benefit for patients.

Objective: Prior studies have assessed the comparative effectiveness of the ulnar and/or median nerve transfer for upper BPI; yet no prior study has examined the cost-effectiveness of this surgery to improve quality of age-adjusted life years (QALY) and the potential to restore income through treating disability. We aim to address this notable public health problem affecting young males at the inception of their working life by presenting a cost-effectiveness model of the Oberlin nerve transfer to restore elbow flexion for an adult population with upper BPI.

Methods: Using a Markov model, we simulated nerve transfer and conservative measures in terms of neurologic recovery and improvements in QOL for patients with upper BPI. Transition probabilities were collected from existing literature assessing the surgical efficacy of ulnar and median nerve transfers, complication rates associated with comparable surgical interventions, and the natural history of conservative measures. Incremental cost-effectiveness ratios (ICERs), defined as cost in dollars per QALY gained, were calculated.

Results: Oberlin nerve transfer, with an estimated cost of $5066.19, improved effectiveness by 0.79 QALY over a lifetime compared with conservative management. Factoring in the loss of income as indirect cost, surgical treatment had an ICER of negative $96,755.42/QALY gained, indicating a substantial overall lifetime cost saving due to increased probability of returning to work.

Implications: Oberlin nerve transfer is a highly cost-effective strategy for restoring elbow flexion function and improving quality of life for patients with upper BPI.

65. DAVID WANG

GENETIC NETWORKS ANALYSIS ELUCIDATE GENES IMPORTANT IN DEVELOPMENT OF ALZHEIMER'S DISEASE

CATEGORY
Biostatistics and Bioinformatics
Mental Health

COLLABORATORS
Valentina Kouznetsova, Igor Tsigelny

ABSTRACT
Background: Alzheimer's disease (AD) is an irreversible, neurodegenerative disorder and the leading form of dementia, accounting for 60–80% of cases. Key markers of the disease involve not only buildup of amyloid-beta plaques, but also excessive phosphorylation of tau protein forming tangles in the brain.

Objectives: Elucidate the gene networks responsible for development of AD.

Methods: First, we performed a literature search for genes, downloaded the table of genes with relation to AD from the ClinVar database. We analyzed a time-series, Affymetrix microarray (GSE9990) that gauged changes in expression with regard to cognitive decline in Rattus Norvegicus. Then we processed all 15,923 entries from the microarray with Tigr MeV Significance Analysis, which executed a Kruskal–Wallis test. After that, we created coherent-gene modules with VisANT program. Last, we analyzed these results with Ingenuity Pathway Analysis (IPA) program.

Results: We obtained coherent gene-modules maps that elucidated the significant roles of MAPK and MAPT (TAU) in AD development; moreover, they also detail pathways that include the CLU gene, which has recently been identified as a key effector of AD. Our results not only reinforce previous findings, but also illustrate and link the exact interactions between different genetic players in AD. For example, after processing data into a module based layout, VisANT returned links shared between RAS, a member of the MAPK pathway; BIN1, which is involved in the endocytosis of tau protein; CLU, which can regulate amyloid-beta endocytosis; and MAPT through genes such as GRB2, and APP.

Conclusion: This information will help advance understanding regarding Alzheimer's genetic mechanism and thus will contribute to the fight against the disease, in particular in personalized medicine.

66. AMANDA WILSON

SAFE MOBILITY FOR ALL: USING UNIVERSAL DESIGN TO CREATE AGE AND ABILITY FRIENDLY COMMUNITIES

CATEGORY
Diet, Physical Activity, and Obesity
Health Policy

COLLABORATORS
Chad Spoon, Carmen Cutter, James Sallis, Lisa Cirill

ABSTRACT
Background: Mobility is broadly defined as the ability to move oneself (e.g., by walking, by using assistive devices, or by using transportation) within community environments that expand from one's home, to the neighborhood, and to regions beyond. Mobility is fundamental to active aging and is intimately linked to health status and quality of life. (Webber et al., 2010). It delays the onset of disabilities and postpones frailty, thereby contributing to subjective well-being and life satisfaction (Mollenkopf, 2003).

Project Description: The purpose of this project was to develop a guide to encourage local jurisdictions to include universal design and older adult mobility language in community planning documents. Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. It can apply to anything that can be designed, including architecture and the built environment, which encompasses public spaces, commercial buildings, residential buildings, and family homes. Universal Design can assist older adults to age in place by designing products and spaces that are safer and easier for them to use. Universal Design can also be applied to the community at large through urban planning and public transportation (UniversalDesign.com, 2014).

Conclusion and Implications: When isolated from community services and social possibilities, care for older adults and people with disabilities becomes difficult and expensive. Developing communities that connect people to places through multiple transportation options will increase quality of life for older adults and people with disabilities as well as their caregivers and families (ASTHO, 2015). Therefore, a high level of safe and unimpaired mobility should be an important planning goal, especially in preparing for the demographic changes that are expected (Kaiser, 2009). To meet the housing demands of our aging population, it will be necessary to adapt our communities for aging populations with a range of services that offer a balance of the right environment, social and economic fit. (Salomon, 2010).

67. DAVID WING

VALIDATING MEASURES OF PHYSICAL ACTIVITY AND SLEEP IN CHILDREN FROM A
CONSUMER-LEVEL WEARABLE DEVICE

CATEGORY
Health Technology
Biostatistics and Bioinformatics

COLLABORATORS
Job Godino, Massimiliano de Zambotti, Sarah Inkelis, Michael Higgens, Ty Brumback, Jeanne Nichols, Fiona Baker, Ian Colrain, Kevin Patrick, Susan Tapert,

ABSTRACT
Background: Recent advances in microtechnology, data processing, wireless communication, and battery capacity have resulted in the proliferation of low-cost, non-invasive wearable devices that can be used to measure multiple health-related signals in a free-living environment. One such device is the Fitbit Charge HR, a popular wrist-worn device, the validity of which has not been assessed in children.
Objective: To determine the validity of the Fitbit Charge HR's measures of step count, heart rate, energy expenditure, intensity classification, and multiple sleep-related metrics in children.
Methods: 59 healthy boys and girls aged 9-11 years underwent a series of laboratory and field tests (e.g., seated play, cycling, treadmill walking, outside walking, agility drills, sleep at home, etc.) while being measured with a Fitbit Charge HR and "gold standard" research-grade equipment. The limits of agreement between the two measurement approaches were calculated as the mean of the differences +1.96 times the standard deviation of the differences. Presentation of the limits of agreement in a Bland-Altman plot was used for judgment of how well the methods of measurement agree.
Results: On average and throughout all tests, the Fitbit Charge HR underestimated step count by 10.67 steps with 1 participant falling outside the agreement limits (upper: 23.27, lower: -1.93). The device also underestimated heart rate by 4.38 beats per minute with 4 participants falling outside the agreement limits (upper: 19.26, lower: 10.49). Depending on the test, the Fitbit Charge HR both overestimated and underestimated energy expenditure in kcal. Largest overestimation was during a downhill walk (mean: -1.87, upper limit: -0.22, lower limit: -3.53) and largest underestimation was while cycling (mean: 1.42, upper limit: 3.28, lower limit: -0.44). Additional metrics have been examined and will be reported.
Implications: The Fitbit Charge HR provides reasonably accurate measurements of physical activity and sleep in children. Techno-attractive consumer-level wearables may enable the continuous measurement of health-related signals in large epidemiological studies of children.

68.JINGYUANXIAO

PROVIDING THE BEST CARE POSSIBLE: CLINICAL USE OF THE PDQ WITH INDIVIDUALS DIAGNOSED WITH CANCER

CATEGORY
Integrative Health

COLLABORATORS
Emily A. Meier, Jeanean B. Naqvi, Cindy Campos, Lori P. Montross-Thomas

ABSTRACT
Background: Acknowledging personhood and providing person-centered care for patients are essential to the provision of effective palliative care. The evidence-based Patient Dignity Question (PDQ), "What do I need to know about you as a person to give you the best care possible?" was used as a simple means of inquiring about the most important aspects of patients' lives to help healthcare professionals better understand the patient as a person.
Objectives: As part of a general quality improvement project, the UCSD Moores Cancer Center's Patient & Family Support Services began a clinical practice in which new patients were asked the PDQ when completing their psychological intake assessment. This study aims to identify the most common responses given by cancer patients when asked the PDQ.
Methods: Patients with cancer entering psychotherapy were asked to respond to the PDQ via open-ended questioning. Utilizing the grounded theory qualitative analysis, a team of two coders and the primary investigator developed a coding matrix and analyzed each PDQ response independently.
Settings and Subjects: Participants were cancer patients who were referred for psychotherapy to the Patient & Family Support Services within the past year. The study consisted of 67 participants (68.2% female, 31.8%male), with the average age of 52 years (SD=14.14; range=20-81).
Results: When sharing what was most important about them as people, patients in this study commonly described their personal characteristics such as being compassionate, sensitive, honest, and independent. Patients also explained being fearful, reluctant, and concerned about their body during their cancer treatment process.Eventually, patients seeking psychotherapy were hoping to achieve better physical health, emotional stability, and honest communication.
Conclusions: This analysis of PDQ responses help health practitioners understand more about the themes that are most important to patients. These findings may encourage other clinicians to adopt such practices and to provide the PDQ for their cancer patients. Ultimately, the use of the PDQ may improve the overall quality of patient care in clinical settings.

69. JANE XIE

UC SAN DIEGO: A DYNAMIC TRAINING GROUND FOR PUBLIC HEALTH PROFESSIONALS

CATEGORY
Overview of Public Health at UC San Diego and IPH

COLLABORATORS
Michael Pratt, Sharon Thompson

ABSTRACT
Background: What is Public Health? Per the American Public Health Association, "Public health promotes and protects the health of people' and their communities. The base for Public Health education and training on Campus is the Department of Family Medicine and Public Health (FMPH), which strives to improve the health of individuals and populations. FMPH faculty and students are supported by the Institute for Public Health (IPH), sponsor of Public Health Research Day and other educational, research and outreach activities.
Description: This poster provides an overview of the public health field, and detailed descriptions of UC San Diego Public Health offerings. The FMPH emphasizes the integration of research, education, and clinical care. Its Research focus is evidenced by 63 FMPH Principal Investigators with more than 180 research awards, and seven Divisions and seven Centers of Excellence which unite experts with similar research interests. The FMPH Education mission is advanced by 100+ faculty leading multiple degree programs, and acclaimed Residencies, Internships and Fellowship programs. Finally, outstanding Clinical Care is provided through the UC San Diego health care system, rated as the #1 health care system in San Diego County by the 2016-17 US News and World Report survey.
The UC San Diego Institute for Public Health (IPH) supports education and research, through seminars and events that are open to Faculty, students and the general public. This student centered, research focused, and community engaged Institute specializes in health behaviors, health effects of climate change, and health-related technologies, and funds annual research Pilot Grants in each of these areas.
Conclusions: Public Health is an ambitious profession, promoting the health of individuals and populations, locally and globally. Current trends include emphasis on evidence-based interventions, leveraging technologies, and negotiating changes in health care financing, delivery systems, demographics, and climate. UC San Diego and the IPH are at the forefront of activity in all of these areas. We welcome you to join our dynamic mission of improved health for all!

70. YAFANG XIE

ASSESSMENT OF RISK FACTORS AND BURDEN OF GLUCOSE INTOLERANCE USING HEMOGLOBIN A1C POINT-OF-CARE TEST IN ASIAN POPULATIONS

CATEGORY
Chronic Disease
Health Equity and Disparity

COLLABORATORS

Binh Tran, Sandy Chong, Kayla Giang, Linda Hill

ABSTRACT

Background: Diabetes mellitus is one of the most common chronic diseases worldwide and is projected to become the seventh cause of death by 2030. In United States 29.1 million Americans (9.3%) have diabetes, of which 30% are undiagnosed. By deploying hemoglobin A1c point-of- care test alongside pharmacist-led community education, we aim to improve access to screening and promote early detection and linkage-to-care of diabetes.

Objective: To assess the clinical and socioeconomic risk factors and burdens of glucose intolerance among Asian populations. To evaluate the value and application of point-of-care HbA1C test to screen hard-to-reach communities for glucose intolerance. To examine the impact of pharmacist-directed community screening and education on diabetes prevention and linkage to care.

Methods: This is a cross-sectional study of Asian populations participating at health fairs and community outreach at churches, temples, and other community-based organizations. Pharmacists and student pharmacists performed an on-site screenings with traditional and novel point-of-care (POC) tests, and educated attendees on Diabetes. Participants with high HbA1C and blood pressure results were referred to inter-professional linkage to care.

Results&Conclusion: The general population benefits from immediate on-site counseling following HbA1C and fasting blood glucose point-of-care testing in community settings. Pharmacist and student pharmacist intervention and consultation were effective in significantly raising participant's knowledge and altering the misconception on diabetes mellitus. There is an association between hemoglobin A1C and body mass index. Although it is not statistically significant, data shows that patients who are overweight with BMI of 23 -26.9 were 1.8 times more likely to have diabetes and patients who are obese with BMI greater than 27 were 2.8 times more likely to have diabetes. Early diabetes screening, diagnosis, lifestyle changes, and exercise have the potential to reduce the chance of developing diabetes. Larger sample size is needed to show that the data is statistically significant and the project is still ongoing to collect more data.

71. SELENE XU

VARIATION IN PHYSICAL ACTIVITY ACCUMULATION AND HUMAN HEALTH

CATEGORY
Biostatistics and Bioinformatics

COLLABORATORS
Jacqueline Kerr, Suneeta Godbole, Ruth Patterson, Cheryl Rock, Loki Natarajan

ABSTRACT
Background: Physical inactivity and sedentary behavior are recognized risk factors for many chronic diseases, driving research on levels of physical activity needed to maintain a healthy lifestyle and prevent disease. Accelerometers are wrist- or hip-worn sensors that provide objective measurements of movement based on minute-level acceleration counts, thus providing a rich framework for assessing physical activity patterns. New statistical approaches and computational tools are needed to exploit these densely sampled time series data.

Objectives: Our goal is to apply functional data methods to ascertain temporal activity patterns, and test if these patterns are associated with health. Importantly, because our population includes cancer and non-cancer populations, we can test whether activity patterns differ by cancer status, and moreover, whether associations between physical activity and health outcomes vary by cancer status. Methods We implement a functional principal component mixed model approach to analyze activity patterns in 578 overweight women (60% cancer survivors) and summarize individual patterns with unique personalized principal component scores. We then perform simple linear regression of health outcomes (including insulin, CRP, and quality of life) on activity patterns represented by these scores.

Results: Our model elucidates the most important patterns/modes of variation in physical activities. Preliminary results show that health outcomes including biomarkers and quality of life are strongly associated with the total volume, as well as, temporal variation in activity. In addition, associations between physical activity and health outcomes are not modified by cancer status.

Implications: Our findings suggest that employing a multi-level functional principal component analysis approach can elicit important temporal patterns in physical activity. It further allows us to study the relationship between health outcomes and activity patterns, and thus could be a valuable modeling approach in behavioral research.

PUBLIC HEALTH PRACTICUM

72. KAITLIN CHENG

HANDS FOR HELPINGS: A LESSON EQUIPPING 5TH GRADERS TO IDENTIFY PROPER PORTION SIZES

CATEGORY
Diet, Physical Activity, and Obesity

ABSTRACT
Background: Childhood obesity is on the rise, putting children of young ages at risk for high blood pressure and type 2 diabetes. Concurrently, meal portion sizes have increased rapidly since the 1980s, also when the childhood obesity epidemic began. Though causality has not been established, the link between larger portion sizes and the increase in childhood obesity cannot be ignored. In 2012 in the Chula Vista Elementary School District, 19.8% of 5th grade students were overweight, and 22.2% of 5th graders were obese. At Cook Elementary in Chula Vista, San Diego, lessons on public health and anatomy are prepared to teach to 5th grade students, and will be taught by interns from UCSD and the BSPH Advanced Practicum.

Objective: This poster displays the development and presentation of a nutrition education lesson for 5th grade students at Cook Elementary.

Methods: The lesson idea on determining portion sizes by comparing to the size of a fist is linked to existing lesson plans on anatomy. Several nutrition education resources were studied, such as Nutrition to Grow On, MyPlate, and Dairy Council of CA. Resources were chosen for class age and topics of relevance. A pre- and post-test survey will be administered to assess short-term knowledge gained.

Results: A lesson plan for 5th grade students at Cook Elementary was developed, based on a presentation on portion sizes from the Dairy Council of CA. This lesson includes two components: a didactic portion on the food groups of MyPlate and using hands to demonstrate portion sizes, and an activity where students will engage with each other and with food to practice what they learned. A survey was developed to test students on material.

Implications: This lesson plan can be implemented in future lessons delivered to 5th grade students at Cook Elementary, or in classes beyond. It can be developed and added to resources for teachers seeking to teach nutrition. Students who gained or strengthened their knowledge on proper portion sizes will apply the knowledge by using their hands as a measuring tool during meals. A reduction in overweight and obese children may follow, lessening the obesity epidemic among children.

73. DIANA CORTEZ

ANOSOGNOSIA IN DEMENTIA: A LITERATURE REVIEW SEEKING TO ANALYZE ITS CHARACTERISTICS AND SCREENING METHODS

CATEGORY
Mental Health
Health Services

ABSTRACT

Background: Anosognosia, a disease linked to the deterioration of the front temporal lobe, was first observed in 1898. The actual term appeared in 1914 in order to describe symptoms of two patients with hemiplegia that lacked awareness of their illness. Anosognosia is defined as the explicit denial, misinterpretation or unawareness of an illness. Some studies have hypothesized that anosognosia is a protective property of illnesses that protect against depression. In fact, some have found that the prevalence of chronic depression in anosognosia is lower than in those without it. In terms of dementia, anosognosia carries different implications for the patient, the caregiver and the clinician. Anosognosia often worsen caregiver burden and makes the patient harder to treat. Most of the screening tools used have to do with taking the difference between a patient's self-rating and a clinician's or caregiver's rating.

Objectives: This literature review seeks to look for other methods of screening and measuring anosognosia.

Methods: A literature review of scientific publications related to the history, definition and screening of anosognosia was completed using PubMed and ScienceDirect databases. A total of 62 articles related to anosognosia and alzheimer's were found. Studies related to the screening of anosognosia were the most analyzed.

Results: The Anosognosia Questionnaire Dementia (AQD) was consistently identified as a valid way to measure presence, levels and severity of anosognosia. Other screening methods were also included but most tended to be a variant of the Alzheimer's Questionnaire Dementia. However, the question of the objectivity of this type of screening still remains.

Conclusions: While there might be more objective ways of measuring anosognosia in patients, the AQD seems to remain a standard screening practice among researchers and clinicians. This literature review will allow Alzheimer's San Diego to help families identify this issue and could impact how they refer for additional resources. Additionally, this can potentially raise awareness on multiple social levels.

74. MONICA DUTTA

SOCIAL DETERMINANTS OF TB DISPARITIES IN SAN DIEGO COUNTY

CATEGORY
Health Equity and Disparity

ABSTRACT

Background: As of 2013, California is experiencing less of a decline in Tuberculosis (TB) than its usual steady decrease. TB differentially affects racial and ethnic minorities, specifically Asians and Hispanics, at a higher rate than other ethnic groups. The TB incidence rate in San Diego County is most directly affected by country of origin from foreign-born persons, most notably Vietnam, the Philippines, and Mexico. Thus, disparities in TB rates exist for Asian/Pacific Islander and Hispanic populations in San Diego County.

Objective: To examine the geographic locations and occupations in which the Asian/Pacific Islander and Hispanic populations of San Diego County respectively live and work in to determine what make these groups more susceptible to contracting TB

Methods: A literature review was undertaken to identify if specific social determinants and particular occupations have a significant effect on risk of TB. Environmental factors such as urbanization, socio-economic status (SES), and access to health care were found to be risk factors for acquiring TB. Healthcare workers historically have had a greater risk of TB; however, recent data suggests that TB rates among healthcare workers are similar to any other occupation.

Results: Urbanized areas generally have higher rates of TB than rural areas since they often consist of impoverished and crowded regions. Overcrowding leads to increased risk of TB as individuals are more likely to have contact with someone who has been exposed to TB. Individuals of low SES are at greater risk of TB as they have a higher likelihood of living in crowded and poorly ventilated conditions, having more food insecurity, and having limited access to high quality health care.

Implications: Individuals living in the most over-crowded, urbanized, and low-SES neighborhoods of San Diego County should be targeted first for TB screenings as they may be in areas of high risk of exposure. Also, further research efforts should be pursued in terms of occupational risk of TB since existing data is fairly scarce. Lastly, an accurate measurement tool that can correctly quantify TB cases due to immigration must be designed as well.

75.VENNIS HONG

YOUR HEART, YOUR LIFE: AN EVALUATION OF A PROMOTORA-LED, HEART HEALTH INTERVENTION

CATEGORY
Chronic Disease
Diet, Physical Activity, and Obesity

ABSTRACT
Background: Heart disease is the leading cause of death in South Region of San Diego. LiveWell San Diego has identified healthy eating and physical activity as one of the key priority areas for change. The Scripps Wellbeing Center, Chula Vista has adapted and implemented the Your Heart, Your Life (YHYL) curriculum, developed by the National Heart, Lung, and blood Institute (NHLBI), to educate individuals who are at risk for heart disease and diabetes on behavioral changes.

Objectives: This study aims to 1) evaluate YHYL at the Scripps Wellbeing Center, Chula Vista and 2) determine whether participants' pre-curriculum habits, knowledge, and attitudes contribute to their success in the program.

Methods:YHYL is a 5-week, promotora-led intervention that educates participants on risk factors and protective measures for heart diseases. Participants (N=44) were recruited through referrals from physicians at Scripps Mercy Hospital Chula Vista. Most participants are overweight or obese (83.7%, according to NHLBI diagnosis of BMI > 25), have a family history of heart disease (69.8%), and are of Hispanic origin (79.5%). Participants' clinical measures were taken before the curriculum and 6 months after the curriculum by staff at the center. Participants' pre-curriculum habits, knowledge, and attitudes about change, were self-reported through a questionnaire.

Results: No significant changes in blood pressure, weight, BMI, or waist size were detected though a difference in means test of these outcome measures before and after the curriculum. Multivariate linear regression analyses suggested that pre-curriculum habits, knowledge, and attitudes were not significantly associated with changes in blood pressure, weight, BMI, or waist size.

Conclusions:YHYL failed to produce improvements in heart health risk factors. Participants' pre-curriculum habits, knowledge, and attitudes were not predictive of their success with the program. Efforts should be made to identify areas of improvement within the YHYL curriculum. Efforts should also be made to improve rates of follow-up for future program evaluation purposes.

76. CAROLINE HOU

EVALUATING THE IMPACT OF THE ALZHEIMER'S SAN DIEGO WANDERING PREVENTION PILOT PROGRAM

CATEGORY
Injury and Violence Prevention
Stakeholder and Community Engagement

ABSTRACT

Background: In 2016, the nonprofit organization Alzheimer's San Diego launched the Wandering Prevention Pilot Program to provide free GreatCall GPS devices to reduce the risk or incidence of wandering in persons with dementia. Wandering is a common behavior in persons with dementia that poses risk of injury or death. Caregivers to persons with dementia can be impacted by stress related to wandering.

Objective: While there is extensive information collected by Alzheimer's San Diego about the pilot's progress, much of the data is yet to be analyzed. As the Wandering Prevention Pilot program surpasses its 6-month mark with 80 people participating thus far, Alzheimer's San Diego requires analysis of the pilot's impact in order to inform stakeholders and create grant reports.The objective of the project is to evaluate the collected data to explore the impact of the pilot program in the community. This poster will report on components of the pilot program design and preliminary results. Specifically, Alzheimer's San Diego has an immediate interest in the demographics of persons interested and enrolled in the pilot, impact on wandering behavior, caregiver stress, and factors associated with program satisfaction, continuation or cancellation.

Method and Results: Alzheimer's San Diego collects information about the persons with dementia and their caregivers when they first inquire about the program, and gathers information if/when they are enrolled, and during their participation in the project. This study will quantitatively analyze the project data including: demographic information, assessments of wandering and stress, and results from the Algase Wandering Scale. At the time of abstract submission, the data entry and analysis of these 80 participants is in process.

Implications: We expect the initial results to better inform Alzheimer's San Diego of the program's participants and impact, as well as guide future steps in improving the program. Beyond its implications for the local community, the study results can inform future efforts to increase independence and reduce risk of harm for persons with dementia, while supporting peace of mind for caregivers.

77.BRANDON KHUU

STRESS MANAGEMENT AND MINDFULNESS PROMOTION AT THE PREUSS SCHOOL

CATEGORY
Mental Health
Integrative Health

COLLABORATORS
Bianca Lorenzana

ABSTRACT
Background: Since 2015, clinical services and health resources were provided at an annual health fair held at The Preuss School for low-income parents and students as a way of providing access to health care for the population. With the school's rigorous curriculum, stress is prevalent among the student population and can be studied further to gain a better understanding of its effects on health. Stress management strategies can be introduced at the annual health fair to expand parental involvement in their children's mental health and to increase the students' academic and social performance both inside and outside of the school environment.

Objective: Develop a plan to provide accessible resources and activities on stress management and mindfulness for Preuss parents and students.

Methods: Contact with site supervisors and stakeholders interested in providing stress management and mindfulness resources will guide the project. Stakeholders include Preuss parents, students, teachers, and staff. Preuss students from the Healthy Path club are essential towards promoting and implementing the health fair. A Likert scale questionnaire will be used to measure whether the services offered were well-received.

Results: The health fair is currently in the process of being developed and promoted for a future date. The plans include providing an informational booth and potential activities on mindfulness and stress management techniques that parents can utilize during the health fair event.

Implications: If the service of stress management is feasible and well-received, this can be implemented more widely outside of the health fair event. To gain more student input, there is the possibility of implementing in-depth stress management programs through either grade levels or the school's University Preparatory Advisory program. The increasing access to resources and activities for the population will be beneficial for students to achieve overall success within their lives.

78. JACQUELINE LE

ASSESSING THE QUALITY OF AN UNDERGRADUATE STUDENT TRAINING IN THE HFIT UNDERGRADUATE INTERNSHIP PROGRAM

CATEGORY
Public Health Administration Services
Health Services

COLLABORATORS
Adriana Carolina Vargas-Ojeda, Victoria D. Ojeda , Jose Luis Burgos

ABSTRACT
Background: The Health Frontiers in Tijuana clinic (HFiT) is a binational initiative by clinical and research facility and medical and undergraduate students from UC San Diego and the Autonomous University of Baja California in Mexico (UABC). HFiT provides accessible, quality healthcare for the underserved population in Tijuana's Zona Norte. HFiT also provides an undergraduate internship called HFiT Undergraduate Internship Program (HFiT-UIP). This is a quarterly internship that provide students experience in global health and healthcare for the underserved. Each new cohort of undergraduate interns requires comprehensive training to ensure safety at the clinic and a quality internship program. Assessing the training curriculum is important to see if students are learning and following correct protocols and where they can be improved.
Objective: The objective of this Public Health Practicum is to improve the undergraduate student training by assessing the current curriculum and providing more training resources for the interns participating in the HFIT UIP.
Methods: An updated intern manual, both a physical and electronic copy, will be given to the new interns. Other resources, such as training videos, will always be provided for interns. During training, interns will be taught how to navigate the manual and resources. Upon completing the HFiT-UIP, students will be asked to complete a survey that will measure how often they used the training resources and how helpful the resources were. The survey will also ask for any comments and suggestions. Another survey will be administered to the student coordinators to gain their perspectives if the new training resources improved the program.
Results: Survey results are currently being collected and analyzed. They will be available in the near future.
Implications: Assessing the training of undergraduate interns will show what areas need changes which will improve the internship program and experience for the interns. It will also strengthen the infrastructure of the HFiT clinic, ensure safety for the patients and students, and improve patient experience at the clinic.

79. MARYLIN MIRANDA-GARCIA

LINDA VISTA HEALTH FAIR: ASSESSING THE NEED FOR A DIABETES HEALTH EDUCATION PROGRAM

CATEGORY
Needs Assessment
Stakeholder and Community Engagement

COLLABORATORS
Veronica Palomino

ABSTRACT

Background: Hispanics/Latinos have a higher prevalence of diabetes compared to their non-Latino White counterparts. In 2012, the age-adjusted prevalence of Hispanics diagnosed with diabetes in California was 10.5%, and is currently on the rise. Low health literacy, and a lack of diabetes knowledge increase the burden of diabetes among this group. The Linda Vista Health Fair provides a series of free, preventative services to the community which include glucose check, blood pressure check, and cholesterol check (among others). The health fair also provides the patients with an exit counseling session at the end of their visit where they receive one-on-one counseling about their results and the steps they can take to maintain or achieve healthy results, but does not, however, provide the community with a diabetes education program.

Objective: To assess whether there is a need for a diabetes health education program in the Linda Vista community (a predominantly Hispanic/Latino community).

Methods: A community centered approach includes the following:
Meeting and gathering information from key stakeholders of the Linda Vista Health Fair and the Linda Vista community about whether a diabetes health education program is necessary in the Linda Vista community; Gathering diabetes statistics and other related information from agencies such as the Centers for Disease Control and Prevention, and the American Diabetes Association for the state of California and testing the Spanish-language adapted version of the Diabetes Knowledge Questionnaire-24 (DKQ-24), on a sample of 10-20 individuals from the Linda Vista community.

Results: We will present the results of the needs assessment and based on that determine whether a diabetes health education program is needed.

Implications: The results of the needs assessment results will guide the next steps in enhancing diabetes care within the Linda Vista Health Fair. If successful, this program could be implemented in other communities of the San Diego county.

80. MONICA OH

KNOWLEDGE MANAGEMENT AND TRANSFER IN PUBLIC HEALTH ADMINISTRATION

CATEGORY
Health Policy

ABSTRACT
Background: Knowledge management related to the retainment of crucial staff members, due to retirement and recruitment, are challenges to San Diego County's public health administrations. To date, there have not been clear guidelines or protocols that provide new public health staff with all the information that they need in order to quickly understand the requirements of their new workplace. Therefore, the Public Health Services, Health and Human Services Agency, in the County of San Diego is proactive in taking the steps to prepare for the retirements and turn over by developing a standardized set of Program Operations Manual and Policies & Procedures.

Objective: To assess and evaluate the strengths and weaknesses of the "Managers Toolkit", a pilot tool based on Program Operations Manual, along with Policies & Procedures that will be used among managers in the Public Health Services Administration Office.

Methods: Prepare and conduct protocol interviews among three senior staff and/or managers in the Administration office. The interview protocol will involve questionnaires on paper and prepared questions that will guide the conversation.

Results: The assessment tools will be presented along with summary recommendations from the result of the surveys that will determine how well the Managers Toolkit and Policies & Procedures provide essential management functions as well as areas that need more improvement.

Implications: The tools that the PHS Administrative branch is developing are applicable to any programs in the field of public health. The division should continue to develop and update these tools in order for programs to operate efficiently with the necessary and important information provided on the table for new and existing staff for successful transitions. Moreover, through the process of how the interviews are administered and implemented, the interview protocol will demonstrate the usefulness in gathering information on forward thinking movements. Also, in evaluating the initiative, the interview protocol has potential for quality improvement at the public health administration setting.

81.SANTIAGO RAMIREZ NUÑO

INDIVIDUALS WITH CORONARY HEART DISEASE FROM RURAL COMMUNITIES HAVE WORSE CARDIAC REHABILITATION PARTICIPATION RATES THAN INDIVIDUALS IN URBAN AREAS

CATEGORY
Health Equity and Disparity
Chronic Disease

COLLABORATORS
Michelle Hsu, Yu-Xuan Dang, Armando Gallegos, Omar Viramontes, Ignacio Zepeda, Luis R. Castellanos

ABSTRACT
Background: Cardiac rehabilitation (CR) is an effective therapy in secondary prevention of coronary heart disease. However, less is known about CR participation rates in rural groups. This study evaluated CR referral and participation rates among patients with coronary heart disease (CHD) in rural and urban communities and identified factors that may affect disparities in CR participation between communities.

Methods: A prospective observational study was used to evaluate CR referral and participation rates for patients who experience an acute myocardial infarct or underwent PCI or CABG. Hospitalized patients enrolled in the study filled out an initial questionnaire at the time of discharge with follow-up phone calls at 6 and 12 weeks.

Results: A total of 107 patients were included in this study with 75 urban and 32 rural patients. At baseline, CR referral rates were similar between patients from rural and urban communities (28% vs. 36%, p=0.43), respectively. At 12-weeks follow-up, urban vs. rural CR participation was 23% and 6.3%, p=0.04, respectively. Non-white patients were more likely to live in rural settings, 37.5% as compared to white patients 26.7%, p=0.07. Patients with a reported income of ≤$15,000/year tend to live in a rural community than an urban area, (31.3% vs. 14.7%, p=0.05), respectively. Approximately 67% of rural patients cited geographic location as the primary reason for not participating in CR as compared to 42% of urban patients, p=0.008. Patients from rural areas use 57.2% less internet (p=0.02) and were 2 times more likely to have a preference for a paper-based home CR program than patients from urban communities, p=0.05.

Conclusion: Individuals from rural and urban communities have similar CR referral rates; yet participation rates are lower for patients who live in rural areas. Geographic proximity to a CR center, household income, and usage of internet appear to be factors that may affect participation in a CR program by individuals from rural communities when compared to patients from urban areas. Strategies that address some of these factors may improve overall participation in CR by individuals who live in rural communities.

82. ESTHER SOLIS BECERRA

LINDA VISTA HEALTH FAIR: EVALUATING HEALTH LITERACY OF EXISTING RESOURCES

CATEGORY
Health Services

COLLABORATORS
Victoria Palomino

ABSTRACT
Background: The National Assessment of Adult Literacy states that 9 out of 10 adults lack the necessary reading comprehension skills needed to manage their health. People who have below basic levels of health literacy are more likely to have higher rates of adverse health outcomes and lack knowledge of their health status. The Linda Vista Health Fair provides access to free preventative screenings and health information resources about diet and physical activity for participants. The counseling session component of the health fair is used to engage participants and make sure they understand results of their health status.

Objective: Evaluate health literacy of the community serviced by the Linda Vista Health Fair and determine if literacy levels of diet and physical activity health information material resources need to be modified.

Methods: Conduct the SAHL-S and REALM health literacy assessment with approximately 20-25 health fair participants during the counseling session. Evaluate whether modified health information materials are well-received by health fair participants based on feedback provided during the counseling sessions.

Results: Present preliminary results from the health literacy assessments and the modified health information materials written in plain language and translated to Spanish.

Implications: Participants will leave with better comprehension of diet and physical activity evidence based recommendations and have resources they can take home that include tools for achieving healthy behaviors. Creating tailored messaging that is well-received by the community can increase self-efficacy and will empower community to be more engaged with their health. The Linda Vista Health Fair can be an effective health promotion communication channel that is accessible to the community.

83. CRYSTAL THOMPSON ANDREAS

A ZIKA VIRUS NEEDS ASSESSMENT AMONG WORKERS AT HEALTH FRONTIERS IN TIJUANA CLINIC

CATEGORY
Infectious Disease
Maternal and Child Health

COLLABORATORS
Victoria Ojeda, Jose Burgos

ABSTRACT
Background: In 2016, Zika virus infection (ZIKV) was identified as a major public health concern by the World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC). As a mosquito-borne flavivirus, Zika virus infection is known to be a great threat to pregnancy in many countries and it has officially been confirmed that Zika virus is a cause of microcephaly and other severe fetal brain abnormalities. In Mexico, Zika virus continues to be an ongoing issue that also may have been accentuated due to the vast migration of Haitian refugees to Latin America (particularly Tijuana, Mexico) following a Zika outbreak in Haiti. The rapid occurrence of this event has increased potential for future ZIKV transmission in the binational region linking U.S. and Mexico.

Objective: To assess Zika virus knowledge among healthcare professionals and clinic staff along the U.S./Mexico border through the implementation of a rapid assessment at Health Frontiers of Tijuana (HFiT) clinic in Tijuana, Mexico.

Methods: A printed or online survey Detection, Attitudes, Prevention, and Transmission (DAPT) will be administered for a target population of 20-25 healthcare professionals, medical students, undergraduate student interns, and others affiliated with HFIT.

Results: The preliminary results of the survey will be presented by the separation of different respondent groups. The overall ZIKV knowledge amongst the groups of the target population will be compared.

Implications: This assessment will indicate: the specific areas in need of targeting in order to communicate ZIKV to healthcare providers, recommendations of guidelines to identify clinical signs and symptoms, advice to patients, appropriate use of tests, and need for further education of potential and current doctors. This will contribute to address the potential negative impact on health of Zika virus.

84. JOYCE XIAO

PROMOTING FRUIT AND VEGETABLE CONSUMPTION AMONG FAMILIES AT THE PREUSS SCHOOL

CATEGORY
Diet, Physical Activity, and Obesity
Health Services

COLLABORATORS
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ABSTRACT
Background: The UCSD Public Health Practicum collaborates with Preuss School faculty and students of the Healthy Path Club to promote healthy lifestyles for low-income students and their families. Last year, parents and students (n=339) completed surveys assessing fruit and vegetables (F/V) consumption and multi-level factors associated with consumption.
Objective: Based on data from the parent-student survey, we developed and delivered an intervention for parents to focus on behavioral strategies to increase F/V consumption at home.
Methods: To maximize reach, two 20-minute oral presentations were delivered to parents attending mandatory PTA meetings two months apart. Sessions were delivered by UCSD Practicum and Preuss Healthy Path students. The first session focused on increasing parent awareness. Parents learned the results of the F/V consumption survey. The second session focused on behavioral capacity. Parents learned behavioral strategies to increase F/V consumption. Parents completed a bilingual survey assessing their current stage of readiness to implement the recommended strategies. Intervention receptiveness was also assessed.
Results: A total of 163 parents completed the post-intervention survey. The majority of parents (≥80%) were currently using communication and stimulus control strategies to increase F/V consumption at home. Involving their children in food preparation was the least used strategy (59%) and a small proportion (3%) was not confident they could engage their children in food preparation. However, almost 40% intended to implement the strategy. Parents who included their children in food preparation were more likely to use communication as a strategy to increase F/V consumption (r=0.18, p=0.02). Over 90% of parents rated the intervention as helpful. Spanish-speaking parents rated the intervention significantly more helpful than English-speaking parents (p<0.01).
Implications: Formative data allowed us to develop a brief education-based intervention tailored on population and content. These interventions may provide a cost-effective means for broader reach and behavior change in traditionally underserved groups.